Proceedings of the
7th International Conference on
Libraries, Information and Society 2019
(ICoLIS 2019)

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7th International Conference on Libraries, Information & Society

18-19 April 2019, Hatten Hotel, Malacca, Malaysia

Revitalizing the Library for the Nation

FSKTM
Fakulti Sains Komputer dan Teknologi Maklumat

UNIVERSITY OF MALAYA LIBRARY
The Nucleus of Knowledge

Proceedings of the 7th International Conference on Libraries, Information and Society 2019 (ICoLIS 2019)

Revitalizing the Library for the Nation

18 - 19 April 2019 | Hatten Hotel, Malacca, Malaysia

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MESSAGE FROM THE PROGRAMME CHAIR

On behalf of the organizing committee, I wish everyone a warm welcome to the 7th International Conference on Libraries, Information and Society (ICoLIS), a biennial event held to provide an opportunity for academic researchers, librarians and those in the information science community to interact and share their experiences and knowledge in this field.

The rise of digital technology has obscured the libraries, with some questioning its role and existence. In truth, libraries and librarians are expanding beyond their traditional roles and reaching further into their communities. While the internet can deliver information within seconds, it does not provide creativity and understanding. Technology can provide packaged information based on searches but it does not highlight the information that helps us to learn and grow in understanding. This is why the roles of librarians and information professionals have to be revitalised to create a library that fulfil the needs of its users rather than just computerize existing services or frantically adopting various technologies focused on producing outputs without thinking it through.

What is imperative right now is to enable incessant innovation with agile approaches; coordinating and assessing outcomes constantly towards continuous improvement. The goal is to have a library that has envoys and enthusiasts and cultivates loyalty, a library that is communal as well as social.

The University of Malaya Library is closely associated with the Department of Library and Information Science and it is our mission to provide professional expertise, diverse information resources, and knowledge-based services for the advancement of its quality research, teaching and learning in support of the University of Malaya's global mission by anticipating, studying and responding to the changing needs of our user. Indeed, we place learning environment that is conducive as crucial to support research, teaching, learning, innovation and collaboration.

I would particularly like to extend our gratitude to our many sponsors for supporting the event and the participants, session chairs and keynote speakers for helping us to build this exciting conference program. The Committee will make all the effort to ensure that your participation will be a rewarding experience particularly this is the first time that we have organised the event out of Kuala Lumpur. We hope our participants especially the internationals will enjoy the excellent historical, cultural, and gastronomical experiences here in Malacca!

Programme Chair

Mr. Mahbob bin Yusof
Acting Chief Librarian,
University of Malaya Library,
University of Malaya

It gives me great pleasure to be given a chance to pen down this message for the 7th International Conference on Libraries, Information and Society. This is the 7th time that Malaysia is hosting the conference, at this time it is away from Kuala Lumpur but at the heart of Historical City of Malacca, a UNESCO world heritage site in Malaysia. This conference brings together members of the international library and information science community from the Asia Pacific region as well as from other parts of the world. We welcome their participation and attendance in this conference and hope the events organized by us to be most fruitful and enlightening for all participants.

Revitalizing the library as nation is the chosen conference's theme. The relationship between libraries and people has evolved over time. Technology is decreasing people's appreciation of a library. Taking steps to strengthen and reinforce the role of librarians and information professionals, can revitalize their relationships with users and help create a library that users need and want. What we need is an innovative relationship between libraries and the people who use them, and the key to that relationship is the librarians and information professional — the people who are engaged in the pursuit and sharing of knowledge; the people who develop and deliver library and information services. This relationship holds the key to creating a library that users want – a library that anticipates needs rather than just responding to them, a library that is communal as well as social, a library that has envoys and enthusiasts and cultivates loyalty. Librarians need to make the library special for them.

To all those who have expanded their time, energy and resources to make this conference a successful one, I wish them a very big thank you. Without their help, commitment and devotion this conference would not have materialize. I would also like to thank all sponsors for their generous contributions towards this conference. And for the participants I am once again most grateful for your attendance and participation and wish you would not make this visit to University of Malaya and Malaysia your last visit. We look forward to seeing you again in ICoLIS 2021.

Programme Joint-Chair

Associate Prof Dr Noorhidawati binti Abdullah
Head,
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Faculty of Computer Science & Information Technology,
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MAPPING THE FUTURE OF ACADEMIC LIBRARIES

Academic libraries currently operate within and contribute to a rapidly changing environment. This presentation will summarise the findings of recent research which aimed to map out the landscape in which libraries are now operating, outlining a set of major nexuses of trends which are transforming the role of libraries. Key challenges and opportunities libraries face in this context will be discussed, as well as how libraries can position themselves to best contribute to the work of their institutions in future. The need to create and communicate a compelling vision of the library's current and future role in the institution is seen as crucial. At the same time, libraries and library professionals need to be ready to change, and to work in collaboration with others outside the library, whilst at the same time promoting the library's own unique contribution. The research challenges traditional library 'mantras', such as relying on the library's 'strong brand', which often go unquestioned, and suggests new paradigms for thinking about library futures which can feature in strategic planning. Follow up work by the research team on library orientations in relation to the future, strategic modelling, and libraries and AI will also be mentioned.

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SUCCEEDING IN AN ERA OF CHANGE

Libraries are facing many changes. Change, both internal and external, is inevitable and brings about challenges. But libraries need to succeed despite the many challenges or run the risk of becoming obsolete. The coming decade will be crucial for libraries if they are to meet the needs of society, of nations, institutions, and even individuals. While there will be challenges, there are also opportunities. There are many organizations and institutions that continue to be successful, and even thrive. This presentation will draw upon examples from the business world, educational institutions and non-profit organizations that have been successful in this era of change.

Baby Massage in Indonesia: A Case Study of the Knowledge Acquisition, Transfer and Preservation

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ABSTRACT

Indigenous Knowledge (IK) is in danger due to a number of factors, such as lack of interest from the younger generation, low life expectancy where people die before transferring knowledge to the next generation and not documented. This is due to the fact that IK, in essence, is generally known to have been passed down from generation to generation through oral tradition. This qualitative research utilizes the organization's knowledge conversion theory to investigate IK acquisition, transfer, and preservation by traditional baby massage practitioner in Banten, Indonesia with a view to developing a framework to provide an understanding of how IK is obtained, transferred, and preserved by traditional baby massage practitioner. The study applied a qualitative approach in analyzing knowledge transfer by the practitioner. The data were collected through interviews, observation, and document analyzis. The data are analyzed and interpreted thematically according to the research objectives. This study revealed that traditional massage knowledge is obtained through observation, imitation, and practical work. In addition, interface guidance is highlighted as one of the driving forces behind the transfer and acquisition of effective knowledge. The main finding for this research is that the Almighty is believed to preserve this traditional massage knowledge and pass it on to the chosen people. The study concludes that traditional masseurs also preserve their knowledge verbally and generally share and gain knowledge during interactions with prospective successors.

Keywords: Indigenous knowledge; Baby massage; Indonesia.

INTRODUCTION

Indonesia is a nation that is very rich in cultural diversity and local wisdom which is reflected in the thoughts, attitudes, actions, and results of the culture itself (material culture) (Liliweri, 2003). Local knowledge produced by Indonesian people varies greatly from how to dress, build a house, art, and health. Indonesian society which consists of various different tribes and geographies has many cultural products related to health. These cultural products are related to health manifested in the form of product actions through traditional medicine.

Indonesian people have the habit of doing massage to cure diseases caused by a lack of blood vessel function in our body (people often call it a vein). Massage techniques in Indonesia have been around for centuries, where the philosophy of massage is a technique of energizing the body with the aim of facilitating blood circulation which will maintain health and balance the work of the organs of the body. This situation causes the body to avoid health problems. Along with the development of the world, the World Health Organization (WHO) recommends member countries to raise and develop their traditional medicine. Today the world community in terms of maintaining, maintaining and improving health status tends to use methods that utilize the natural ability (back to nature), one of which is massage. (National Herbal Medicine Saintification Commission, 2015)

According to the Reflection Course in its website https://kursusrefleksi.com/sejistoric-truktur/, "In Indonesia, Massage has been around for centuries, can be proven in Borobudur stone relief, 8-9 century Buddhist temples in Central Java, where there are carvings depicting massage. Massage has been an integral part of Indonesian culture for centuries, providing health and beauty benefits both inside and outside. The most sophisticated knowledge of healing and massage techniques is found in Java and Bali, where two places evolved from the Majapahit royal tradition. During the Majapahit era, many beauty treatments were developed by queens and palaces, this massage period evolved for relaxation and beauty and for healing. The Majapahit kingdom was destroyed around 1450 after the arrival of Islam, causing many to move to Bali, bringing their healing knowledge. This is why there are so many similarities between Java and Bali in terms of massage and healing massage techniques. Massage techniques in Indonesia if observed look different from India and China due to developments in style and adjustment from generation to generation. For massage, acupuncture and reflexology points can be clearly felt in most massages in Indonesia. Currently, massage from abroad is brought to Indonesia and some combine their traditional massage styles. Massage helps overcome the disease and regain body balance. Massage is a type of traditional massage that is most commonly used for relaxation and relieves the body's feeling by relaxing stiff muscles with a squeezing movement.

Traditional massage is also available specifically for babies. For a long time, massage in babies is believed to have many benefits. Moreover, in premature babies or those born by cesarean section, who can experience shock at birth. According to Lydia Lorenz, the benefits of baby massage (as quoted from Collins, 1998) define massage as an act of rubbing body parts to encourage relaxation. From the literature examined (as quoted from Field 1995, Heller 1997) and practice observation, baby massage seems to have a number of physical and psychological benefits for babies, not pure relaxation. Evidence shows that there are also benefits for mothers and fathers (as quoted from Hart et al 2003) and an important aspect of infant massage is that parents become skilled in touching their babies in a gentle and positive way, so that they become more sensitive to their babies needs. According to Lydia Lorenz (as quoted from Field, 1995) found that babies who were massaged slept better than babies who had not received it, and showed similar findings with premature babies. This researcher found that babies who were massaged slept better and fell asleep faster. We have found that many mothers report that after a baby massage session, their baby sleeps well and many babies have been observed sleeping in the middle of a massage session. Other studies focusing on premature babies and baby massage have highlighted that massage can have a dramatic impact on weight gain (as quoted from Field et al 1986). Field (2001), in a more recent article, shows that research from various traits of research has resulted in similar funding in premature infants and weight gain. The impact of baby massage on weight may be difficult to determine because the baby's growth is influenced by various factors. Massage provides a soothing touch and reminds the baby of feeling comfortable while in the mother's womb. Other benefits of massage for babies, namely sleeping better, eating better, strengthening bonds between children and parents, making babies feel comfortable, improving blood circulation, babies who are often massaged rarely experience colic, make baby's muscles stronger, and babies who often massaged to grow into children more cheerful and happy. In addition, he is rarely emotional and angry. In general, these children rarely have psychological or emotional problems.

Traditional Indonesian massage healers use traditional healing as part of their practice where it uses a diversity of practices, approaches, knowledge, and beliefs that combine plant, animal and mineral medicines. These may include spiritual therapy, techniques, and exercises, which are applied individually or in combination to maintain health in treating diseases or to prevent them (Norizan, 2018)

The willingness and capacity of individuals or communities to share what they know and use what they learn plays an important role for local knowledge to transfer. Therefore face-to-face interactions are the main means of gaining local knowledge from sources of knowledge. Because local knowledge is learned from 'doing' and participation between sources and recipients of knowledge, local knowledge is more successfully inherited if face-to-face interactions occur where knowledge can be exchanged and new knowledge better can improve current practices from identified local knowledge to be developed. Expertise is developed through learning while working, internships tend to practice under the guidance of a knowledgeable teacher for them to become experts in their fields. The more involved a healer is with activities, the better they become smart. (Norizan, 2018)

The traditional knowledge contained in this baby massage technique needs to be maintained considering its benefits for babies. According to the author's observation of what to worry about is the knowledge that will be lost if Nyai Mini experiences illness or death, then there is no more competent baby massage in the village. Therefore, efforts are needed to capture and preserve the knowledge possessed by Nyai Mini into a form that can be transmitted to children or siblings.

In order for scientific heritage to take place well aimed at the next generation, preservation of knowledge is needed. The goal is to save the value of information, save the physical (consumer), prevent the extinction of traditional knowledge, and accelerate the acquisition of information. This study aims to find out how knowledge is obtained by traditional baby massage healers, to determine how knowledge is transferred and assess how knowledge is preserved by traditional baby massage healers in Pondok village. Therefore, this paper attempts to investigate whether traditional massage healers will transfer their knowledge and how knowledge is passed on to the next generation.

LITERATURE REVIEW

Traditional knowledge: Traditional knowledge (TK) is knowledge, skills, and practices that are developed, maintained and inherited from generation to generation in society, often forming part of cultural or spiritual identity. (WIPO, 2010) While no definitions have been received from kindergarten at the international level, it can be said that TK in the general sense includes the content of knowledge itself as well as traditional cultural expressions, including distinctive signs and symbols relating to kindergarten and kindergarten in the narrow meaning refers to such knowledge, especially knowledge that results from intellectual activity in traditional contexts, and includes knowledge, practice, skills, and innovation.

Capturing tacit knowledge: Capturing knowledge is an activity to gather information and knowledge and then create new knowledge. The capture of tacit knowledge can also be defined as the process of capturing individual or organizational experience and expertise and making it available to those in need (Dalkir and Liebowitz, 2011)

Traditional healing: The World Health Organization (WHO), as quoted by Norizan (2018: 1), provides a broader definition of traditional healing as a diversity of practices, approaches, knowledge, and beliefs that combine plant, animal and mineral medicines. This includes spiritual therapy, techniques, and exercises that are applied individually or in combination to maintain health, treat disease or prevent it. Traditional healing has been widely used as prevention, diagnosis, and treatment of extensive diseases. This is a form of alternative health service that is important for a person or community with or without geographical and financial access to modern medicine.

Whereas according to the Decree of the Minister of Health of the Republic of Indonesia Number 1076 / MENKES / SK / VII / 2003 concerning the Implementation of Traditional Medicine, traditional medicine is treatment and / or treatment by means, drugs, and medication that refers to experience, declining skills, and / or education / training, and applied in accordance with the prevailing norms in the community.

Knowledge acquisition: According to Maluleka (as quoted from Pacharapha and Ractham 2012: 725-726) argues that acquiring knowledge can be seen at the individual level, knowledge acquisition can be achieved by three activities, which include sources from organizational knowledge repositories, learning from others and learning from experience. Acquisition and sharing of knowledge during socialization (where tacit knowledge is shared) are mainly done through observation, sharing experiences and imitation, to mention but a few. However, it is important to note that for the acquisition and distribution of tacit knowledge to succeed, opportunities to participate and access to knowledgeable people are needed (as quoted from Koskinen, Pihlanto and Vanharanta 2003).

During externalization, tacit knowledge is externalized, made ready and easier to share and obtain in certain situations. When knowledge keepers provide and share what is in their minds, their tacit knowledge turns into explicit knowledge, which is easier to share and obtain. This knowledge can be externalized in the form of books, manuals, databases, emails, letters, and discussions. Knowledge acquisition between individuals (masseurs and prospective healers) is mostly through dialogue, which can occur directly between individuals.

Transfer of Knowledge: Transfer of knowledge (KT) according to Maluleka, (as quoted from Garavelli, Gorgoglione and Scozzi 2002: 270) is defined as the process by which knowledge is transmitted to, and absorbed by, users. However, Faust (2007: 1) defines KT as part of KM, which refers to the transmission of explicit, implicit, and tacit knowledge from one person or organization to one or several people. Explicit knowledge can be transferred through the interaction between the source and the recipient, personalized communication and the recipient's observation of the knowledge used. The recipient's practice facilitates the transfer of tacit knowledge. Explicit knowledge is contained in documents that are not personal and standard and are designed to be applicable to a wide range of contexts and users (Nonaka 1994). According to Maluleka, (as quoted from Szulanski, Ringov and Jensen 2016: 305) as a result, transfer methods that allow private communication, such as personnel transfers or informal visits, are better able to ease the exchange of tacit knowledge. The main aim of the knowledge transfer process is that the recipient appears with an identical interpretation of the message to the one intended to be delivered . However, it is important to note that the transfer of information can be affected negative or positive by different factors. The reliability of the source and ability of the recipient to absorb knowledge are the main factors that can influence knowledge transfer (Argote and Ingram 2000: 161).

Preservation of knowledge: The IAEA has formalized the definition of preservation of knowledge to state "the process of maintaining an organizational system of knowledge and capabilities that protects and stores perceptions, actions and experiences from time to time and secures the possibility of recall for the future." that preservation of knowledge is a process of efforts to maintain and maintain the knowledge and skills of an organization from the threat of extinction or loss of knowledge, so that it can be used for the future in the interests of organizational progress and development.

SECI Model for capturing tacit knowledge: Dalkir (2011) explains Nonanka's Theory, regarding several models in knowledge preservation activities, namely:

a. Socialization is a model of knowledge preservation in the form of conversion from hidden knowledge into hidden knowledge again. This activity can be carried out through face-to-face interaction, imitation, or training activities.
b. Combination is a conversion from explicit knowledge or has been documented in the form of explicit knowledge as well.
c. Externalization is the conversion of knowledge from hidden forms of knowledge to documented knowledge
d. Internalization is the conversion of knowledge from documented forms of knowledge to hidden knowledge.

RESEARCH DESIGN

The study employed a qualitative research approach in analyzing knowledge transfer by the practitioner. This approach is in consistency with the purpose of the study which aimed at describing the process of transfer knowledge from tacit into explisit knowledge from traditional massage practitioner. One practitioner was included in the study. The practitioner was were deliberately selected because unlike other practitioner. The data collection through a literature review, observation and interviews directly at the target location research. Observations made directly at the practitioner's house. Observation was performed three times, namely on 21th September, 12th and 26th October 2018. Direct observations conducted to obtain data and information on how the practitioner do baby massage through her skill in traditionally. before the interview, a literature review was conducted to support field facts. Data were collected using face to face interview . Initially a practitioner was afraid to be interviewed but the author explained the intent and purpose of the interview. then the practitioner was willing to be interviewed after the practitioner's daughter helped explain the purpose and purpose of the interview. Data were analysis involved identification of themes and concepts based on research questions.Succinct summary of the findings has been also presented using figures statements. Data analysis was conducted by reduction data, presentation of data, and conclucion. The data was interpreted using SECI Model.

RESULTS

Nyai Mini traditional baby massage: Tacit knowledge which is a research study using SECI Model is a knowledge of traditional baby massage Nyai Mini. He was born in Jakarta, 88 years old. Nyai Mini is a baby massage healer who has been running for 30 years in Pondok Bahar Village, Banten. He has worked as a masseuse since he was young (when he had 1 child). Patients who come come from various regions around. Initially Nyai Mini massaged from house to house, which is through a call, but along with the older age which limits his movements, massage is only done at home.

Meanwhile, the knowledge of massage was revealed to be quite mysterious. She claimed that his knowledge he got from his grandmother through choice. She said:

> "nenek ngomong sama saya 'lo dah bisa nih…tadihan nya dah bisa, lo dah megang elmu nya, taktik nya gini gini gini' Ga pke diunjukin begini begini caranya"

This choice is intended not all grandchildren can inherit their knowledge. Only someone who is diligent in worship such as prayer, sunnah fasting, and sunnah prayer. She said:

> " itu begituan dipilih mana yang rajin puasa mana yang rajin solat, nah ilmu nempel tuh. Ga sembarangan asal nempel tuh ilmu. Kita kudu rajin ibadah"

Similarly, she also uses verses from the Qur'an in her healing practice or what she calls 'jampe'. It is believed that whatever her family said will be true when they said. Therefore, she uses his ability to provide prayers and prayers for people who come for treatment at very low costs. He does not charge for services. The reason is that he only wants to help people with his abilities.

From this, we observed that his ability to massage people managed to gain the trust of the people who came for treatment. People are more confident when they hear from others they trust and seek treatment for massage as word of mouth is a powerful and easy-to-trust tool because it is built on trust for someone to receive the information they get.

Knowledge acquisition: Nonaka and Takeuchi's theory of knowledge conversion organizations place knowledge acquisition in the first three models of the model, namely socialization, externalization and combination. During socialization, tacit knowledge is the main type of knowledge acquired. This type of knowledge is known to be obtained through guidance, observation, collaboration, discussion, practice and imitation. This shows that the prospective traditional massage healer learns to grasp the veins, prepare herbs (massage oil), handle patients, and many other functions through observation and imitation. In order for this knowledge to be obtained to the maximum, it requires face to face contact that often occurs. Based on observations, prospective traditional massage healers (the next generation) are children of masseurs who are given full attention. During this period prospective traditional massage healers will be under the guidance of a masseur who oversees everything they do and learns how they do things.

When externalizing, candidates can express the knowledge they have acquired over time, especially through observation and practical work. These observations show that over time, traditional massagers allow candidates to demonstrate how much knowledge they have gained by allowing them to feel the tendons first when they have clients, prepare herbs for clients and do many other functions by themselves. Externalization is usually followed by a combination.

During the combination, traditional masseurs change the explicit knowledge gained from observation and work practices and then incorporate and integrate into existing knowledge that they may acquire at an early age, or maybe they get by themselves to form new knowledge. During work practices massagers and candidates share many things. Traditional masseurs and prospective traditional massage healers mostly discuss issues around healing patients and how they deal with certain things. Massagers share knowledge about prayers or 'jampe' that are needed for healing. During the work practice the candidates will gain knowledge and combine it with their existing knowledge which brings new knowledge.

Knowledge transfer: Knowledge transfer refers to the transmission of explicit, implicit and tacit knowledge from a person or organization to another person or several other people. According to Maluleka, tacit knowledge, (as quoted from Szulanski, Ringov and Jensen, 2016) is the view that through interaction, knowledge sources can articulate their own perspectives and express implicit rules and assumptions, so that externalization of hidden tacit knowledge is difficult to communicate, while knowledge recipients can internalize it gradually ". The interaction between would-be traditional massage healers and massagers makes it possible to share and transfer such tacit knowledge informally and spontaneously. Explicit knowledge can be transferred through interactions between the source and the recipient, personalized communication, or the recipient's observation of the knowledge used. The transfer of explicit knowledge between candidates and massagers mostly occurs during informal meetings and visits that they always have. During the observation it was seen that massagers preferred to teach and transfer their knowledge to candidates who respected and were able to follow instructions. The process of transferring knowledge requires patience also from knowledge carriers and sometimes, massagers are asked to show the same thing repeatedly.

Based on observation, prospective traditional massage healers see the process from the beginning to the end of the massage. For starters, oil for massage is given a prayer or jampe first so that the massage process runs smoothly at the will of the Almighty. Massagers also share knowledge about babies to pay attention to all the signals issued by the baby. This signal can be a signal whether he likes your massage or not. Immediately stop the massage if the baby starts crying because it's a sign that he feels someone is sick in that part. Then there needs to be an optimal massage action in the area. If the baby doesn't cry, he feels comfortable.

Knowledge preservation: Tacit knowledge is in people's minds and must be maintained for that. Therefore it must be acquired first. After acquisition, traditional masseuses integrate this knowledge into their existing knowledge base. This is what Nonaka calls a combination (1994). Knowledge gained through training is combined with the knowledge transferred to massagers as they are young to form their own personal tacit knowledge. Once this knowledge is integrated or combined with their existing knowledge base, it must now be internalized.

Internalized knowledge is then preserved in the human mind for future use. However, the preservation process is a little different when it comes to explicit knowledge. According to Maluleka, (as quoted from McMahon 2015) explicit knowledge is ready to be codified into a real form, namely, documentary material that can be stored in various media. This knowledge is easily stored in places such as libraries, archives, museums or other information handling institutions.

Massagers highlight that it is important that they continue their knowledge through biological children under their wings, sharing all their experiences to ensure that their knowledge is carried over to the next generation. However, they warn that, it is not guaranteed that the ancestors will choose that person to take over from them because they can decide other people. While others have begun the job of teaching someone in the family, others have left the task to their ancestors because they believe that healing powers are controlled by ancestors. The results show that massagers believe that it is the ancestor's responsibility to preserve traditional healing knowledge. They believe that ancestors kept knowledge secure until they identified someone who was worthy so they could continue. During the acquisition and transfer of knowledge, the masseuse assists the candidate with some advice to carry out what is obligatory and the sunna to be carried out in Islam. This includes prayer and fasting, this helps in getting closer to the Almighty.

Knowledge gained through socialization, externalization and combinations is internalized into a personal knowledge base for conservation (Nonaka and Takeuchi 1995). Traditional healers are known to maintain their personal knowledge and only make it available to those who decide to teach either as massagers or maybe family members they want to share their knowledge with. Nonaka and Takeuchi (1995) argue that documenting knowledge helps individuals internalize their experiences, thereby enriching their tacit knowledge. Books, articles, and any other form of documentary documentation, allow the transfer of explicit knowledge to others, thus helping them experience other people's experiences indirectly. Knowledge of traditional healing is generally known to be preserved orally. But respondents strongly believe that the Almighty is responsible for maintaining traditional healing knowledge.

CONCLUSION

Although traditional massage is one of the health care systems in Indonesia, there is little understanding of how this knowledge is acquired, transferred and maintained. From the evidence gathered, this study concluded that healers achieved traditional healing knowledge from their ancestors. In order for someone to communicate with their ancestors, they must have a call that will enable them to access traditional healing knowledge through their ancestors. Massagers are responsible for mentoring candidates. Acquisition and transfer of knowledge of traditional masseurs occurs during socialization and externalization, while knowledge gained through socialization, externalization and combinations is internalized for preservation. This knowledge can be maintained through documentation or verbally depending on the method preferred by the masseuse.

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Bataviaasch Genootschap Collection as Institutional Memories of National Museum of Indonesia

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ABSTRACT
Bataviaasch Genoostchap van Kunsten en Wetenschappen (The Batavian Society of Arts and Sciences) is the societies who did scientific research on the cultural aspects of the people in East Indies. They produce numerous records and research about Indonesian economic, social and culture at the time including journal, registry, reports, minutes of meeting, memoirs, books, magazine, maps, photos, and paintings. The existence of Bataviaasch Genoostchap is part of the origin of the National Museum of Indonesia establishment. The National Museum of Indonesia has broad collection cover all of Indonesia's territory and almost all its history in various form. The National Museum's Library has found approximately 27.000 collections on behalf of Bataviaach Genoostchap and now trying to preserve the collection. The knowledge preservation effort needs to be done mainly because the collection condition is weakening. This research purpose is to identify National Museum Library preservation efforts on the Bataviaasch Genoostchap collection as their institutional memories.

Keywords: *Bataviaasch Genoostchap*; preservation efforts; institutional memories; National Museum of Indonesia

INTRODUCTION

Lying between the continent of Asia and Australia, Indonesia is comprising more than 17.000 islands, contains more than 300 ethnic groups and around 500 different language and dialects. The National Museum of Indonesia, which also known as Gedung Gajah (Elephant Building) after the bronze elephant statue in its forecourt, has broad collection cover all of Indonesia's territory and almost all its history. The existence of the National Museum of Indonesia cannot be separated from the establishment of *Bataviaasch Genoostchap* (The Batavian Society). At the mid-18 century on Europe Age of Enlightenment, approximately people setting up societies to discuss scientific reasoning and development. European settler in Indonesia was motivated to follow suit and on 24 April 1778, the Governor General of the Netherlands East-Indies Council, Reinier de Klerk, gave his permission to establish *Bataviaasch Genoostchap* van Kunsten en Wetenschappen (The Batavian Society of Arts and Sciences). This was the first society of its kind in Asia and aimed to analyze through scientific research the many cultural aspects of the people in the East Indies (Museum Nasional Guidebook, 1998).

Jacobus Radermacher was instrumental in setting up *Bataviaasch Genoostchap* and was its first donator, giving books, musical instrument, statues and other curios to the foundation. In 1813, Thomas Stamford Raffles became the Lieutenant-Governor of Java and the President of Society. He was keen to acquire knowledge about the history, culture, and arts and stimulated new interest in the institution and donated additional premises for the collections. At 1862, the Hindia Belanda Governance decide to build a museum which later opens for the public in 1868. In 1936, the renowned linguist, historian and Islamic expert, Professor Doctor Hoesein Djajadiningrat, was chosen as the first Indonesian Director. In 1950, the society's name was altered from *Bataviaasch Genoostchap* to *Lembaga Kebudayaan Indonesia* (Indonesia Cultural Foundation), but when *Lembaga Kebudayaan Indonesia* broke up in 1962, the name was changed once more to *Museum Pusat* (Central Museum). The Museum was managed by the Indonesian Government under the Cultural Directorate General and the Department of Education and Culture.

In 1980, it has been said that all the books belong to the National Museum were relocated into a separate new building that now became National Library of Indonesia, including *Bataviaasch Genoostchap* publication. Collection of *Bataviaasch Genoostchap* publication that relocated to National Library including books, manuscript, magazine, and newspaper. The National Archive of Indonesia also keeping some of *Bataviaasch Genoostchap* publication, mainly the handwritten one. Unexpectedly, some copies of the publication were found in the National Museum. The findings are now possessed and displayed as a collection of National Museum Library. The National Museum Library has found approximately 27.000 collections on behalf of *Bataviaach Genoostchap*. Several kinds of documents and publication included a journal, registry, reports, minutes of meeting, memoirs, books, magazine, maps, photos, and paintings. There are trade records, trade agreement, photo album, catalog, also a list of collection. From all, about 10.000 has been displayed in the library, 38 on broken condition and the rest of the collection is on the identification process. The collection language varies between Dutch and English or using both of language.

LITERATURE REVIEW

Bataviaasch Genoostchap collection at the National Museum Library not only beneficial as a library collection, but it is also useful to remind us where the National Museum came from. The knowledge in the collection may not understandable by many, but the existence of collection itself wise up the importance to preserve them. The history of the collection and its relationship with the establishment of the National Museum may not be widely known. People who never visit or use the institution may nevertheless value the fact that it exists and defends its continuation, despite their lack of use and without any intention to use. There is considerable evidence that community members value their public libraries even if they have never registered with or used them. (Byrne, 2015). This 'existence value' does not require that utility be derived from the direct use of a resource. Its utility and hence value come from simply knowing that it exists (Armbrecht, 2012; Krutilla, 1967 on Byrne, 2015).

The knowledge behind the *Bataviaasch Genoostchap* collection needs to hand down by current museum staff to the next generation, as said by Agarwal and Islam (2015, p. 150), knowledge has always been embedded in the activities of organizations, this includes the knowledge generated within libraries. As institutions, the galleries, library, archives, and museum have their own memories, enshrined in their collections, buildings and the traditions of their staff and visitors. Those memories are as changeable as human memory, evolving over time in response to professional imperatives, community expectations and opportunity (Byrne, 2015). In an organization, memory has the role of creating a corporate image, shoring up group identity, and it can also be used for boosting morale and aspirations among the organization's workers (Brownlie, 2016). This kind of memories rarely appeared as a document, but more often stored as personal or individual memory.

Byrne (2015) define memory as the 'action of remembering; recollection, remembrance' […] that which is remembered of a person, object, or event'. The embodiment of the organizational memory is the experience of its employees, combines with the tangible data and knowledge stores in the organization (Walsh and Ungson, 1991 on Dalkir, 2005). While the *Bataviaasch Genoostchap* society standing as national history, the *Bataviaasch Genoostchap* collection also valuable as institutional memories for National Museum. Institutional memory is contained in information, rules, procedures, and directives to facilitate work distribution, coordination, evaluation, and rewards," but it also includes "shared assumptions, beliefs, attitudes, and behaviors of an organizational culture" (Rusaw, 2004 on Marsh, 2016). The institutional memory includes knowledge residing in various component forms, including written documentation, structured information stored in electronic databases, codified human knowledge stored in expert systems, documented organizational procedures, and processes and tacit knowledge acquired by individuals and networks of individuals (Tan, Teo, Tan, & Wei, 1998).

As one of the most important institutional memories for the National Museum, the preservation of the *Bataviaasch Genoostchap* collection became important things to do. Preserving institutional knowledge is imperative […] in order to effectively document the collective expertise and history of an organization (Charbonneau, Priehs, & Hukill, 2016). The techniques for preventing knowledge loss have become a crucial organizational concern (Whelan, 2011). The risk within organization operation included loss of tacit knowledge, danger of competent staff leaving the organization, loss of documents (hard copies), and loss of data and electronic documents (IAEA, 2011). The right preservation techniques should decrease the possibility of institutional memories loss. Institutional memory loss is a significant problem that can impact an organization's ability to advance its mission successfully, its ability to avoid making the same mistakes it made in the past, and its ability to leverage the accomplishments of departing employees (Coffey & Hoffman, 2003).

The basis of Knowledge Management is to capture the individual or collective knowledge and deliver it when required (Vijapurapu, 2014). It is believed that KM helps to reduce the redundancy of information, improves communication across teams, and increases a sense of belonging and community among employees (Liebowitz, 2006). KM focuses on people and the organizational culture required to stimulate and nurture the sharing and use of knowledge, on processes or methods to find, create, capture and share knowledge, and on the technology needed to store and make knowledge accessible and to allow people to work together without being together (IAEA, 2011). KM is a multi-layered and systems-oriented process that requires organizations to rethink what they do and how they do it (Brown & Duguid, 2000; Senge, 1990 on Marsh, 2016).

Knowledge management was initially defined as the process of applying a systematic approach to the capture, structure, management, and dissemination of knowledge throughout an organization in order to work faster, reuse best practices, and reduce costly rework from project to project (Nonaka and Takeuchi, 1995; Pasternack and Viscio, 1998; Pfeiffer and Sutton, 1999; Ruggles and Holtshouse, 1999 on Dalkir, 2005). The problem that usually showed up is how to capture and reuse experience in a suitable form and ensure the preservation of tacit knowledge of highly experienced personnel by using knowledge preservation techniques, methods, or practices (Vida and Jurgita, 2010). Also, the experienced staff usually busy and engage with their task or routine, make it challenging to spend the exact same times for everyone to do sharing session within their work hour.

Various methods have been used to attempt to preserve institutional memory. It was recognized that the acquisition of expert knowledge was a process having numbers of steps, including knowledge elicitation, knowledge representation, implementation, and then validation or verification (Ford and Bradshaw, 1993; Regoczei and Hirst, 1992 on Coffey and Hoffman, 2003). Coinciding with these developments was a growing recognition that the technologies of knowledge elicitation (KE) and knowledge acquisition (KA) held promise for helping organizations cope with the loss of institutional knowledge (Klein, 1992; Seifert et al., 1997 on Coffey and Hoffman, 2003). Knowledge preservation (KP) techniques can borrow from KE and KA activities of a variety of types. International Atomic Energy Agency (IAEA, 2011) stated nine steps of knowledge preservation activities in the organizational context. The nine steps are identification, capture, generation or creation, processing and transformation, storage and retention, search, and retrieval, representation, transfer and exchange, maintenance and updating. Each step may occur in different sequences and requires a variety of approaches.

Summarize from IAEA Reports on Comparative Analysis of Methods and Tools for Nuclear Knowledge Preservation (2011), knowledge identification refers to activities that involve what knowledge should be captured, processed, maintained and preserved and how to conduct such activities regularly. Capture is related to processes that bring data and information into a knowledge system. The processes will consider the KM life cycle and should address factors such as media, format, speed, costs, volume, and intellectual property issues. They should also include alternatives for source capture and guidelines for hardcopy publication, preservation of historical documents, standards and quality control procedures. The next stage of KP is storing the knowledge identified, captured and processed in robust and reliable devices to make it available for a long period of time. KP requires information to be stored in a format in which it is easily accessible and can be reused.

Knowledge can be reused through access and retrieval of stored knowledge. An organization must ensure that data integrity is maintained. False information or contaminated data can result in major misunderstandings between different entities of an organization. The *Bataviaasch Genoostchap* collection of National Museum Library is written on the Dutch and English which is not Indonesian native language. There some possibility to mistranslate or misunderstood the documents that become a potential risk of losing the actual point of view. Collaborations in which knowledge exchange occurs can cross organizational boundaries.

Organizations produce and develop tools, structures, and models to accumulate and share knowledge (Dalkir, 2005). The media used for an exchange of explicit knowledge are mail, e-mail, internet/intranet, e-learning, and simulation software. Whereas for tacit/implicit knowledge, the media used are interviews/questionnaires, conferences/meetings, mentoring/training, communities of practice, and simulation. As new knowledge is identified, created and/or enhanced within an organization, it goes through the entire KP cycle again and again. One of the stages in KP is handling the maintenance and updating of knowledge base systems. This involves activities which validate and implement version control mechanisms.

The National Library's holdings are a part of the museum's collections. The library should record and store them, making them available for public, make consultation on the understanding that they are objects to be treated with care, preserved for future generations, and may also be used in the museum exhibitions. In the case of *Bataviaasch Genoostchap* collection, the collection is also valued as the institutional memories for National Museum of Indonesia. The Library is run with the priority of preserving them for as long as possible, so that future generations can see them. In their original or digital version, the sustainability of the collection will be beneficial not only for the institution but also a wider user.

RESEARCH DESIGN

The objective of this research is to identify the knowledge preservation activity in the Museum National Library on *Bataviaasch Genoostchap* collection as their institutional memories. The guiding questions for the study were as follows: How does the National Museum Library conduct the knowledge preservation activity to their collection of *Bataviaasch Genoostchap*? Semi-structured interviews were the main method of data collection in this research. Interview questions asked about the current condition of the *Bataviaasch Genoostchap* collection, storage, maintenance, and stepson preserving the knowledge behind the collection.

RESULTS

The current situation on the *Bataviaasch Genoostchap* publication

Some of the *Bataviaasch Genoostchap* collection has been identified and registered to the library collection. The collection now showing on the shelf and open to accessed by library user. The showed collection including *Notulen Van de Algemeene en Directievergaderingen van Het Bataviaasch Genootschap van Kunsten en Weten Schappen, Tijdschrift Voor Indische taal Land en Volkekunde Uitgegaven Door Het Koninklij Bataviaasch Genootschap van Kunsten en Weteshapen, Verhandelingen Een studie van het Timoreesche Dooden ritueel, Rapporten van den oudheidkundigen Dienst in Nederlandsch – Indie, Oudheidkundig Verslag, Daght Register gehouden int Casteel Batavia, Catalogus van de Boeginese* and *Jaarboek*.

Year of	**2013**	**2015**	**2018**
Displayed	1.128	260	3.726
Storage	-	1.870	6.833
Total Items	**1.128**	**2.130**	**10.559**

Table 1: Number of *Bataviaasch Genootschap* collection in the National Museum by year

The *Dagh Register, Catalogus, Jarrboek* and *Raporten* are arranged by date, while *Tijdschript, Verhandelingen*, and *Oudheidkundig Verslag* are arranged by edition number on the covers. Even though the *Bataviaasch Genoostchap* publication originally comes from the National Museum, the utilization of the collection is not as wide as *Bataviaasch Genoostchap* collection located in National Library. Only small numbers of researcher known and looking after the *Bataviaasch Genoostchap* publication on National Museum. The *Bataviaasch Genoostchap* publication is displayed together with any other library collection. The library's set up the temperature at 26^{o}C and does not have special storage or treatment for the collection. The collection of *Bataviaasch Genoostchap* can be accessed with terms and condition. Generally, the collection only for inside library reading. Whether or not the collection accessible depends on the condition itself. The collection that rated in good condition can be used by the user directly. Otherwise, the librarian will assist the user to make use of the fragile one.

The collection itself has changed over time. Most of the paper is turning yellow and going harden. Some pages are exposed to termites and fungus, split or detached from the covers. The photo album has some of their photos lose, but still in the pack. Collection considered as heavily damaged or have potentially lost its information are separated from the other. The collection is wrapped individually used special acid-free paper and boxed so as not to affected others. Most of the original collection had a paperback and hardcover, while some fraction made of leather. The *Bataviaasch Genoostchap* collection now nearly as 200 years old. The container of the collection has been aged along with the paper. Even though the writing on the collection is readable, the potential damage to both paper and writing is real. The paper binding is not strong enough to hold them, causing loss of pages on the books. Fortunately, most of the damaged collections still their content completely despite some the paper that have been lost from the binding. However, collection on the display mainly has been recovered with dark cardboard (in blue or black color), only a small part still in its original condition. In some collection that has been recovered, a part of the original cover is affixed as an identifier. Unfortunately, the unidentified collection condition is uncertain until it's opened. The collection is not yet digitized nor replicated. As the collection grows bigger through time, the identification process became more important than ever. The rest 17.000 collections that not yet identified may lead to noteworthy information. It is not yet known if the information on the collection has recurred with National Library or National Archive collection. With the massive number of collections, it takes time and efforts to examine the content of the collection. Moreover, the collection never been transliterated to Indonesian language and only be able to use by Dutch or English literate user. Even though the content may be able to read by basic Dutch and English speaker, the capability to understand various old vocabulary of Dutch and English is useful to get more comprehensive understanding to the collection. The thorough understanding of knowledge inside the *Bataviaasch Genoostchap* collection may only be achieved as all interested parties inside the museum step in.

Massive collection of *Bataviaasch Genoostchap* that have been found on National Museum requires a re-registration to confirm its origin. In general, the *Bataviaasch Genoostchap* publication identified by their embedded logo on the cover, recto, or verso pages that confirm the authenticity. Besides the logo, the identity of the collection can be ensured by their grammar and word selection that slightly different from current Dutch and English. The appearance of the paper and cover could also determine the age and origins of the collection. As stated before, the collections of *Bataviaasch Genoostchap* can also be identified by the updated form of cover. The new form of cover can ease the identification process, but further examination needs to be done. Collection that has been confirmed as *Batavia Genootschap* publication will be registered on the inventory book and processed by the librarian to become library collection. As a comparison to the current findings, there is a log book that listing library collection on the past. The library has found reports on library development, including library collection stocks, at the year 1987-1988 and library collection listed in the year of 2000. Even though library have the inventory list on the past, some of them do not describe the collection thoroughly. The list of the 1987-1988 collection only has brief information about the collection, which is not helpful in the further identification process. On the other hand, the collection list on the year 2000 has more comprehensive information about the collection and used better as the comparison tools to current findings.

Identification of knowledge preservation activity on *Bataviaasch Genoostchap* collection

Not only the utilization of the collection needs extra efforts and care, the capturing process of the content of the collection could possibly damage the collection as well. The wrong attitude on handling the collection might harm the collection accidentally. The collection has never been digitized nor captured in another way before, made it more hustle to capture the content soon as possible. There is also a challenge to get the knowledge about the collection from the former staff who has left the museum. Usually, the current museum staff not having a flexible time to spare to get in contact with these people. Even though some communication has performed by phone, it still not the thorough knowledge that they have about the collection. The story can be exchange, but the detailed description still needs to be done by physical contact with the collection to get the right substance. As the librarian of the National Museum says himself:

"I have met her (the former librarian who has been work since the inauguration of the museum) in person at her house, and she told me a lot of story about the collection. While she can show me the inventory that her have made at the time, she couldn't explain to me in detail which one is which."

The library, on behalf of National Museum, may hold an internal group discussion to examine the action for knowledge preservation of the *Bataviaasch Genoostchap* collection. It could start by group discussion within the interested parties inside the National Museum to initialize work plan for the project. The discussion might lead to a bigger discussion and action involving top management of the museum. This discussion and planning process may also be followed by experts or another culture and preservation institution to get a professional point of view to enrich the concept. The knowledge capture about the collection also can be performed by inviting the interested parties like history expert, former staff or former management of the museum to join a workshop about *Bataviaasch Genoostchap*. They had been working with the collection for a long time and their knowledge about the collection may be important to define and describe the collection itself. The discussion should be recorded to prevent knowledge loss, and later be transformed to a writing and kept by the library. The digitalization process may also be performed as soon as possible, looking at the importance for it to do. This digitalization process needs a full effort by the librarian, and the financial support from the museum in tools procurement or third-partiy assistance. After that, the librarian still has a responsibility to spread the knowledge within and outside the library by uploading it to the database or digital library. Librarian facing the challenge to change public perception of the *Bataviaasch Genoostchap* collection. The importance of collection availability in the digital form is not always understood by non-users, including some of decision makers.

While digitalization could be the possible way that library can do to capture the collection content, it is not as easy as it thought to proceed. The digitalization process should be performed gently or done by technical experts in the preservation field. The wrong handling on the collection may damage the paper and the content also. Does the museum have a specialist on the digitalization or hiring an third parties, digitalization process should not only transform paper-based collection into digital document, but also be able to transform the content into machine readable format. This process may need all hands available on the museum. Later, the digital file should be stored in structured settings. The digitalization process of the collection is on the National Museum Library workplan for a while but wasn't execute by now.

Website usability to revitalize the *Bataviaasch Genoostchap* collection

The digital library should be so much more than just a database. Usage of the library website will provide an access for user to discover the National Museum collection. The museum user might have a tour on the museum website and getting information about the broad collection of the museum and library need to follow this stride to gain attention from the museum user. The library recently worked on their own web-based information system integrated with the museum website. On preserving and spreading the information about the museum collection, the National Museum making a custom page on their website to promote their digital collection including the *Bataviaasch Genoostchap* collection in a rare book section.

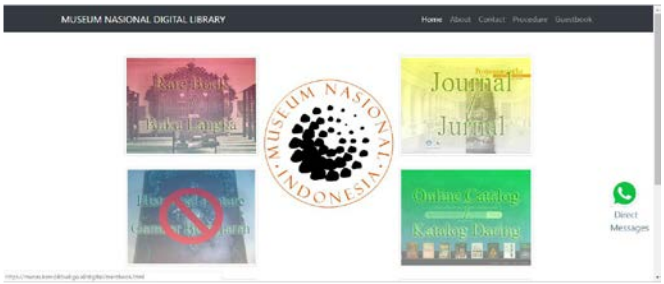

Figure 1: The digital collection web page

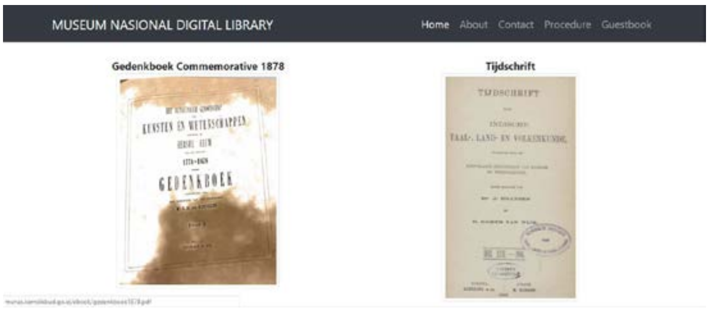

Figure 2: *Bataviaasch Genoostchap* collection on rare book section

Other than the digital section on the museum web page, the library also developing an Online Public Access Catalouge using *Senayan Library Management System (SLiMS)* to manage their library business process and collection. On managing their *Bataviaasch Genoostchap* collection, the library system desscribed a basic information about the document but not yet translating the title of the document. This situation comes from librarian limitation on understanding the language and to avoid a mistranslation on the collection. The use of the original language of collection, which is Dutch and English, might made it complicated to user who not familiar with the language. Due to this language difficulty, the library database should not only contain the basic information about the collection, but it had to fully describe the whole content of the collection for user to utilize the collection. The complete description of the collection may later be used in information and document retrieval, also beneficial for the organization itself.

CONCLUSION

Looking at their value as both nation and institutional memories, is not overstate that preservation efforts on the *Bataviaasch Genootschap* collection must be a top priority for the library and museum management. One should know where he is come from and what is make them now. Even worse, the story that not passed through generation may be forgotten in time. While storytelling may be dismounted from older staff to the new one, there is a concern that loss of knowledge may be happen without right knowledge preservation settings. The sharing session and documentation on the knowledge issue need to be done within the museum and could be even better if the National Museum planning a knowledge management project to the whole institution.

Until now, the *Bataviaasch Genoostchap* collection is only received a basic preservation step like environmental settings and damage prevention while the collection condition is weakening. The knowledge management on the *Bataviaasch Genoostchap* collection is not yet well performed tough the knowledge inside the collection. The utilization of museum's website should increase user awareness to the collection and this opportunity can be used by the librarians to introduce *Bataviaasch Genootschap* collection owned by National Museum. SLiMS management system, as museum digital library, should not be used as a library database only. The digital library could be the main gate to the core information of *Bataviaasch Genootschap* publication and documents and later be a map for the user to meet their needs of information to use *Bataviaasch Genootschap* collection in the National Museum. As idiom says, mighty oaks from little acorn grow. The National Museum Library still has many more efforts to do, and it needs all the hands down on the project to make it succeed. The initial research and record inside the *Bataviaasch Genoostchap* collection may lead to further research on the topic.

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Best Practices on User Driven Services: Experience of Dar al-Hikmah Library's Maintenance of Legal Resources

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ABSTRACT
A law library exists not only to store legal collections or resources but is also there to provide services to its users with specific information needs in legal study, research and practice. This is especially so in the world where changes in information technology, communication, teaching and learning styles are even more rampant. The services designed and offered must be driven to fulfill this specific needs of its users. The staff in charge of a law library also must possess knowledge about legal resources and the skill to retrieve them in order to serve their customers better. For this reason, this article illustrated the best practices on the maintenance and provision of service of the International Islamic University Malaysia Library's legal collection. This is a reflective paper based on review of related literature; the authors' observation and experience in managing the legal collection in the Dar al-Hikmah Library and the authors' effort in designing services which suit the specific needs of its users. The customers served are the internal customers within the university and external customers which includes the general public or private companies who have specific interest in legal resources. The paper also explained that to keep abreast with the changes in the needs of the customers, the Library also designed a continuing educational plan for its staff. Topics discussed include organizing the Library's legal resources; arrangement of the study areas; marketing the Library's legal resources and outreaching customers; and strengthening the law Library staff's hybrid skills and knowledge on legal resources, both in printed and online formats. The paper exemplified that an excellent mesh between good collection management, provision of service which meet the specific needs of its users and continuing education of the staff is the best approach in handling a law library. These best practices could be an exemplary model to any other law libraries.

Keywords: Law library; legal resources; service provision; collection management; library marketing; library promotion; continuing education; library staff; library users; user driven services.

INTRODUCTION

A law library consists of legal resources. The four main formats of legal resources are law books, law reports, law journals and statutes. In the past, most of these collections are provided in the printed format. However, in order to keep abreast of the changes in information technology, a law library also provides digital and electronic resources in legal subject.

A law library will provide services and access to the legal resources to customers who mainly are law students, law lecturers, lawyers and the public who have specific interest in legal resources. In order to keep serving its users, a law library must keep abreast of the changes in information technology, communication, teaching and learning styles. The staff in charge of a law library also must possess knowledge about legal resources and the skill to retrieve them in order to serve their users better.

The Library of International Islamic University Malaysia (known as Dar al-Hikmah Library) contains within it an extensive collection on law. Serving one of the oldest faculties in campus, Ahmad Ibrahim Kulliyyah of Laws (AIKOL), the Library dedicated the whole user area of its first floor, approximately 3209m^2, to the Law Collection. The law collection is entrusted to the Law Information Unit's (LIU) staff for maintenance and service provision.

To ensure ease of use and search by its customers, the collection is smartly arranged. The law librarian and library staff who maintain the collection are also equipped with sufficient knowledge on librarianship and legal knowledge to assist searching of legal resources. As mentioned by Gates, 1963: "a law librarian must be skilled both in law and techniques of legal research. Law librarianship is an important, hybrid specialty, a part of the legal profession which combines legal skills and management skills".

This paper is written to illustrate the best practices of Dar al-Hikmah Library's maintenance and provision of service of its legal resources. User driven in the context of this paper means that the operation of the Library is designed to fulfill users' quest for legal resources. The Library no longer provides services in anticipation of their use. Instead, the services offered are driven by the changing needs and preference of its users.

It is based on the authors' observation, experience, practice and review of related literatures. The customers in mind are the students and lecturers of Ahmad Ibrahim Kulliyyah of Laws (AIKOL), IIUM community such as the Kulliyyah / Centre / Department / Institutes / Offices, students and lecturers from Malaysian Public and Private Universities and non-IIUM community such as lawyers, legal practitioners, publishers and public who have specific interest in legal resources.

This article will share the Library's practices on:-

1. Organizing the Library's legal resources;
2. Arrangement of the study area;
3. Marketing the Library's legal resources and outreaching customers;
4. Strengthening the law Library staff's hybrid skills and knowledge on legal resources, both in printed and online formats.

Generally, most of the best practices shared in this article can be applied to any type of law library. The collection management and service provision have been designed to fulfil the users' specific and ever changing needs to legal resources. It is hoped that the ideas and practices can contribute to the current maintenance and service provision of a law library in other higher learning institutions in Malaysia or generally to any other type of special libraries worldwide.

ORGANIZING THE LIBRARY'S LEGAL RESOURCES

In the Dar al-Hikmah Library, collections like statutes, law reports, law journals and law books are placed in separate locations for easy retrieval. Certain law libraries also arrange their book collection according to subjects and then followed by the different legal systems or jurisdictions. Whatever the arrangement is, the purposes are still the same which are to facilitate searching and ease of use to its customers.

The arrangement of legal sources in the Dar al-Hikmah Library is first according to the ***type of the materials***. As mentioned before, books, journals, reports and legislations are given their own specific places. Due to this, they will not be mixed-up together on the same shelf as this will only confuse library customers. For easy identification, these resources are given codes called as Collection Code to indicate what type of resources they are:

Table 1: Codes for Legal Resources

Code	**Collection**
a	Legislation
b	Law Reports
c	Law Journals
d	Law Books/Monograph

The sources shown above are arranged on shelves which are separated further away from each other. Signage are placed on top of the collections to indicate what collection they are. If anyone is new to the Library, they can refer to the signage to ensure that they are at the right type of materials.

The legal resources within each type of materials are then arranged according to ***subjects***. "Books are usually grouped on the shelves according to their subject. The subject dealt with in each book is indicated by numbers, or letters and numbers, which are usually written on the spine of the book. These symbols indicate the exact subject matter of each volume. They are also known as the classification number or classmark and bring together, in one area of the library, all books dealing with the same subject. The classification number serves two purposes: it indicates the subject of the book and tells you where the book is to be found on the shelves." (Thomas and Knowles 2001)

The resources in any libraries are classified according to two widely used classification systems called Library of Congress Classification Scheme (LCCS) and Dewey Decimal Classification (DCC). The major difference of the two systems is LCCS uses letters while DCC uses numbers as the identification. While LCCS has 21 main classes, DCC has 10 major classes. As most of the academic libraries in Malaysia, the Dar al-Hikmah Library chooses LCCS as its classification system. That is why the classification used in the Library starts with the letter K.

The individual collection is then further ***sub-arranged by jurisdiction***. Picture 1 is the synopsis of the Library of Congress Classification (Law) by jurisdiction. The class number "KPG" is used for Malaysia and the Library practices using class number "KPGG" for states in Malaysia.

LIBRARY OF CONGRESS CLASSIFICATION (LAW) SYNOPSIS

K	LAW (GENERAL)
KD	LAW OF ENGLAND AND WALES
KDC	LAW OF SCOTLAND
KDE	LAW OF NORTHEN IRELAND
KDG	LAW OF ISLE OF MAN. CHANNEL ISLANDS
KDK	LAW OF IRELAND
KDZ	LAW OF NORTH AMERICA
KE	LAW OF CANADA
KF	LAW OF UNITED STATES
KG	LAW OF LATIN AMERICA
KGA – KGH	LAW OF MEXICO AND CENTRAL AMERICA
KGJ – KGZ	WEST INDIES CARIBBEAN AREA
KH	SOUTH AMERICA
KJV	LAW OF FRANCE
KJW	FRENCE REGIONS, PROVINCES, DEPARTMENTS, ETC.
KK	LAW OF GERMANY AND WEST GERMANY
KL	HISTORY OF LAW. THE ANCIENT ORIENT
KLA – KLW	EURASIA
KM – KPZ	ASIA
KNC – KPW	SOUTH ASIA, SOUTH EAST ASIA, EAST ASIA
KPG – KPGG	MALAYSIA
KQ – KTZ	AFRICA
KU – KWW	PACIFIC AREA
KWX	ANTARTIC

Figure 1: Synopsis of the Library of Congress Classification (Law) by Jurisdiction

As mentioned earlier, the Library organizes its legal resources according to four main categories which comprises of law books, law reports, law journals and statutes. These collections are differentiated by special codes as shown in Table 1.

The codes act as prefix to the call number and also determine the location of the different collections. It will become handy during the shelving process and physical retrieval of an item after its call number is located in the OPAC (Online Public Access Catalogue). Shown below are some examples of each codes by types and call number.

a) Statutes

Example 1: "statutes" with the code "a". Table 2 shows the call number legend by code/prefix, class number, call number by subject and volume number.
"The Acts and ordinances of the Legislative Council of the Straits Settlements, from the 1st April 1867 to the 7th March, 1898".

Call Number: a KPG 5001.85 M42 1898 v1

Table 2: Call number legend by code/prefix, class number, call number by subject and volume number

Call Number	**a**	**KPG**	**5001.85 M42**	**1898**	**v1**
Legend	Code / Prefix	Class Number by Jurisdiction	Call Number by Subject	Year	Volume Number

b) Law Reports

Example 2: "law reports" with the code "b". Table 3 shows the call number legend by code/prefix, class number, call number by subject and volume number.

Re Steel & Ors. v The Conveyancing Strata Title Act 1961 (1968) 88 WN Pt 1 467
W.N. = The New South Wales Weekly Notes

Call Number: b KUC 2.23 A2 NSWWN 1968 v88

Table 3: Call number legend by code/prefix, class number, call number by subject, abbreviation of the report title, year and volume number

Call Number	**b**	**KUC**	**2.23 A2**	**NSWWN**	**1968**	**v88**
Legend	Code / Prefix	Class Number by Jurisdiction	Call Number by Subject	Abbreviation of the Report Title	Year	Volume Number

c) Law Journals

Example 3: "law journals" with the code "c". Table 4 shows the call number legend by code/prefix, class number, call number by subject, abbreviation of the Journal title, year and volume number.

"Salbiah Ahmad. (1990). Towards a common law on domestic violence for Malaysian. M.L.N., 1. 312 – 316."
M.L.N. = Malaysian Law News
Call Number: c KPG 6 MLN 1990 Jan – Dec

Table 4: Call number legend by code/prefix, class number by jurisdiction, call number by subject, abbreviation of the journal title, year and volume number

Call Number	**c**	**KPG**	**6**	**MLN**	**1990**	**Jan - Dec**
Legend	Code / Prefix	Class Number by Jurisdiction	Call Number by Subject	Abbreviation of the Journal Title	Year	Volume Number

d) Law Books

Example 4: "law books" with the code "d". Table 5 shows the call number legend by code/prefix, class number, call number by subject, abbreviation of the Journal title, year and volume number.

"Hedley, Steve. (20016). Tort. New York: Oxford University Press."

Call Number: d30 KD 1949 H455T 2006

Table 5: Call number legend by code/prefix, class number by jurisdiction, call number by subject, author and year.

Call Number	**d30**	**KD**	**1949**	**H455T**	**2006**
Legend	Code/Prefix	Class Number by Jurisdiction	Call Number by Subject	Author	Year

As for "law books", Dar al-Hikmah Library practices placement of location codes d2 – d69 to specify the law books location by subject. Table 6 is location of law books by subject from d2 – d69.

Table 6: Location of law books by subject from d2 – d69

Location Codes for Law Books	**Subject**
d2	Bibliography (general). Encyclopedias. Dictionaries. Maxims. Form books
d3	Periodicals. Yearbooks. Judicial statistics. Directories. Law reports related materials. Parliamentary publications. Citators. Indexes. Trials
d4	Society. Bar associations. Legal aid. Congresses. Collected works (non-serial).
d5	Legal research. Legal composition and draftsmanship. Legal education. Legal profession
d6	History of law. Biography
d7	Jurisprudence. Philosophy of law. Legal reform. Conflict of laws. General principles and concepts
d8	Private (civil) law
d9	Persons
d10	Domestics' relations. Family law
d11	Property
d12	Real property. Land law
d13	Public property
d14	Regional and city planning. Zoning. Building
d15	Personal property
d16	Intellectual and industrial property
d17	Trusts and trustees
d18	Estate planning. Succession upon death
d19	Contracts
d20	Mercantile law. Commercial law
d21	Contract of service. Contract for services
d22	Sale of goods
d23	Contracts involving bailments. Negotiable instruments
d24	Banking. Loan of money. Suretyship. Guaranty. Secured transactions
d25	Marketing of securities. Investments. Stock-exchange transactions
d26	Carriers. Carriage of goods and passengers
d27	Maritime commercial law
d28	Insurance
d29	Restitution. Quasi contracts. Unjust enrichment
d30	Torts. Reparation
d31	Agency. Associations. Company law
d32	Insolvency and bankruptcy. Creditors' right
d33	Economic policy. Economic planning
d34	Regulation of industry, trade and commerce. Occupational law
d35	Primary production. Extractive industries. Conservation of natural resources
d36	Manufacturing industries
d37	Food processing industries. Agricultural products

Location Codes for Law Books	Subject
d38	Construction and building industry. Contractors
d39	Trade and commerce
d40	Public utilities
d41	Transportation and communication. Information and communications technology (includes cyber law)
d42	The profession
d43	Social legislation. Labor law. Social insurance. Public welfare
d44	Public health. Sanitation. Environmental pollution
d45	Medical legislation
d46	Veterinary laws
d47	Food. Drugs. Cosmetics. Alcohol
d48	Public safety
d49	Control of social activities
d50	Education. Science and arts. Research
d51	Constitutional law
d52	Foreign relations
d53	Individual and state. Rights
d54	Religion and state
d55	Organs of the government. The Parliament. Executive branch. The judiciary. Judicial power
d56	Local government
d57	Administrative law, organization and procedure
d58	Government measures in time of war, national emergency, economic crisis
d59	Public finance
d60	National defense. Military law
d61	Courts. Procedure. Administration of justice
d62	Civil procedure. Evidence
d63	Judgements
d64	Arbitration and award
d65	Criminal law
d66	Criminal procedure. Evidence
d67	Law of nations. International law
d68	Law of the sea
d69	Space Law

e) Other Law Collections

Other than the four main law collections, there are other codes applied for some more collections which are available in the Law Library. Table 7 shows codes for these special law collections:-

Table 7: Codes for special law collections

No.	Code	Collection
i.	aic	Ahmad Ibrahim Collection
ii.	lsf	Loose Leaf
iii.	id	Islamic Law Books
iv.	ic	Islamic Law Periodicals
v.	ia	Islamic Law Statutes

The same practice applies where the codes will act as prefix to the call number and will also determine the location of the collection.

ARRANGEMENT OF THE STUDY AREA

The Library in the past has always been known as a place where users can study in complete silence. As correctly been observed, it is the "reputation of the library as an environment in which silence is expected so that other customers may focus on their reading and study." (Rowley 1995)

However, over the years, the attitude to study in silence has changed. The library is nowadays being used as a study space but also a place for social gathering. Users expect that they could not only study in silence but also expect that discussion or group discussions could be done in the library. Rowley again highlighted that academic libraries "have needed to accommodate different approaches to teaching and learning which recognize that students learn from each other and therefore at times need to work in groups in the library". (Rowley 1995)

The LIU staff who maintain the library is also facing difficulty in ensuring silence in the Library. Staff had to keep making rounds in the study spaces to remind users to lower their voice or simply to leave the area if noise could not be controlled. Law students of IIUM had also keep mentioning to the librarians that their subjects need to be learned through discussion and thus noise could not be avoided.

Seeing the changing needs to use the Law Library as a place for discussion, the Dar al-Hikmah Library had in 2016, made a major change to the law user area. The space now accommodates the different study styles of the users. The area has separate study areas for:

a. Silent Area
b. Discussion Area
c. Learning common
d. Carrel desks
e. Carrel rooms

The task of the LIU staff is also now changed. They have to ensure that users do not intrude on each other's study spaces. Users who are disturbed by noise in the Discussion Area are politely requested to utilized the Silent Area, and vice versa. Through this initiative the Library has ensure all the needs for the different study styles are entertained.

MARKETING THE LIBRARY'S LEGAL RESOURCES AND OUTREACHING CUSTOMERS

Dar al-Hikmah Library markets the legal resources and outreaches customers through:-

a) Legal research skill class and library tour
b) Law subject librarian / Liaison librarian for faculty
c) Participation in faculty's events or programs
d) Law Readers' Advisory Desk / Reference Desk
e) Involvement in Law Library Group: Special Interest Group with Other Law Libraries Registered under Persatuan Pustakawan Malaysia (Librarians Association of Malaysia)

a) Legal Research Skill Class and Library Tour

Dar al-Hikmah Library develops a special teaching module on Legal Research Skill. This module covers the searching techniques in locating legal resources, access to the physical collection and use of the online databases. The module is taught as it is or expanded to a more advanced nature depending whether the class is an undergraduate or a postgraduate level.

Teaching a Legal Research Skill class to law students would be very beneficial to share techniques and tricks of locating and retrieving legal resources. Offering a class is a way to get to know the librarian and to introduce a law library to a law school lecturers and students, so the customers will be more likely to seek help from the library in the future if they have already develop a relationship with the library staff (Runyon and Dabney 2013).

In this Library, the Legal Research Skill class is conducted in collaboration with a certain course in the faculty, i.e. Research Methodology class and Legal Methodology class. A teaching slot or slots will be given to the Law Librarian to conduct the Legal Research Skill class. The library believes that "giving a guest lecture in a substantive law course is a very useful way to inform students of the research resources that are available to them. Students will be more receptive to learning about resources if the research instruction is relevant to what they are studying in class" (Runyon and Dabney 2013).

For the undergraduate level, the Legal Research Skill is incorporated into their Legal Methodology class. On the other hand, for law postgraduate students, it is conducted within their Research Methodology class. The classes are handled by the law librarian or assisted by any librarians who have knowledge of legal research. As mentioned by Gates "All Law Librarians perform a teaching function to some extent, advising patrons on unfamiliar research materials. In law schools, the librarian may also instruct the students in legal bibliography, writing and research, either informally, as the students encounter research problems, or through the medium of a conventional course". (Gates 1963)

Since the establishment of the law library, the law librarians had conducted Library Tours for undergraduate students under the Legal Methodology class. This served as a means to introduce the law collections to the students. Concentration was given on the printed resources, their arrangement, where to find them and how to use them. Later on, with consultation with the faculty, the law librarians came out with quizzes which students need to answer and submit to the Library. The results were then passed to the faculty for review or possible inclusion in the class marks.

In 2009, the law librarian concerned felt that library tour alone is not enough. As such, the Library's Legal Research Skill class was introduced. Concentration was given on understanding the content of the different law collections and also on the law databases. It started with one section in the Legal Methodology course. Seeing the good feedback received from the lecturer and students, other lecturers teaching other sections also requested similar classes to be conducted for their students. In 2010, the library class together with the library tour have been adopted as compulsory components in the Legal Methodology course.

To ensure the teaching module of the Legal Research Skills classes suits the requirements of the different levels of studies and subjects, the faculty is consulted. This shows a collaboration effort between the Library and the faculty. Appendix 1 is an example of the legal research skill content for law undergraduates and law postgraduates prepared and presented by the law librarian. Other than formal classes, the law library team also conduct library tours to new law students in order to introduce them to legal resources in the law library.

In Dar al-Hikmah Library, other than the law librarian, the staff of LIU are also entrusted with the tour duty. To ensure that the information shared by the staff to the students are correct and parallel between the sections, a proper guideline or module has been prepared. Meetings to ensure understanding of the module and hands-on training are done weeks ahead of the tour week. If needed, simulation practices are also conducted by staff who are entrusted with the tour duty.

b) Law Subject Librarian / Liaison Librarian for faculty

A law subject librarian is a liaison between the law school and the law library. As supported by Kirk, "Today, the law librarians are very much involved in the law school and collaborating with deans, faculty and staff to provide a well-rounded education for the law students". (Kirk 2008)

In Dar al-Hikmah Library, the law librarian will attend the AIKOL Board Meeting to represent the Library. It is an opportunity for the library to address any library related matters and to report library matters to the faculty board members. Furthermore, to be part of the faculty board member is a way to show the importance and visibility of the Library to the faculty. "Providing individualized services to students and faculty is a specialized and targeted way to increase the visibility of your library" (Runyon and Dabney 2013).

Other than formal meetings, law librarians also entertain individual consultation request from the students and lecturers in the faculty. Individual consultation is important as "nothing can replace personal meetings with faculty members as a means of learning about their interests and needs" (Lenz 2004).

From time to time, the law librarian also contacts the law lecturers through email. The content of the emails could be programs conducted by the library, new books to purchase, guides on how to use online databases, new law books arrival or any library related services. The library believes that "the law librarian should contact with the library patrons once or twice a month. These contacts do not have to deal with totally new programs or services. They can be messages that remind patrons about existing products or services that the library has to offer. Or they can be helpful hints or information tidbits. The key thing is contact. This makes library patrons believe that the library is a pace that is alive and interested in serving them" (Grunenwald and Traynor 1987). The law librarian's main medium of contact has always been the emails. This ensure fast and vast distribution of information to the faculty. "Email marketing is essential to engaging with customers across a wide range of industries and It has become even more important with the ubiquity of mobile devices" (Rowe 2016).

c) Participation in Faculty Event or Program

A law library and a law faculty must have a close relationship. A law library should take part in any events invited by the law faculty. For example, whenever the faculty organizes a program and invites the law library to do an exhibition on law related theme, the law library team must take the opportunity to fulfil the request.

AIKOL occasionally seeks the assistance from the law librarian to give presentations on law related topics. One such example is on Understanding Law Resources: Law Primary and Law Secondary resources. To ensure accuracy of content, discussions between the law librarian and law lecturers are done. The law librarian will then prepare a module to be presented complete with samples of the law primary and secondary resources to be used. The subject covered will focus on the four main law resources which are the statutes, law reports, law journals and law books. Appendix 2 is an example of a module prepared by the law librarian during the presentation of Understanding Law Resources for the Universiti Tun Hussein Onn Malaysia (UTHM) students who attended a course in AIKOL.

Exhibitions and presentations are opportunities to highlight the legal resources available in the law library. These exhibitions are mostly conducted in the faculty itself. "The more potential users find out about it, the more it will be used. To promote the special collection and its services, special collection librarians can prepare exhibits, host book signing receptions and plan lectures by authors and scholars with a particular interest in the subject area of the special collection" (Mayo-Jefferies 1994).

Dar al-Hikmah Library is always invited to participate in the annual Ahmad Ibrahim Memorial Lecture. What is occasionally done is, the Library will exhibit collections on the theme of the year. Exhibited also are the records of the previous year's lectures and also the special exhibition on the life and works of the late Professor Emeritus Tan Sri Datuk Ahmad Ibrahim, the first Dean of AIKOL.

Other than setting up law related exhibitions and presentations in the faculty, Dar al-Hikmah Library always offers spaces within the Library to the law faculty to conduct any events. This is because, the Library always believes that "in addition to being a place of learning and providing educational services, a library can also serve as a social hub for a school" (Runyon and Dabney 2013).

In IIUM, the Law faculty regularly involves in moot competitions. Therefore, mooters need to conduct research and optimize the legal resources in the law library as preparation for the competitions. The law lecturer in-charge will seek help from the law library team to give privilege to the mooters to use the legal resources in order to support their moot competition's requirements. One of the privileges given is an upgrade to the loan privilege of books. The Library also used to offer special discussion room for the mooters to have discussions and prepare their research materials.

d) Law Readers' Advisory Desk or Reference Desk

Reference desk plays an important role in an academic library to entertain enquiries from the customers. In Dar al-Hikmah Library, the reference desk at LIU is called the Law Readers' Advisory Desk. It is provided as an added value service to the main Readers' Advisory Desk available at level 2 of the Library. The Law Readers' Advisory Desk is a visible point to entertain enquiries from the customers regarding the law resources and can be a place to "market" or "sale" the law resources to the customers.

As Masuchika pointed out, "in academic libraries, there are two major points of sale. The first is the circulation desk, where authorized users are allowed to obtain materials for a limited time, return materials, pay fines and ask directional questions or questions pertaining to library policy. The second is the reference desk, usually occupied by trained librarians possessing the skills and knowledge to directly and indirectly satisfy the academic and intellectual needs of the scholar" (Masuchika 2013).

According to Poparad, the following are the services provided at the Reference Desk:-

1. "Answering basic research and computing questions in person and via chat, text, email and phone
2. Instructing patrons in using the library's discovery service, catalog and databases to find books, articles and media on or off campus
3. Providing interlibrary loan instruction for placing requests and retrieving fulfilled items
4. Assisting faculty and students with the campus-wide wireless network
5. Serving community users from affiliated institutions, and alumni in accordance with library policies" (Poparad 2015).

To ensure efficiency in service provision, the LIU team that are responsible to man the Law Readers' Advisory Desk are not only equipped with library related services but also skills and knowledge of the law resources. They are given formal and informal trainings on what to expect while manning the Law Readers' Advisory Desk. From time to time, training sessions are given to all the staff, especially to update them on new ways of legal information research, database searching and so on.

To further equip the law team on the law collection itself, they perform shelving works at the law collection. This is an added task entrusted on them as on the other floors, the shelving works are done by the Collection Management Unit. The Library feels that familiarization of the collection is essential for the law staff to enable them to fully embrace the collection and eventually could easily assist the customers with the physical collection.

e) Involvement in Law Library Group: Special Interest Group with Other Law Libraries Registered under Persatuan Pustakawan Malaysia (Librarians Association of Malaysia)

Librarians Association of Malaysia has initiated a number of special interest groups to gather all registered libraries in Malaysia based on subject. The objective is to nurture sharing knowledge between libraries in Malaysia based on subject interest. Law Library Group (LLG) is one of the special interest groups initiated. LLG consists of law librarian represented from the following libraries:-

a) International Islamic University Malaysia (IIUM / UIAM)
b) Universiti Kebangsaan Malaysia (UKM)
c) Universiti Malaya (UM)
d) Universiti Teknologi MARA (UiTM)
e) Universiti Sains Islam Malaysia (USIM)
f) Universiti Sultan Zainal Abiddin (UNISZA)
g) Universiti Multimedia (MMU)
h) Perpustakaan Parlimen Malaysia
i) Suruhanjaya Sekuriti Malaysia (SSM / SCM)
j) Institut Latihan Kehakiman dan Perundangan (ILKAP)
k) Jabatan Peguam Negara
l) Mahkamah Persekutuan Malaysia

LLG becomes a platform to promote professional relationship and networking between law libraries in Malaysia. The group encourages transfer of knowledge and knowledge sharing between law libraries. LLG will initiate law related programs and will invite other libraries to join the programs. "Library friends groups can support development and services for institutions" (Babb, 2006).

LLG will meet at least four times a year to discuss programs and set task force to ensure the programs organized are successful. Other than conducting programs and meetings, the networking between law libraries is beneficial among the LLG members. Among the benefits are:-

i. Support each other in terms of sharing of law collection through inter library loans. No libraries will have a complete law collection. Therefore, libraries are dependable on each other and would often ask another library for assistance in obtaining specific resources. For example, Suruhanjaya Sekuriti Malaysia Library team does not have a certain case report from India to support their court submission process. The Suruhanjaya Sekuriti Malaysia Library team will approach any of the LLG members including Dar al-Hikmah Library through Interlibrary Loan to get a copy of the required case.

ii. Support newly established law libraries in Malaysia. For example, Universiti Sains Islam Malaysia (USIM) Library is developing their law collection to fulfill the Malaysian Qualifications Agency requirements for USIM law course accreditation. In order to get the law course accredited, USIM law library must have certain law collections to support the law course offered. USIM Library had approached Dar al-Hikmah Library to view its law collection through its OPAC. The Library team then contacted Dar al-Hikmah Library's Interlibrary Loan team to borrow the identified titles.

iii. Suggest and offer expertise from institution to support programs organized by LLG. For example, LLG had organized a seminar on "Understanding Legal Agreement on Online Resources". For the program, Dar al-Hikmah Library had suggested a legal officer from IIUM Office of Legal Advisor to become one of the panelists during the seminar.

iv. Offer venue for events, programs and meetings organized by LLG. For example, Dar al-Hikmah Library, USIM Library, UM Library, UKM Library, MMU Library had offer venues for events, programs and meetings organized by LLG. The courtesy of being host will instill the "friends in need is a friends in deed" among the LLG members. At the same time, being a host will indirectly market each institutions' names.

v. Offer the public who are interested in legal resources to access collections in higher learning institutions' libraries. With LLG networking, the public, students and lecturers from other universities can access university libraries and do research using their legal resources. For entrance, access and usage, the public would need to adhere to the terms and conditions of the libraries visited. However, students and lecturers of the Malaysian Public and Private Universities that are registered under Librarians Association of Malaysia, can visit the libraries for free by simply providing their university staff /student card for identifications.

Due to the above benefits, Dar al-Hikmah Library has always ensured that its law librarian remains active in the LLG. This is especially so as it is the Library's belief that none of the law academic libraries could ever be 100% complete in its collection and services. Therefore, sharing of resources and expertise is essential. The better is our relationship with our peers, the better it is that we serve our own library customers.

STRENGTHENING THE LAW LIBRARY STAFF'S HYBRID SKILLS AND KNOWLEDGE ON LEGAL RESOURCES, BOTH IN PRINTED AND ONLINE FORMATS.

All Library staff, including LIU staff are always encouraged to participate in knowledge sharing sessions and continuing education on legal resources conducted by the Library or by external parties. This is to ensure all are updated on the latest changes to the ways of searching for information or on the system itself. "Whether the term are called training, education or professional development, continuing education must teach you something new and supplement your existing skill set" (Matarazzo and Pearlstein 2012).

a) Continuing Education for Law Information Unit Staff

In order to strengthen the Law Librarian and Law Library staff's hybrid skill to retrieve legal resources both printed and electronic resources, a continuing educational session for LIU staff is provided. Such sessions are important to ensure that the staff are equipped with the skills and knowledge on legal resources to enable them to answer questions during their Readers' Advisory Desk duty. At the same time, it will build up confidence among the law library staff to present the legal resources to group of students during the library tour session.

A study group approach is used by the Law Librarian to conduct the knowledge sharing session for LIU staff. The staff will be assigned with a topic which they will study with the guidance from the law librarian. Later on, the staff need to present the topic they had studied to the rest of their colleagues.

Hands-on classes on law online databases are also organized and attended by LIU staff to enhance their skills in using the law online databases. The hands-on class is done internally and conducted by the law librarian.

To optimize usage of online databases, serial librarians occasionally organizes training sessions for the library staff and customers in general. The law librarian will promote the training sessions to the law faculty and invite law students and lecturers to attend.

These trainings will sharpen the knowledge and skills of LIU staff in optimizing the functions and content of the law online databases. The knowledge and skill learnt will become handy during the legal research skill class, library tours and during their duty at the Law Readers' Advisory Desk.

The Library also occasionally identified external courses specifically on law to be attended by LIU staff. One of those is the course organized by the Abu Yusuf Yaqub Al-

Khindi Library, the Law Library of the Attorney General's Chambers of Malaysia (Jabatan Peguam Negara) on the topic "Workshop on Amendment of Act / Subsidiaries Legislation and Introduction to Legal Resources (Bengkel Pengemaskinian Akta / Pemberitahuan Undangan dan Pengenalan Maklumat Perundangan)". Participants were exposed to the Malaysian act amendment exercise and introduced to Malaysian legal resources. LIU staff have been given the opportunity to attend such courses to further strengthen their skill and knowledge in handling the law collection.

b) Knowledge Sharing Session for Dar al-Hikmah Library Staff

From time to time, LIU team through the Law Librarian will conduct Knowledge Sharing Sessions on legal resources to the rest of the Library staff. The objective of the sharing session is to share some quick tips and tricks about legal resources so library staff in general are able to answer simple questions from customers.

The Knowledge Sharing Session is done annually where LIU will present a topic in the Information Services Section's sharing session. Upon request, the law librarian also conducts hands-on law online databases training during the event. Other than that, the law librarian also entertains requests from individual sections or units within the Library which would like to have a special sharing session for them. One such requests came from Bibliographic Control Section. The session had proven to be beneficial as cataloguers in BCS could understand more about the law subject and understand the special arrangement of the law resources in the Library.

CONCLUSION

Dar al-Hikmah Library legal resources is an important asset to IIUM community. Its initial existence was to serve the Ahmad Ibrahim Kulliyyah of Law's (AIKOL) students and lecturers. Later on, the service and collection was extended to the IIUM community such as Kulliyyah / Centre / Department / Institute / Offices, students and lecturers from Malaysia Public and Private Universities and non-IIUM community such as lawyers, legal practitioners, publishers and public who are interested in the legal resources. As pointed out by Gates, "law libraries serve university law school faculties and students, government agencies, legislators and their staff, courts, bar associations, corporations, law offices and international agencies." (Gates 1963).

To offer excellent service to its community, the Library strives to inculcate lifelong learning spirit in all its staff. This is particularly needed by LIU staff as law is a special collection in the Library which collections occupy the whole service area of level one of the Library. "Law librarians can demonstrate that they have the knowledge and teaching methods needed to assist in making legal education more practical and understandable for law students. They also can show judicial, social and possible financial merits of helping public patrons to find the legal information that the public need. If law librarians are innovative, flexible and prudent in how they overcome the challenges facing them, they can be instrumental in the shaping of their profession's future as both educators and providers of legal assistance" (McLaughlin 2015).

The Law Information Unit in its daily operation has demonstrated the excellent mesh between good collection management and offering of service. For ease of use, it has arranged the physical collection which easily direct the customers to the type of law collections and sub-subjects they are looking for. For a specified legal research assistance, the law staff at the Unit have been trained to understand the law subject and the legal resources under their care. With these combined initiatives, the Dar al-Hikmah Library is proud of its excellence practice in handling the law collection within its premise. These best practices in service provision and collection maintenance are hoped to be good examples to any other libraries. The initiatives done by the Law Library have indeed fulfill all the promises made to the library users as stated in the Library's Client Charter: a) Provide quality and adequate information resources; b) Provide user friendly services; and c) Provide a conducive learning environment.

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APPENDIX 1

Legal Research Skill Module Content

Below are the legal research skill content covers under course subject:-

1. Legal Method for AIKOL Law Undergraduate:-
    a. Law collection in IIUM Library
    b. Understanding citations and law citations
    c. Online Public Access Catalogue (OPAC)
    d. Law Online Databases

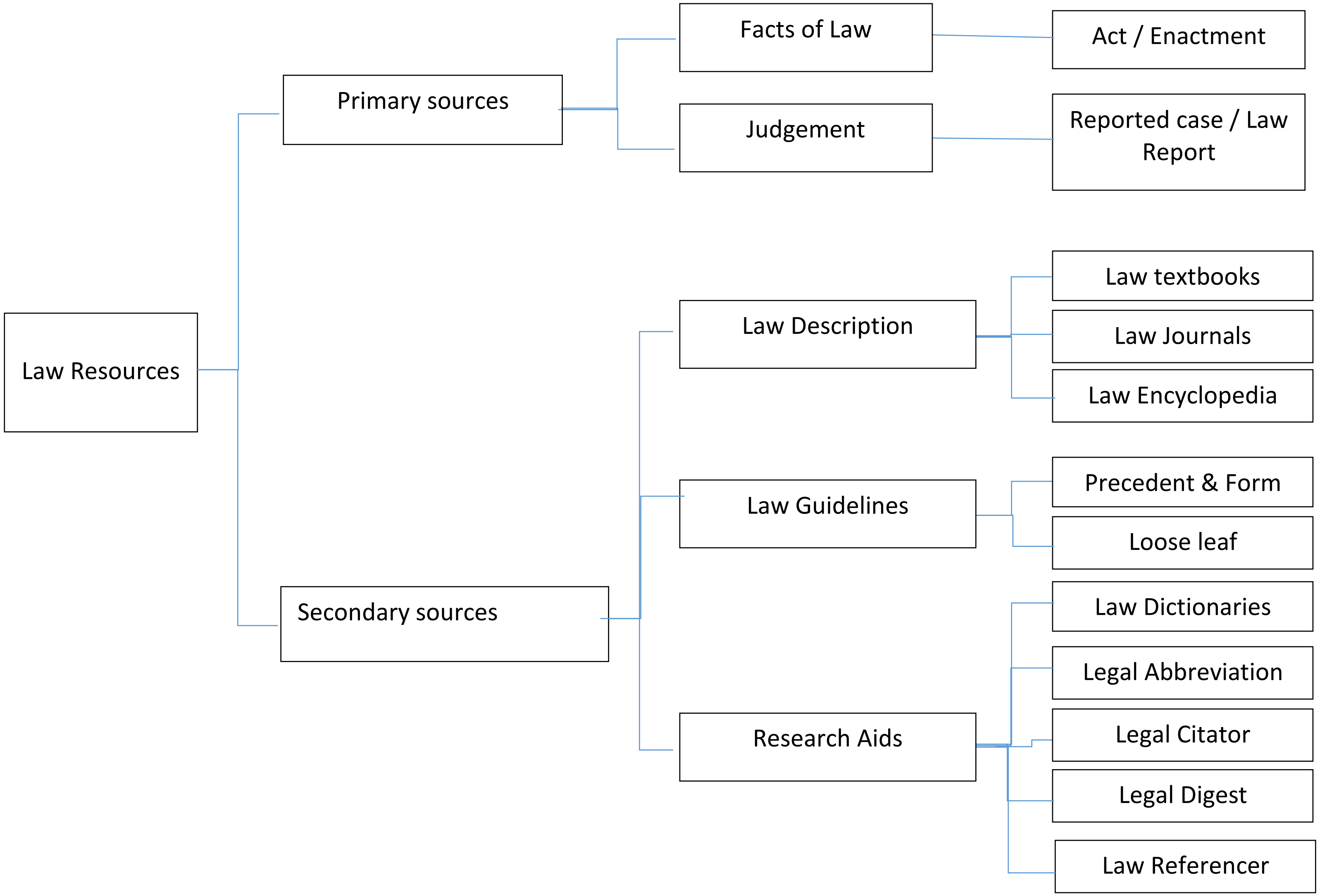
2. Research Method for AIKOL Law Postgraduate:-
    a. Research process
    b. Law collection in IIUM Library
    c. Understanding citations and law citations
    d. Online Public Access Catalogue (OPAC)
    e. Digital library services
    f. IIUM thesis
    g. Islamic law online database
    h. Examination paper
    i. Off campus access (to access online database and e-book from outside campus)
    j. Law online databases

APPENDIX 2

Understanding Legal Resources:
Sharing session with Universiti Tun Hussein Onn Malaysia (UTHM) Students

Table of Content:-

No.	**Items**	**Page No.**
1	Law Resources	
2	Act / Enactment (Primary sources)	
3	Reported case / Law Report (Primary sources)	


Law Resources
Primary sources
Facts of Law
Act / Enactment
Judgement
Reported case / Law Report
Secondary sources
Law Description
Law textbooks
Law Journals
Law Encyclopedia
Law Guidelines
Precedent & Form
Loose leaf
Research Aids
Law Dictionaries
Legal Abbreviation
Legal Citator
Legal Digest
Law Referencer

Act / Enactment (Primary sources)

Flow for Act / Enactment :-

No	Federal / Persekutuan	State / Negeri
1	Bills / Rang Undang-Undang – Notes : Warna biru. Ada huraian tentang sesuatu usul akta. Disediakan oleh Jabatan Peguam Negara. Dicetak oleh Percetakan Nasional Malaysia Berhad (PNMB)	Bills / Rang Undang-Undang Notes : Warna biru. Ada huraian tentang sesuatu usul akta.
2	Hansard / Dewan Rakyat (Perbahasan Parlimen)	Dewan Undangan Negeri
3	Hansard / Dewan Negara (Perbahasan Parlimen) / Handsard	
4	Act / Akta **in** Gazette / Warta	Enactment / Enakmen **in** Gazette / Warta
5	Pemberitahuan Undangan A : PU (A) – Notes : Mengandungi Undang-undang kecil dan kaedah utk menyokong Akta.	Pemberitahuan Undangan - Notes : Mengandungi Undang-undang kecil & kaedah utk menyokong Enakmen. serta tarikh–tarikh.
6	Pemberitahuan Undangan B : PU (B) – Notes : tarikh, perlantikan, pengisytiharan pilihanraya, pembubaran parlimen	
7	Amendment / Pindaan	Amendment / Pindaan
8	Example : • Act 226 National Parks Act 1980 • Act 313 National Forestry Act 1980 • Act 317 Fisheries Act 1985	Example: Pentadbiran Agama Islam… Selangor dan Enakmen A5 (pindaan)

Reported case / Law Report (Primary sources)

Case Citation:-

No.	Citation	Parties
1	[1997] 3 MLJ 32	Ketua Pengarah Jabatan Alam Sekitar v. Kajing Tubek
2	[2013] 4 MLJ 263	Wong Keng Liang v. Public Prosecutor
3	[2002] 2 MLJ 591	Sagong bin Tasi & Ors. v. Kerajaan Negeri Selangor & Ors.

Betawi Collection for Indigenous Knowledge Preservation in the DKI Jakarta Provincial Public Library

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ABSTRACT
Indigenous knowledge had been experienced and treated as a national treasure, especially in the public library to manage knowledge preservation. Taking the case in the DKI Jakarta Provincial Public Library that has to handle indigenous knowledge of Betawi (Jakarta local ethnic group), qualitative approaches been used for doing observation and interviewing the librarian coordinator, three library staff, and two visitor. The paper investigates preservation and representation for preserving indigenous knowledge in the library. The finding thus suggests that there are three steps of nine knowledge preservation applied in the library.

Keywords: Public Library; Indigenous Knowledge Preservation; The DKI Jakarta Public Library; Betawi

INTRODUCTION

Indonesia is a big country with 34 provinces, 1,340 ethnic groups, and 2,500 languages (BPS RI 2010). Amongst 1,340 ethnic groups, some ethnic groups are living in Indonesia that still preserve the culture on their daily life, for example, Aceh, Asmat, Batak, Bali, Bajau, Berau, Betawi, Bugis, Dayak, Java, Sunda, et cetera (BPS RI, 2010). Each ethnic group has their own culture and their heritage which has a value for a nation. Therefore, all assets should be preserved including their ethnic groups' culture by preserving indigenous knowledge. In this study, we focus on one ethnic group called, Betawi.

Betawi is a native local ethnic group in the capital city of Jakarta (DKI Jakarta), and have lived from generation to generation in Batavia (latest name before DKI Jakarta). Because the culture mingled from Chinese, Arabian, Indian and the local itself, the name of Betawi has not yet appeared until an organisation called "Pemoeda Kaoem Betawi" showed up in 1923. Furthermore, Betawi people have a culture their language, art, religious tradition, behaviour, and even indigenous knowledge that make them have different characters with another ethnic group in Indonesia.

Indigenous knowledge (IK) has a connection about culture in a region which evolved together with whole part of history and had interactions and transactions with the world outside its geographical area (Forutnani, et al., 2018). Further, IK has helped local communities to meet their needs during several centuries because of its holistic and comprehensive characteristics (Forutnani, et al., 2018). Sharing IK within and across communities can help enhance cross-cultural understanding and promote the cultural dimension of development. Therefore, it is very important to preserve the indigenous knowledge for the future.

On the other hand, knowledge preservation is the processes for explicit and tacit knowledge to capture, understand, archive, retrieve and protect and to maintain accessibility and readability of it as technology evolves for as long as the knowledge remains useful (Agency, 2011). In this study, we investigate a public library role in the process of preserving indigenous knowledge. According to the UNESCO Public Library Manifesto, “The Public Library is the local centre of information, making all kinds of knowledge and information readily available to its users” (1995). Therefore, in this study, we focus to investigate the DKI Jakarta Provincial Public Library in preserving the indigenous knowledge of Betawi.

LITERATURE REVIEW

The Public Library

As the local gateway to knowledge, the UNESCO Public Library Manifest stated that the public library provides a basic condition for lifelong learning, independent decision making, and cultural development of the individual and social groups (1995). Collections and services have to include all types of appropriate media and modern technologies as well as traditional materials which has a high quality and relevance to local needs and conditions. The material must reflect current trends and the evolution of society, as well as the memory of human endeavour and imagination. There are 12 missions of the public library state, but three points that should be underline that relate to information and culture. First, promoting awareness of cultural heritage, appreciation of the arts, scientific achievements and innovations. Second, providing access to cultural expressions of all performing arts. The last is fostering inter-cultural dialogue and favouring cultural diversity (UNESCO 1995). It is very important for a region to have a public library. Kaur and Walia (2015) stated that public libraries play a vital role in the process of imparting education to the society. They can act as the first means by which a person gets access to books outside the home. Therefore, public libraries also help the education system of the region in imparting knowledge along with inculcating reading habits among all citizen.

Indigenous Knowledge

Indigenous knowledge (IK) is unique to a particular culture and society. It is the basis for local decision-making in agriculture, health, natural resource management and other activities. IK is embedded in community practices, institutions, relationships and rituals that is not easily codifiable, such as tacit knowledge. IK provides the basis for problem-solving strategies for local communities, especially the poor. It represents an essential component of global knowledge on development issues. IK is an underutilised resource in the development process. By investigating what local communities know and have, it can improve understanding of local conditions and provide a rich context for activities designed to help the communities. Understanding IK also can increase responsiveness to clients by adapting international practices to the local setting and improving the impact and sustainability of development assistance. Moreover, sharing IK within and across communities can help enhance cross-cultural understanding and promote the cultural dimension of development (Action 1998). As Barua stated that indigenous knowledge is neither static nor frozen preferably because it is socially dynamic and culturally appropriate as it is practised in the local environment. It has evolved from years of collective learning experience through the process of trial and error. This knowledge, thus, is developed through a practice of experiential learning by the people within the geographic area or culture (Kapoor and Shizha 2010).

Knowledge Preservation

Knowledge Preservation (KP) is a process of maintaining an organisational system of knowledge and capabilities that preserves and stores perceptions, actions and experiences over time and secures the possibility of a recall for the future. The preservation of knowledge is an important phase within the knowledge management (KM) cycle, from creation to implementation. As a component of KM, KP plays an important role in supporting the entire management system, which ensures the effectiveness of industrial business processes. (Agency 2011).

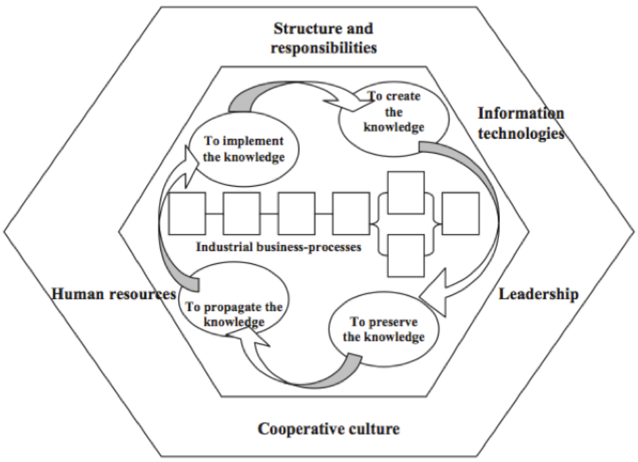

Figure 1: Model of knowledge management (Fraunhoffer, 2011, p.5)

The following basic processes are the focus of KM activities and must be considered from a KP perspective in the organisational context (Agency 2011):

1. Identification
   The process of distinguishing which knowledge should be or has been captured,

processed, maintained and preserved. It considers how such knowledge will be identified, and how changes over time will be identified. Bibliometric tools (such as citation analysis) are often useful for such analysis.

2. Capture
   The process that brings data, information, or knowledge into the organisational knowledge base. Knowledge capture may be either internal or external knowledge in any form (for example, tacit know-how or explicit technical information). Capture processes should consider the life cycle and may need to address factors such as media, format, speed, costs, volume and intellectual property issues. Capture may also need to include alternatives for source capture and guidelines for hard copy publication (to enable subsequent imaging), preservation of historical documents, as well as standards and quality control procedures.
3. Generation or creation
   The process of deriving new knowledge. This may take place through processes of analysis, interpretation or incremental learning, or be based on entirely new ideas or innovations.
4. Processing and transformation
   Any sorting, filtering, structuring, organising, simplifying, compiling, interpreting, correlating, or manipulation that alters data, information, or knowledge into a form that adds value, utility, or additional meaning.
5. Storage or retention
   Any process which allows data, information, or knowledge to be kept in the organisational knowledge base. This may be in any form (for example, tacit or explicit). Alternatives in media technology should consider longevity, robustness, cost, conversion, volume, standards, existing formats, historical data and other factors. This process is often related to the capture function in the KP life cycle.
6. Search and retrieval
   Any process that facilitates the location of and access to data, information, or knowledge in the organisational knowledge base. This is primarily seen as a process pertaining to explicit knowledge but may be interpreted to apply to the search and retrieval of tacit knowledge as well. Explicit knowledge may pertain, for example, to the retrieval of relevant 'documents' (including text, data, drawing, videos, 3-D models, et cetera.) regardless of their location, format and language. Important factors to consider here include ensuring the ability to use advanced retrieval software, interoperability across heterogeneous databases and systems, multilingualism, et cetera.
7. Representation
   Any process that improves understanding, comprehension or conceptual presentation of data, information, or knowledge through audio and visual means.
8. Transfer and exchange
   Any process that facilitates the sharing of data, information, or knowledge. This may apply to knowledge in any form (for example, tacit or explicit). Explicit knowledge may involve, for example, data exchanged between databases. Tacit knowledge is any knowledge sharing between individuals or groups of people, whether direct or indirect.

9. Maintenance and updating
   Any process that helps to sustain the organisational knowledge base. As knowledge is contextual, its correctness or completeness may change over time. There are also many factors that may deteriorate or diminish the quantity, value, or quality of data, information, and knowledge over time. This process may be human-centric in the case of tacit knowledge or include methods and tools for tracking and managing the currency of data, documents, drawings, software codes, procedures, et cetera, or updating and recording changes as appropriate in the instance of explicit knowledge.

After we know how knowledge preserve, several method and tools can be used. For this research, we choose two option for methods:

1. Data collection and management
   Database applications with intelligent user guidance for data entry, retrieval and evaluation
2. Process and procedure documentation
   The explicit documentation of knowledge for methods or processes that attempts to capture lessons learned from past experiences and tacit know-how (for example for design documentation, guidelines, and procedures).

Continuing from a method, we use historical data systems – libraries of historical book or document for knowledge preservation tools.

Indigenous Knowledge Preservation

Preserving knowledge is important especially in traditional or indigenous knowledge for the future (Stevens, 2008; Maluleka, and Ngulube, 2017). One potential benefit to making traditional knowledge accessible is that this may make it more appealing to youth or others who may see traditional knowledge as 'old-fashioned'. Another benefit is that putting traditional knowledge in an accessible format for restricted use by governments, non-governmental organisations and other organisations increases the likelihood that indigenous needs, rights and perspectives will be considered in policy development and resource management and that indigenous knowledge will be integrated into development projects (Stevens 2008). Indigenous knowledge preservation involves protecting or keeping safe knowledge that is local to particular communities by individuals or organisations for future use. (Maluleka, and Ngulube, 2017)

RESEARCH DESIGN

The objective of this research is to know the way the DKI Jakarta Provincial Public Library preserve the indigenous knowledge of Betawi, a local ethnic group from DKI Jakarta. The following research questions guide the study (1) How the library preserves the indigenous knowledge of Betawi? and (2) what is the representation that the library does for preserving the knowledge?

Qualitative approaches used for data collection, such as through observation and interview. The object for observation is the DKI Jakarta Provincial Public Library Kuningan, focusing on the Betawi corner. Six people were interviewed for getting the information in depth; the librarian coordinator, three library staff, and for additional data, we interviewed two visitors. We interviewed the librarian coordinator for two hours with structured questions; interviewed three library staff for about 30 minutes per staff with open inquiries; and interviewed two visitors for about 15 minutes with also open questions. As an outcome, we interpret data using basic processes of KM activities, and we correlate with a KP perspective in the organisational context (Agency 2011).

RESULTS

The DKI Jakarta have public libraries divided into several groups, such as two provincial public libraries located in Cikini and Kuningan, six public libraries that located every municipality of Jakarta and managed by division under central provincial libraries, 11 public libraries located in middle-low apartment, four public library located in the prison, one public library located in traditional market, 213 citizen reading park, and 70 public area for children (Jakarta, 2018). All public libraries were made to serve all the visitor especially Jakarta citizen and for all the people who interest going to library. These public library exists in the middle of Jakarta citizen is for increasing willingness for reading and spreading the positive way to spare time by reading books.

It is exciting to dig knowledge in the DKI Jakarta public library, especially in Kuningan Library, the first DKI Jakarta Public Library. It is located in 7th and 8th floor of Nyi Ageng Serang building at HR Rasuna Said street, South Jakarta. This library has a strategic location to visit and has bookshelves filled with full of books from different subject. This library also has a special collection with specific books subject on Betawi Collection Corner in 8th floor. The room has a design like a traditional Betawi house with the terrace called *Betawi Bapang* carved with *Gigi Balang*. This corner shows us the replica of traditional Betawi house. Starting from in front of the house; there is a terrace with a lamp, table and chair in Betawi style. All the thing about Betawi is on the inside, for example, the photograph about Jakarta in the past and the governor from time to time, books, traditional games and also *Ondel-ondel* (Jakarta’s traditional big puppets).

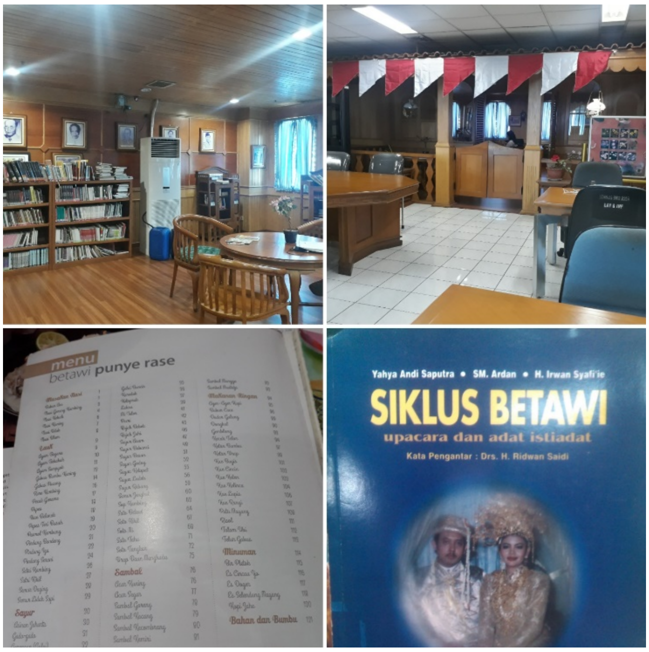

Figure 2: The ambience and collection in DKI Jakarta Provincial Public Library Kuningan

In line with the DKI Jakarta regulation about preserving Betawi culture (DKI Jakarta 2015), this Public Library showing their support by making the corner. "*The purpose of this spot is to introduce Jakarta with Betawi culture to the citizen in form of book collection and also to preserve the information from special collection about local content,*" said Ira, a librarian for the special collection of the DKI Jakarta Provincial Public Library Kuningan. Built in 2001, the Betawi Corner collection consists of history of Jakarta from colonial era, old manuscript of Jakarta, economic development of Jakarta, culture of Betawi such as language, rhyme, ceremonial, ritual, traditional games, traditional herbs, culinary, marriage life and arts, government regulation, biography of the governor from time to time, and novels about Jakarta.

Storage and retention

The DKI Jakarta Provincial Public Library Kuningan gets the collection to the library from the government budget every year. They are open a tender to the vendors in the procurement process. Besides from the government budget, the library also gets the collection grant from all the donor. A collection that received by the team analysed to identify in accordance with the specification. If there are any collection about Jakarta or Betawi, the staff will separate it with other collection. They process the material in a different way than the others. As Ira said, "*For the collection that discusses Jakarta or Betawi will be given a code KK for identification.*"

After the public library gets the collection, they are doing some process to the collection until be used by the visitor. Like other library processing the material, the DKI Jakarta Public Library does the same thing for processing their material. There are inserting the bibliographic info to the union catalogue, giving the inventory stamp, classified the material suitable with the subject, labelling and so on.

For the collection with the general subject from 000-999, the library put them on the 7th floor. For the reference material (such as encyclopedia, dictionary, atlas, yearly report, statistic, et cetera) and serials (magazine, bulletin, newspaper, tabloid et cetera) and the Betawi corner, the library put them on 8th floor. The Betawi and Jakarta collection put on the 8th floor inside Betawi corner because the library also treats them as a reference collection. Beside books as a collection, there are recorded collection in the form of a cassette, CD, VCD, DVD and microfilm in Betawi corner. The member can loan all of the collection on the 7th floor. Member of this library is just for Jakarta citizen, visitor beside Jakarta citizen cannot loan the collection but they are still can read or use the collection inside the library. Different with the regulation on 7th floor, the member cannot loan all the collection in the 8th floor. All of the visitor, either they are a member, they are just can read or use the collection just in the 8th floor, they cannot bring it even to the 7th floor. Until now, the DKI Jakarta Provincial Public Library Kuningan has total collections as describe in table 1.

Tabel 1: Total collection

Subject	Total collection (in eksemplar)
All collection	227,919
Collection about Betawi or Jakarta	2,846

About 12% of the total collection from the DKI Jakarta Provincial Public Library Kuningan are collection about Betawi or Jakarta. Increasing total collection of Betawi is always do by the government every year similar to the general collection. Together with the general collection, the DKI Jakarta Public library inserting collection about Betawi or Jakarta in the list of procurement every year.

Treatment of Betawi collection is same as the other collection. The librarian staff is checking for the collection every day. They look for a book that needs to be repaired while shelving the collection. "*We bring to the special division for repairing the book harm to make the book as good as before,"* said one of the library staff.

All the collection that received by the public library does not have retention schedule also for Betawi collection. The collection from library start operates until 2013 still kept safely in the library. They kept all the collection in all subject except the collection that they think will get the lousy effect to the user. "*Collection that will give bad effect in the future never been processed to display in the library,*" said the library staff.

Search and retrieval

The DKI Jakarta Public Library has Online Public Access Catalog (OPAC) as a tool to make search and retrieval easier and faster. This OPAC gets the data from library automation system database called INLIS Lite. INLIS Lite is software for library automation system developed by National Library of Indonesia. For browsing the online catalogue, the library provides all user can use four public PC special for OPAC. As a visitor, we can ask for help to the librarian or type the title/subject/author in OPAC, and it will show us the complete result. It shows call number with some code for special collection.

Tabel 2: Code for special collection

CODE	Definition
R	Abbreviation from *Referensi* (Reference). Use for all the reference material
KK	Abbreviation from *Koleksi Khusus* (Special Collection). Use for Betawi special collection
KC	Abbreviation from *Karya Cetak* (Printed Material). Use for deposit collection given from the publisher
A	Abbreviation from *Anak* (Children). Use for children special collection
A/R	Abbreviation from *Anak/Referensi* (Children/Reference) Use for children reference collection
A/KC	Abbreviation from *Anak/Karya Cetak* (Children/Printed Material) Use for deposit collection given from the publisher specially for children collection

Each code of special collection shows where the location of the collection can be found. When we search about Betawi in the OPAC, it will show us the collection with KK code that locates on Betawi Corner 8th floor. This code used to differentiating the general collection with special collection.

OPAC in the DKI Jakarta Library helps the success process to know the location of a place where data keep and how knowledge preserve. The knowledge from the collection should be easy to search and can be retrieved as fast as it can. By using OPAC, the step of search and retrieval solved. "*We are always improving the catalogue system to make it better for search and retrieval our collection,*" said Ira.

Representation of Knowledge

Rumah Kebaya is a well-known traditional house of Betawi ethnic group. There are five part of this house; Terrace, *Paseban* (guest room), *Pangkeng* (family room), Bedroom, and *Srondoyan* (kitchen). The DKI Jakarta Provincial Public Library Kuningan takes the concept of the house and brings it to the library. Even though there are five part of *Rumah Kebaya*, the DKI Jakarta Provincial Public Library Kuningan just applied two part of it, there are Terrace and *Pangkeng*. Terrace can be used for reading the collection and *Pangkeng* is used for setting down Betawi and Jakarta collection, traditional games, photograph, ondel-ondel and also CD/ VCD/ DVD player.

A collection about Jakarta and Betawi with KK code, arrange in not just ordinary place for arranging the books (bookshelf) but they use a table, glass cabinet and simple buffet for displaying the collection too. Not only just the shape of the *Rumah Kebaya*, but also the furniture of it try to describe the Betawi ethnic group house style. By coming to this corner as a visitor who are not from Betawi ethnic, we will know the shape and the furniture that describe traditional Betawi house while searching the collection too. "*It is good to visit here, we can find a lot of reference material about Betawi and know the shape of Betawi house*" said Vira, one of visitors.

The DKI Jakarta Provincial Public Library Kuningan is used this *Rumah Kebaya* replica for attracting and make a difference from other libraries to represent one of Betawi culture. The collection represents some explicit knowledge about Betawi and Jakarta. This house replica can describe us how the DKI Jakarta Public Library doing the step of knowledge preservation in representation point. In the near time, the library will make an agenda to spread the information from the book about Betawi. As Ira said "*Collaborate with Betawi community, we will make an interesting agenda to spread the knowledge about Betawi culture next year. We hope the citizen can make use of the Betawi collection to understand well about Betawi culture and the local content of Jakarta. Not just for the book collection but also the other's agenda from us.*"

CONCLUSION

The Betawi culture collection described tradition, art, culinary and others knowledge that can be categorised as indigenous knowledge in the DKI Jakarta Provincial Public Library Kuningan. This study investigated that the DKI Jakarta Provincial Public Library Kuningan is doing three of nine steps for knowledge preservation, such as storage and retention, search and retrieval, and representation of knowledge. In the storage and retention, although they have not yet made a retention schedule because they should preserve those local contents, they keep the collection in the special storage in the library. In search and retrieval, the collection in this library is easy to search in the process of retrieval with the OPAC for searching the collection, especially Betawi collection. The visitor also can search by themselves with "KK" code in the call number to help searching the document faster. The last, in representation of knowledge stated the DKI Jakarta Provincial Public Library Kuningan preserves the knowledge that is represented with the Betawi corner for putting down the special collection of Betawi. This corner also described the house of Betawi ethnic group which is one of the knowledge that should preserve. To sum up, all of these steps discussed how the library tries step by step to preserve the indigenous knowledge of Betawi ethnic group with managing the special collection of Betawi.

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Conforming Collections: Compliance of Medical and Allied Health Collection to Doody's Core Titles

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ABSTRACT
The study assessed the print collections of an academic medical library and utilized list checking as the methodology. It identified the collection's compliance based on Doody's Core Titles (DCT) sub-specialties, determined the strong and weak subjects areas, and compared the trends for the last five years from 2014 to 2018. Out of 117 subjects covering five sub-specialties, twenty-one were 100% compliant to DCT 2018 where majority complemented the curriculum of the educational institution served by the academic medical library. Basic Sciences was the strongest sub-specialty where most subjects were 100% compliant. Most academic programs share the same basic sciences foundation subjects, thus the tendency for high compliance. Clinical psychology, Oncologic surgery, History of Medicine, and Ambulatory (Nursing) were the subjects with lowest compliance percentage. Associated Health-related Disciplines was the weakest sub-specialty. These subjects need to be prioritized in collection development. All sub-specialties exhibited an increasing trend of compliance between 2014 and 2018. Although there are gaps in the collections that need to be filled, there is much opportunity to develop the collections to meet the standards.

Keywords: collection development; compliance; Doody's Core Titles

INTRODUCTION

Collection assessment is an important process to keep library collections relevant, authoritative and updated. It is essential in the effective management of library resources, ensuring that libraries abide by their goals, users have access to the information that they need, and budget is appropriately allocated. Collection assessment is used for various purposes, such as planning and budgeting, accreditation, and monitoring of accountability (Johnson 2014). It enables libraries to determine the strengths and weaknesses of the collection using statistical data and personal judgment based on knowledge and experience (Bushing as cited by Johnson 2014). Collection assessment is an opportunity to develop the collections with objectivity and soundness because it identifies areas of the collections that need to be maintained or improved.

LITERATURE REVIEW

List checking

Different types of collection assessment techniques may be used. List checking is among the qualitative assessment methods which involves determining the percentage of the titles included in the library collection against the titles found on the list, such as a catalog, bibliography, subject compilation, list prepared by a professional organization or government body, or course syllabi. The advantages of list checking include the availability of credible and updated lists that libraries can use, the opportunity for the librarians to become more familiar with the resources for a specific subject, and the combination of qualitative and quantitative assessment it offers brought by the judgment of the persons or organizations who compiled the list and the statistical value of the titles that the library has. On the other hand, it poses some disadvantages, such as the bias of the compiler, the appropriateness of the list to meet the library's mission, and currency of the list (Johnson 2014).

Several studies in the past have employed list-checking to assess collections (Crawley-Low 2002, Smith 2003, Nisonger and Meehan 2007, Meehan, Swanson, Yates, and Decker 2010, and Williams and Deyoe 2014). There have been researches that reported on developing core lists to aid in selection and collection assessment for nursing journals (Sherwill-Navarro, Kennedy, and Allen 2014) and for veterinary medicine (Moberly and Page 2018). These studies show that lists and list-checking are regarded as relevant in collection selection and assessment among libraries.

Doody's Core Titles

Doody's Core Titles (DCT) is a list of core titles for medicine and allied health published by Doody Enterprises, Inc. and updated annually. It was developed as a result of the discontinuation of the Brandon/Hill Selected List of medical, nursing, and allied health books that had long been used as a collection development guide by medical libraries (Spasser 2005). It contains recommended core titles in 121 health science specialties in Clinical Medicine, Basic Sciences, Nursing, Allied Health, and other Associated Health-related disciplines selected by content specialists and librarians based on five collection development criteria (Doody's Enterprises). An Essential Purchase Titles List is also provided to help small libraries decide on which titles to buy out of the core titles list.

Some flaws were noted in DCT in terms of the objectivity of the selection but it has a commendable selection and rating criteria and regarded as an "important resource for health sciences librarians who are responsible for developing and maintaining monographic collections" (Spasser 2005). Although DCT may be subjective due to the judgment brought by the selectors, it makes up for it through its distinctive approach of pooling a "community of experts" composed of librarians, health professionals, subject experts, and technical staff to identify the best medical and allied health titles, thus, the selection decision is based not only in a small group of individuals but on a collective assessment of the said community. It "can assist collection development, aid collection assessment, serve as a recommended source for textbook selection, and provide an entry point into the literature of an unfamiliar discipline" (Shedlock and Walton 2006). DCT was utilized as one of the benchmarks in developing an electronic reference collection (Husted and Czechowski 2012) and was also cited in several studies in the past that used DCT as a point of reference in collection assessment.

The De La Salle Medical and Health Sciences Institute Romeo P. Ariniego, MD Library is the Institute's partner in providing relevant and updated medicine and allied health content to support learning, teaching, and research of ten medical and allied health graduate and undergraduate courses. It holds around 28,000 volumes of print books with an annual acquisition rate of 1,500 to 2,000 print volumes from 2014 to 2018. It uses DCT as one of its collection assessment guides to keep its collections responsive to the needs of its users and the medical and allied health professions. It is also utilized to comply with the accreditation requirements set by the local regulatory body in the country which requires libraries to perform collection assessment. DCT was chosen as the assessment tool because of its subject specialization and its strengths as a selection tool for medicine and allied health sciences. The Library performs annual collection assessment using DCT from 2014 to 2018.

Statement of the problem

This study was intended to assess the print collections of the Library using DCT. Specifically, it sought to:

- identify the compliance of the print collections based on DCT 2018;
- determine the strong and weak subjects areas based on DCT 2018; and
- compare the trends of compliance for the last five years from 2014-2018.

The study shall be helpful to administrators, librarians, faculty members, and students because it shall be used as a basis to develop high-quality medicine and allied health collections according to industry-accepted standard. Gaps in the collections shall be identified and improved while strong subjects shall be maintained.

RESEARCH DESIGN

The study was descriptive and list checking was employed to the print collections of the Library from 2014 to 2018 based on DCT 2014 to DCT 2018. DCT has five sub-specialties, namely Allied Health Professions, Basic Sciences, Clinical Medicine, Associated Health-related Disciplines, and Nursing. Titles were exported from http://www.doody.com/dct/ for each year to MS Excel and arranged by sub-specialty. Titles listed in DCT were searched in the library's online public access catalog. All titles owned by the Library and encoded in the catalog were included in the search. Titles with the same edition found in the catalog are marked as exact matches in MS Excel. Titles with superseded edition found in the catalog are marked as near matches in MS Excel. Finally, titles not found in the catalog are marked as non-matches in MS Excel. Previous studies employed the same methodology of checking the titles in catalog (Smith 2003, Nissonger and Meehan 2007, Meehan, Swanson, Yates, and Decker 2010). Table 1 shows the number of title listed in DCT and the number of titles that the Library has where the DCT titles have been checked against per year.

Table 1: Number of titles listed in DCT and number of titles that the Library has per year

Year	Number of titles listed in DCT	Number of titles the Library has
2014	2,276	19,593
2015	2,273	19,951
2016	2,276	22,374
2017	2,199	24,027
2018	2,156	22,778

The total number of match titles per sub-specialty is computed by adding the exact and near match titles. Percentage of match is derived to determine compliance. Strong and weak areas were identified based on the percentage of compliance. The trend was determined by comparing the percentage of compliance of sub-specialties across five years.

Four DCT subjects were excluded because the Institute does not offer these programs, specifically Dental Auxiliaries, Dentistry, Optometry, and Veterinary Medicine.

RESULTS

Compliance of the print collections based on DCT 2018 sub-specialties

Out of 117 subjects covering five sub-specialties, twenty-one were 100% compliant. Most of these were Basic Sciences subjects which complemented the curriculum of the majority of the courses offered. There is a tendency to have high compliance with Basic Sciences subjects because these subjects were taken by many students from different courses. On the other hand, most of the subjects were 50%-75% compliant, where majority were Nursing subjects. There were nine subjects with less than 50% compliance, most of which were Associated Health-related Disciplines subjects. Table 2 presents the percentage of compliance of the sub-specialties.

Table 2: Percentage of compliance of the sub-specialties

Percentage of compliance	Number of subjects					Total	%
	Associated Health Professions	Basic Sciences	Clinical Medicine	Other discip	Nursing		
100%	3	9	3		6	21	17.95 %
76%-99%	7	3	21		4	35	29.91 %

50%-75%	3		22	3	24	52	44.44 %
Less than 50%			3	6		9	7.69%
Total	13	12	49	9	34	117	100.00 %

While 17.95% of subjects were reported to be 100% compliant, 44.44% of the subjects were 50%-75% compliant. The Library needs to pay attention to these subjects to improve compliance and develop better collections.

Strong and weak subject areas based on DCT 2018 sub-specialties

Basic Sciences was the strongest sub-specialty where most subjects were 100% compliant. Most academic programs share the same basic sciences foundation subjects, thus the tendency for high compliance. Strong subjects tend to match the undergraduate programs offered by the Institute, such as Pharmacy, Radiologic Technology, and Speech, Language & Hearing among the Associated Health Professions and Biochemistry among the Basic Sciences. Due to the propensity to acquire titles to support the programs offered by the Institute, there is an opportunity to build collections based on the new programs that the Institute shall offer in the future. On the other hand, titles corresponding to programs not offered by the Institute are unlikely to be acquired because there is no curriculum to support.

Clinical psychology, Oncologic surgery, History of Medicine, and Ambulatory (Nursing) were the subjects with the lowest compliance percentage for each sub-specialty. Associated Health-related Disciplines was the weakest sub-specialty. Subjects from the Associated Health-related Disciplines may not be taught in many courses offered in the Institute. Thus, books on these subjects may not be given as much attention as the other subjects that are shared by a number of courses. Clinical Psychology is not offered as a course resulting in low compliance.

Among the reasons for the weak subjects areas may be the unavailability of titles from book suppliers. The Library performs regular book selections locally and internationally. While most of the books were sourced abroad, there are instances where some titles are not available from Asian book suppliers and publishers. Shipping costs and duration of shipment discourage the Library from purchasing books outside of Asia. School administrators and faculty members actively participate in book selection. However, not all of them are aware of DCT and may not use it as a guide during selection. This may also drive the low compliance for some subjects. These subjects need to be considered in collection development to close the gap in the collections and the Library need to address these deficiencies. Table 3 shows the strong and weak areas per sub-specialty.

Table 3: Strong and weak areas per sub-specialty

Sub-specialty	Subjects with the highest compliance (Strongest subjects)	Subjects with the weakest compliance (Weakest subjects)
Associated Health Professions	Pharmacy (100%) Radiologic Technology (100%) Speech, Language & Hearing (100%)	Psychology, Clinical (56%)
Basic Sciences	Anatomy/Embryology (100%) Biochemistry (100%) Immunology (100%) Microbiology (100%) Molecular Biology (100%) Neuroscience (100%) Pathology (100%) Pharmacology (100%) Physiology (100%)	Epidemiology (92%)
Clinical Medicine	Diagnostic Radiology (100%) Radiation Oncology (100%) Surgical Pathology (100%)	Oncologic Surgery (35%)
Associated Health-related Disciplines	Dictionaries/Terminology (67%)	History of Medicine (0%)
Nursing	Administration/Management (100%) Diagnosis/Assessment (100%) Fundamentals (100%) Laboratory (100%) Nursing Process (100%) Research (100%)	Ambulatory (50%)

Trend of compliance from 2014-2018

Figure 1 demonstrates that all sub-specialties exhibited an increasing trend of compliance over the last five years based on DCT 2014 to DCT 2018. Although there are gaps in the collections that need to be filled, the trend shows that the Library attempts to respond to these deficiencies and improve the quality of its collections by acquiring more books based on DCT. It performs regular collection assessments where strong and weak subjects are identified and maps the quality of the book collections. Results of the collection assessment are considered in acquisitions planning and communicated to the school administrators and faculty members to help guide in book selection. The Library helps them to be aware of the relevance of DCT and encourages them to prioritize the selection of books included in DCT. Budget allocated to print collections has been increasing for the last five years which affords the Library more opportunity to acquire

DCT-listed titles. There is much potential in improving the collections through the continuous efforts of the Library to manage its print resources.

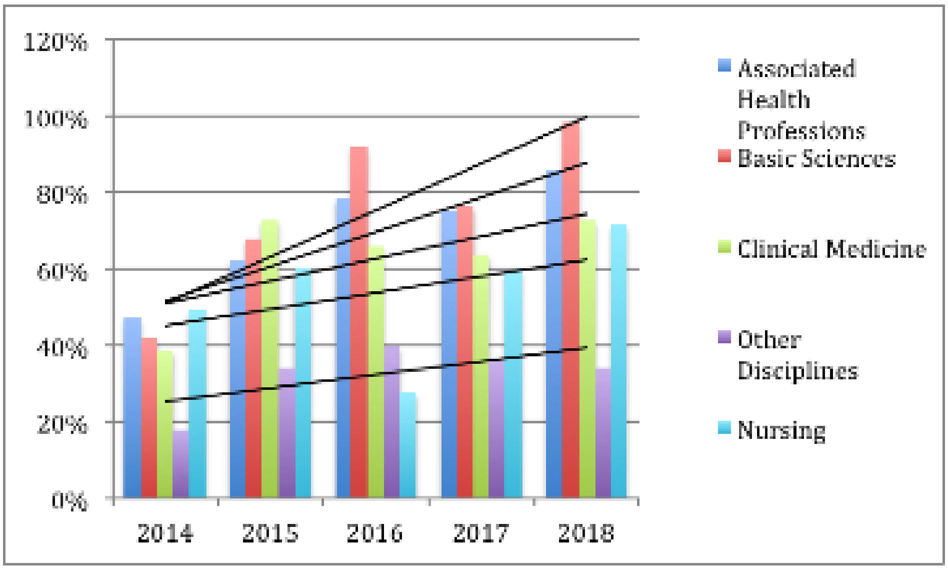

Figure 1: Trend of compliance per sub-specialty, 2014 to 2018

CONCLUSION

Based on the result of the research, the following conclusions are offered:

- Twenty-one subjects were 100% compliant while nine were less than 50% compliant to DCT 2018. Books corresponding to the courses offered by the Institute are likely to be selected to support the degree programs and thus, the tendency for high compliance.
- Basic Sciences was the strongest sub-specialty where most of the subjects were 100% compliant while the weakest subject areas with the lowest compliance to DCT 2018 were Clinical psychology, Oncologic surgery, History of Medicine, and Ambulatory (Nursing). Basic Sciences subjects were taught across most of the programs and books for these subjects are likely to be selected by many faculty members. Subjects with low compliance correspond to courses not offered by the Institute. Unavailability of books listed in DCT as well as lack of awareness and appreciation of faculty members to DCT when selecting books may also be among the factors in the low compliance.
- All sub-specialties showed an increasing trend of compliance for the last five years from 2014-2018, showing the Library’s efforts to improve the quality of the collections by prioritizing DCT-listed books in selection.

The study recommends that collection assessment using DCT must be continued to monitor the quality of the print collections and ensure that they improve over time.

Steps must be taken to maintain the strong subject areas and develop the weak subject areas by continuously prioritizing titles listed in DCT and helping faculty members to choose DCT-listed titles during selection. Other collection assessment methods may also be employed in the future to achieve a more holistic view of the state of the collections. Formats other than print collections may also be considered in the next round of collection assessment, such as electronic books and journals.

Enriching the library collection through regular collection assessment is one way to respond to the needs of the users for quality and authoritative content. The use of industry and professional standards, such as Doody's Core Titles, enables the library to anticipate the resources that would be helpful and relevant to them and thus, close the gap between what the library has and what the user needs. It is a proactive way of serving users and a reflection of the library's commitment to take the extra mile and do more than what is expected. When collection development is guided by the use of industry and library-accepted standards, libraries are able to contribute in the development of literate and competent medical and allied health learners and educators who shall become professionals who are instrumental in nation-building and social transformation through health and education.

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Data Sharing: Knotty Among Scholars in Nigeria

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ABSTRACT
Research transparency and data sharing maintain core principles of research in academic environment. Data is a valuable resource and funding agencies are encouraging data sharing as it increases transparency and improves the accuracy of research. For this, data sharing has continually been considered as a vital instrument for the advancement of knowledge and preservation of research against misconduct. However, this paper reports some of the challenges making it difficult for researchers to share data with others which bring a lot of setbacks to research progression. The objective of this paper is to recognise the fences that hinder data sharing practices in Nigeria. Qualitative method was employed for data collection. A total of 12 researchers (experts) partook in an interview beholding current problems that influence data sharing practices in academic environment. The interview responses were analysed using thematic and open coding techniques to categorised the responses. the results showed most of the interviewees are not satisfied with their current data sharing practices as majority of the researchers agreed that based on certain obstacles, they are not willing to share their data to support researchers' data sharing practices. The study reveals diverse blockages restrict academics from getting access to relevant data. The study further provides an ample opportunity for academics to insights on varieties of problems restricting them to share data despite describing data sharing as a key part of a movement towards promoting academic careers and research enhancement. Finally, this study stresses for further exploration by engaging the use of mixed method that would help in providing careful information and better facilitate data sharing among academics.

Keywords: Data sharing; unpleasant; Nigeria; Researchers.

INTRODUCTION

Open science is an unruly phenomenon which is presently evolving globally particularly in Europe, America and Asia. In their quest to provide quality research, academics consider sharing of data as vital as the data itself. Piwowar 2013 observed that in modern research, the sharing of data becomes so critical which cannot not be neglected (Heather & Vision, 2013). The term data sharing has recently gained prominence, sharing and recycling data has become a significant part of both research and intellectual debate in the academic communities (Tenopir et al., 2015). Despite all these, sharing datasets is no daily practice when compare to either information or knowledge sharing in academics (Roche et al., 2014). Many researchers are reluctant to share data due to lack of academic credits, insufficient preservation infrastructure, Perceived effort, time or cost required and disciplinary practices (Borgman, 2012; Hanson, Sugden, & Alberts, 2011; Tenopir et al., 2011).

Prior studies show that there are low or limited literatures on data sharing in the developing countries of Africa. This has rightly pointed out by (Denny, Silaigwana, Wassenaar, Bull, & Parker, 2015) Data sharing remains unsupported and there are often no research practices to support data sharing in Africa. (Fecher, Friesike, & Hebing, 2015), who provided a systematic review on what drives academic data sharing? Stated that though Though "the idea of data sharing finds support within the academics yet, academic researchers rarely make their research data available to others. There are a lot of worries on how barriers of data sharing among researchers would be identified thus, a matter of concern, and to address this issue and fill the gap, this paper is timely and necessary. It is absolutely significant to recognise the hurdles that hinder data sharing practices among Nigerian academics.

LITERATURE REVIEW

With the advent of technology, it is clear that researchers are producing a lot of data by means of new methods and instrumentation. While others are eager to share data, some researchers may wish to mine these data for new discoveries and innovations. "Data sharing" has diverse meanings, for the purpose of this article, it can be considered as a situation that makes researchers provide their datasets available for use to others. Many researchers are reluctant to share their dataset publicly because of real or perceived individual costs and this probably explains why sharing datasets is no daily practice (Pitt & Tang, 2013; Roche et al., 2014). Despite a number of funding agencies, academic journals and the kind of support rendering by many researchers towards data sharing practices, "it remains to a large extent an ideal that is rarely implemented" (Andreoli-Versbach & Mueller-Langer, 2014). This prompts for additional empirical studies since the assertion of open data is to let healthier cooperation across academia, government, and the private sector (Groves, 2018). Despite it significant to academics, data sharing exercises among academics are susceptible to various problems which constrained by individual, technical, motivational, social, economic and legal barriers among others van Panhuis et al., (2014). Thus, data sharing in most cases are proven to be difficult.

The competition for reputation among academics is an obstacle within the researchers to share data. Sometimes certain data may have confidential restrictions that disallow them from being shared (Puniewska, 2014). Misuse of data often affect data sharing among the academics, as many researchers were concern that making unanalysed data accessible could result to inappropriate use of the data or incorrect interpretation (Bezuidenhout, 2013). Researchers consider datasets as intellectual property thus, do not want others to benefit from it, the idea of extra monopolistic of data makes data sharing not to be a common practice among the academic communities (Goodman et al., 2014).

In order to facilitate data sharing practices in academics, the provision of functional linking devices for potential sharing and reuse of the dataset is unavoidable. In developing countries, suitable infrastructure that can help data sharing are not readily available which make researchers reluctant in their effort to data sharing practices. As rightly observed by (Omolewa, 2007), that there is inadequate infrastructure in most of the Nigerian tertiary institutions. In developed countries, infrastructure and training are available to facilitate researchers' participation in research. For instance, Mantra research data management training (Whitmire, 2015). The present of internet has fostered the spirit of sharing among researchers, individuals who share data and or knowledge with others prepare it through online and are always expecting others to do to them (Liao, To, & Hsu, 2013). There is presently a great interest of sharing data within the researchers who usually wish to share with others but lack resources to do so instead focused on doing something else (Ferguson, Nielson, Cragin, Bandrowski, & Martone, 2014).

OBJECTIVES

This research intent to recognise the fences that hinder data sharing practices in Nigerian universities. From the researchers' point of view, data sharing is being facing with a series of obstacles in Nigerian universities. Even though, literature suggested that data sharing facilitates collaboration among researchers and allows them to examine results and reproduce experiments. Our interviews show data sharing practices in Nigerian universities is unpromising.

Based on this research objective, this paper attempts to answer the research question; what are the hitches affecting data sharing in Nigerian universities?

RESEARCH METHOD

Data were collected using semi structured interview. The target participant consists of researchers from Nigerian universities. A random sampling technique was applied which meant to be an unbiased representation of the total population, as it is a sampling technique in which each participant has an equal probability of being chosen. The interview had one session, during which questions were asked from the interviewees in order to obtain the current barriers that influence data sharing of academics in Nigerian Universities. A total number of twelve (12) academics with each representing a department were interviewed between January to March, 2018. The choice of these universities was due to the low level of research conducted in those areas compared to other parts of the country as a result of the on going crisis in that region (Ugwumba & Odom, 2015). Face-to-face interviews were conducted with all the respondents, the average length of an interview was 30 minutes and all interviews were audio-recorded for the convenience of transcription. Questions followed a funnel interviewing fashion, where respondents were initially asked to talk more about the barriers affecting data sharing. Then the interview moved ask about their readiness to share data within and outside their institutions allowing for a better understanding and interpretation of their narratives.

For ethical thought, participants reassured that all the information received would exclusively be used for the purpose of this research and neither their data nor identity would be uncovered. For trustworthiness, there was an agreement that participants could be communicated after the study if the need arises.

Data Analysis

The data was analysed by conveying codes for identifying; naming, categorising and describing the participants to discern contexts, gather insight, and draw patterns on the barriers of research data sharing. After each interview session, a report is produced.

Findings

Interviews revealed conditions that contribute to the difficulties in data sharing practices in the areas under study.

Participants of the study

This research encompassed the total of twelve (12) participants which were coded as (HD) and involves both sexes with ages ranging from 49 to 56. The research also consists of three universities with a representative from each department, as it is put in a diagram below.

Table 1: Participants of the study

Institution	Department	Participant	Gender	Age
Bauchi State university	political science,	HD1	M	51
	Physics,	HD2	M	50
	accounting &	HD3	M	49
	agricultural science.	HD4	M	51
Gombe state university	chemistry,	HD5	M	56
	sociology,	HD6	F	55
	commerce &	HD7	M	50
	engineering	HD8	M	51
Yobe state university	agric.,	HD9	F	53
	Biology,	HD10	M	55
	education &	HD11	M	56
	engineering.	HD12	M	52

The main question asked in the interview was what are the concerns affecting data sharing in Nigerian universities? Series of hurdles were mentioned during the interview but six major categories were created to represent the different emerging themes identified during the interviews. a) Individual factors, b) infrastructure, c) community culture, d) technical barriers, e) economic barriers, and f) legal barriers.

Individual influence

Individual factor is one of the obstacles mentioned by the interviewees as personal barriers that they believe are hindering data sharing among researchers. The participants frequently stated words like exertion, threat, lack of confidentiality and mistrust as personal difficulties affecting them from participating in data sharing.

i. Exertion

The time and effort which involved in sharing is an important issue that influence researchers' data sharing practices and behaviours. It is the situation where the researcher believes that data sharing would demand extra energy, work and extra time, for example, forming, fixing and preparing data can result to data withholding. Most of the participants revealed that a lot of time and energy is needed in the process of data sharing as expressed by all the respondent (HD1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, and 12). For example, HD1 said *"I felt discourage in sharing my data whenever I think of the time spend in doing so."* Coincidently, was in line with findings of other authorities such as, (Campbell et al., 2002) in their study found that 80% of geneticists avoid making data freely available for the reason that preparing and producing research data takes too much time. Louis with his counterparts (2002) correspondingly pointed out that more than two-thirds of geneticists were always not ready to share pre-publication results for the reason that extra time and effort involved in sharing data. HD 2 in his own part, viewed that *"demanding extra work in data sharing stops me from sharing data with others"*. Researchers believe that data sharing would demand extra energy, work and sometimes even extra time, so are not always ready to share data (Carlson & Stowell-Bracke, 2013; Kim & Stanton, 2016). As a result of this, researchers may fear data requests as it needs to spend a considerable amount of time addressing these requests (Heather Alyce Piwowar, 2010).

ii. Threat

This has to do with the potential uncertain and negative outcomes in the process of sharing data. Researchers consider data sharing as risk that can involve losing publication, misuse and misinterpretation as while as criticism by their peers, which may negatively influence researchers' data sharing practices. Ten respondents (HD1, 2, 4, 5, 6, 7, 8, 10, 11 & 12) expressed this view. For instance, HN3 said *"Threat of been exposed normally depressed me to share my research data".* Data sharing become risky and put doubt in whether to share or not to share data with other researchers. A number of researches have equally identified perceived risks involved in data sharing to be one of the reasons why some researchers stay away from sharing their data with others (Tenopir et al., 2011). As pointed out by HD8 *"I am afraid of sharing my data for the fear of losing my publication to other researchers".* Many researchers are reluctant to share their dataset publicly because of real or perceived individual costs and this probably explains why sharing datasets is no daily practice" (Pitt & Tang, 2013; Roche et al., 2014). Therefore, affects scholars' career undesirably.

iii. Lack of confidentiality

Several investigators have indicated that lack of confidentiality is another important feature that influences how researchers go about sharing their data. The concern about participants' privacy prevents researchers from sharing research data, eleven interviwees concurred to this point. This can be seen from the word of HD 4 who observed *that "The secret of my research would be revealed once I share my data with other investigators".* These concerns are applying more by some researchers than others, for instance, those from the clinical or medical are more concerned about protecting their data. To share is good and considered a perfect idea yet, researchers are afraid their data will be used in ways they do not intent to and thus perceived a real privacy concern (Reichman, Jones, & Schildhauer, 2011).

iv. Mistrust among researchers

Lack of confidence in other researchers' integrity, fairness, and reliability can definitely affect how researchers can share data. Six respondents expressed this fear (H2, 4, 5, 8, 9, & 12). From our findings, it is revealed that researchers have less trust within themselves. According to H6 *"I trust no body to share my research data with in this academic environment".* This coincidence with findings of other scholars in the other part of the world. For example, trust promote social exchange, and are less pronounce within the academic circle (Yoon, 2017). Trust can encourage researchers to exchange knowledge and improve value through that particular exchange (Holste & Fields, 2010). This shows how trust can lead to effective exchange in relation to data sharing practices.

Insufficient Infrastructure

Inadequate infrastructure was cited by the participants as another problem affecting the smooth running of data sharing in universities. Inadequate training, suitable connectivity and lack of functional data repository are identified in most of the Nigerian tertiary institutions.

i. Inadequate Training

For researchers to effectively involve in data sharing they requires to gain certain skills which can only be provided through training and retraining. This interview revealed that there is inadequate infrastructure for training in Nigerian universities. Seven participants (H1, 2, 4, 6, 7, 10 and 11) expressed similar assertion. According to H4 "*we usually have insufficient infrastructure to support series of training including sharing data*". This has coincided with other research findings for instance, research revealed that in Africa and Nigeria in particular, suitable infrastructure for such training are not readily available which make researchers reluctant in their effort to data sharing practices (Ogunsola, 2005). In developed countries, training are organized to improve researchers' participation in research for instance, Mantra research data management training (Whitmire, 2015). The skills acquired during training can help to enhance the researchers' ability to share their data with others. Preferably, such data management skills training should be incorporated in postgraduate research methods training (Corti & Van den Eynden, 2015). Having thorough training and familiarity with skilled support services, support researchers be less cautious about data sharing dictates and emboldens positive relationship with various research centers. To accomplish task of managing and sharing data requires both technical and research skills that are obtainable via training (Van den Eynden & Corti, 2017).

Globally, most scholars engage with research data sharing and publishing had rigorous training with advanced knowledge, for instance, at the UK Data Service, for staff to be involved in research data sharing and publishing he or she must undergo severe training regarding sharing and publishing, and those who provide training must equally have extensive research expertise (Van den Eynden & Corti, 2017). In recent times, a survey was conducted on institutional repository workforce in Australia and New Zealand discovered the important of training to member staff on their day to day responsibilities, identified several skills and knowledge gap within the staff (Simons & Richardson, 2012). For effective training, majority of the researchers chosen one-day workshop, (Ngozi I. Anasi, J. Akpan, & Adedokun, 2014) informal discussions and panel sessions and also wanted to practice skills and interact with other scholars around issues that talked much about training prioritization (Bresnahan & Johnson, 2013). Researchers' training is inevitable; data literacy skills are pertinent to researchers' daily activities. To support researchers' practices in the face of a hurriedly changing research enterprise that increasingly relies on data literacy skills, relevant training should be guaranteed to all scholars (Federer, Lu, & Joubert, 2016). Therefore, providing data sharing based training programs to researchers will likely increase their level of data sharing practices.

ii. Connectivity

In order to facilitate data sharing practices in academics, the provision of functional linking devices for potential sharing and reuse of the dataset is unavoidable. Findings of this paper indicated inadequate resources such as shortage of internet and other connectivity devices in Nigerian universities. This was identified by four of the participants (H1,6,7 and 12). For example, H6 alleged that *"we frequently encounter problem of having interrupted power supply"* and is in agreement with other studies. The present of internet has fostered the spirit of sharing among researchers, individuals who share data and or knowledge with others prepare it through online and are always expecting others to do to them (Liao et al., 2013). There is presently a great interest of sharing data within the researchers but lack resources to do so made them instead focused on doing something else (Ferguson et al., 2014). Those with less connectivity find it difficult to share with colleagues, in fact, it has been well established that scholars with less or from rural areas are in a considerable disadvantaged position regarding ICT infrastructure and connectivity that will help in sharing as compare to their counterparts with well connectivity (Martínez Suárez, de Salvador Agra, & de Salvador González, 2015; Roberts, Anderson, Skerratt, & Farrington, 2016). Although, high cost and inadequate income have always been the uniquely identified by many organizations as the reasons for the insufficient infrastructure or lack of adoption of such connectivity (Townsend, Sathiaseelan, Fairhurst, & Wallace, 2013).

Nevertheless, in some cases, University may provide and explore technological adoption to ease sharing and other related activities to researchers but lack of interest from the part of these scholars plays a vital role. Absence of interest has been arose in recent years as a purpose for not using the internet as revealed in a research conducted in England and Sweden (Pavez, Correa, & Contreras, 2017). Provision of effective social network can also enhance the connectivity among organizational staff. Inaccessibility and lack of social networks, are exclusively identified in a study as some imperative rudiments of non-use among young people (Eynon & Geniets, 2012).

iii. Lack of functional data repository

This concept can be described as an initiative aims at storing data for an analytical or reporting purpose. Interviews revealed that Nigerian universities have few data repositories that can help their researchers to store, share and obtain data for reuse. 5 Participants are with this notion (H2, 4, 6, 7, and 8). H7 said *"No serious researcher will avoid data repository as it facilitates collaboration within researchers but unfortunately we have no one in my university".* This coincides with other studies with similar findings that emphasised the important of data repository to data sharing. Having recognized the significant and the relevancies of the term data sharing, academic communities have to establish different data repositories to realize their dreams (Gewin, 2016; Tenopir et al., 2015). Current development in the area of technologies brought about data repositories which enabled researchers to share their research data without difficulty, thus achieving the main objective of modern research which is data driven on shared data sets (Kim, 2017). Currently, collaboration in form of data sharing in academics needs the composition of institutional support like providing data repositories, technological set-up and even interpersonal relations (Kim & Stanton, 2012). Correspondingly, a successful academic's data sharing must encompass the similar three ranges of infrastructure, institutions and people. If we really consider data sharing practices as significant and an evolving tributary in research, creating data repositories becomes critical to modern academic communities.

It is equally important to know that research data sharing transpires in miscellaneous forms, including uploading data in data repositories, succumbing data as journal supplements and providing data by means of personal communication methods upon demand (Kim, 2017). By implication, University communities with data repositories may involve in sharing practices more than those without. Similarly, even in similar communities, data sharing practices can vary based on the present of data repositories. In science, there is no doubt that the volume of data being assembled is speedily increasing more especially in biomedical research laboratories, physics experiments and genomics which necessitated the need for data repositories (Farber, 2017). Establishing data repositories in our Universities can really help and influence data sharing activities of our scholars. A latest perspective (Stephens et al., 2015) claims that the quantity of sequencing data created is amplifying every seven months and it has been assessed that the unit cost of storage capacity declines haphazardly, this is coarsely dependable with the development of data appears to be cumulating by an order of magnitude roughly every 31 months since January 2009 (Health; Kodama, Shumway, & Leinonen, 2011). Data repositories over the years is influencing and changing data sharing practices in the academic environment by permitting researchers to deposit their raw data and making such data mostly available to everybody who might want to use them.

Community culture

Culture is a way of life of a group of people which include the behaviours, symbols, values, belief that people accept, that are normally passed from one generation to another. The culture of the community was also a factor that influence the researchers' performance concerning data sharing. This was supported by 3 participants (H8,10 and 12) and has been stated in ways by the interviewees for example, H10 *"It is not secret that our culture discouraged sharing important things with others"*. Also H12 has this *"Based on our culture, I hardly share my data with other researcher including you"*. Nigerian community culture has the idea of extra monopolistic and like exclusive preservation of their property which in turn discourage sharing of any kind Lewis, et al (2009).

The way in which our communities stare and cogitate data sharing influence its practices among the researchers. In every academic community, sharing especially of ideas, and other research resources are considered a significant features of scholarly collaboration (Franceschet & Costantini, 2010). Between all these sharable materials, research data is perceived as a cherished basis since it permits researchers to create differences in virtually all areas of development (Corti, Van den Eynden, Bishop, & Woollard, 2014). Consequently, research data sharing has become gigantic effort with a common-sense practice (Jeng, He, & Oh, 2016). Despite the fact that community culture differences occur between several academics, all of these communities necessitate more access to data and more transparency (Elman & Kapiszewski, 2013). Therefore, they normally give strong emphasis about data sharing among different scholars. Despite these differences, since the late 1990's, communities are strategizing how to improve accessing and managing resources within a community; all are acknowledged as thoughtful requirements for data management and curation services (Bos et al., 2007). Hence, the fast progression in data sharing offers new opportunities across various communities to develop and expand their research.

In the modern society where accountability and transparency are more pronounced, every community for their best interest must involve in data sharing practices and seize the opportunities afforded by making experimental data more widely available. Irrespective of community culture, generally, there are some barriers to data sharing such as evolving community consent about terms and definitions, recognizing data stewardship strategies and structure, permitting researchers to participate in sharing and reuse of datasets, applying practices that safeguard intellectual chattels and tolerate appropriate citation of data, and creating models that are supportable (Briggs, 2016; McKiernan et al., 2016; Steckler et al., 2015; Zinner, Pham-Kanter, & Campbell, 2016). Even though, community data culture raised a lot of logical as well as sociocultural concerns (Hirschfeld, 2012; Pearce & Smith, 2011; Visscher & Weissman, 2011).

Technical barriers

Existing of internet and other online activities has necessitate researchers to be conversant with the use of technology. Our interviewees revealed that researchers in

Nigerian universities are face with numerous technical challenges, data sharing involves a number of technical barriers these are understood mostly affect the oldest researchers and continue to be a major hurdle for data sharing practices, as most of them lack specialized expertise required to make data available to others (Barry & Bannister, 2014). Participant like H2, 5 and 9 confessed that they lack technical knowledge to sufficiently sharing data. According to H 9 *"I may wish to share my data but lack of technical skills discouraged me from doing so because i don't want to risk my data".* Similarly, absent of this technical expertise may come from the other party involved in sharing that can lead to data being exposed to less secure environment (Dallmeier-Tiessen et al., 2014; Sayogo & Pardo, 2013; Volk, Lucero, & Barnas, 2014).

For effective sharing, data most be in a well-defined format that is easily accessible, thus, needs to be rigorously defined. Lack of central portal, less support of making data publicly available, fragmentation of software and applications, absence of standards and others constituted a technical barrier in data sharing (Janssen, Charalabidis, & Zuiderwijk, 2012; Pampel et al., 2013). In modern days, for effective data sharing, there most be sound development of infrastructure thus requires significant investments but no ample overview of this infrastructures and their functionalities available (Pampel et al., 2013). Nevertheless, most of the existing technologies designed were insufficient to meet the growing requirements of data sharing practices as most of these technologies fail (Alharthi, Krotov, & Bowman, 2017). Another noticeable barrier is currently, majority of the researchers involving in data sharing practices have inadequate technical skills to handle the practices successful, as this may increase errors and could result to losing valuable data, placing data in an unwanted record and sharing the wrong data (Hoffman & Podgurski, 2013).

In essence, technical concerns for data sharing involve but not limited to language barriers, absence of standardization and incompatibility among surveillance databases. More so, a lot of researchers show their concerns as related to inadequate sharing infrastructures particularly to data architecture and data protection thus, data protection is not always guarantee from been scooped or misused. In academic community, the underlying assumption is that good data sharing will lead to better researches, which will finally enhance academics participation.

Economic challenges

Nigeria's economy recently slipped into recession reflecting adverse economic shocks, the respondents however mentioned that the economic situation has no doubt influenced the way and manner researchers share data. For example, H8 *"We are facing serious challenges with little budget allocated from the government, we can't have enough money to things that will help in sharing data within the researchers"*. Inconsistent economic policies have negative consequently on academic activities. Allocations to Nigerian universities are drastically reduced with less motivation to researchers. Previous studies have indicated in difference areas that data sharing is been discouraged by lack of motivation, lack of funding and technical infrastructure in general (Jeng & Lyon, 2016). In sharing research data, cost and incentives become a major obstacles as researchers are found of refusing to share data for lack of incentives in academia (Shen, 2016). In respective of the research results, the availability of that study's data would definitely reduce research costs by avoiding unnecessary repetition of experiments for which data are already available (Callahan et al., 2017). Researchers' efforts to share data in some cases are been hijacked and denied when it involved expenses. The inability of the researchers to adequately share their data may not be unconnected to lack of sufficient rewards and incentives, these incentives appear to be either financial, reputation or public recognition.

Data sharing process is critical and involves both human and technical resources for effectiveness and data preparation (Van Panhuis et al., 2014). Other incentives can be in form of reputation and merit which it absents results to resistance to data sharing among investigators. In academic environment, researchers rely on their reputations to signify prominence which is normally gain through the quality of their work. To realize fundamental data sharing, significant time effort, and resources need to be invested, thus, researchers withhold their data and feel that they have already shared their data when an article is published (Cheah et al., 2015).

Legal challenges

The kind of law and restrictions associated with data usage are considered to be another problem that is thwarting the activities of data sharing in Nigerian universities (Akintola, 2018). These barriers are no doubt attached to legal instruments used to restrict data sharing, resulting from the underlying willingness (or not) to share data by the researchers in the academic environment. Participants H4 and 11 shared this assertion. For instance, H4 *"Law regarding data sharing are not favourable for sharing hence it prevents many from participating".* While H11 has this *"considering the kind of data in my possession that involved human being, restrictions are placed frequently*". This concurs with other studies, for instance, data sharing practices must occur in accordance with legal requirements that attract restrictions and have the potential to control when, how and who has access to what data (Weller & Kinder-Kurlanda, 2016). Several investigators described how data sharing law and policies in different areas have been accused of not protecting the right of both the data provider and the user (Kaye, 2012). High personal data protection laws preventing data being shared that is not having permission to gain access to and reproduce data reuse of contracts, dispute and litigations, and limited conditions for using data often affect data sharing practices. Some data are prohibited to share, for instance, is normally against the law or even or not possible for researchers to share integrated data on HIV/AIDS with others unless with a strong permission (Fecher et al., 2015). To avoid the breach of law on individual privacy can absolutely deter academics from making their data publicly (MA & PA, 2013).

The establishment of laws and policies regarding data sharing is essential however, literature showed that the laws and policies to guide data sharing practices which provide the mission, function and power of sharing, set standards to safeguard individual rights are lacking (Fan & Yu, 2007; Mauthner & Parry, 2013; Moore et al., 2015). Similarly, relevant data sharing policies, quality assurance and other important ingredients for sharing are not always available to support the exercise, thus, the schemes for data sharing previously failed (Control, 2013). To promote data sharing practices, relevant laws and policies are needed to control data flow and protect confidentiality (Cadigan et al., 2013).

DISCUSSIONS AND CONCLUSION

The primary objective of conducting this research was to specifically identify the various difficulties facing data sharing in Nigerian academic community. Despite benefits associated with data sharing in academics, participants identified series of problems that made it difficult for researchers to share data in universities. These hindrances identified comprised of individual influences, insufficient infrastructure, community culture, technical, economic and legal factors. Coincidently, some literature further confirms related problems facing in the process of such sharing among academics which are clearly pointed out in van Panhuis et al., (2014) review of barriers to data sharing in public health, and coincides by findings of Alharthi, Krotov & Bowman, 2017; Barry & Bannister (2014); Janssen et al., (2012).

The current paper found that barriers facing data sharing in academic environment bring a lot of setbacks as they sometime find it difficult to share the most useful relevant data with their colleagues hence become disastrous. The interview revealed that collaboration and sharing data within the scholars is as good as the data itself. This paper further described data sharing as a key part of a movement towards promoting academic careers and research enhancement yet, these challenges restricted scholars from getting access to certain participants' personal data (Butler & Cyranoski, 2013).

Regarding individual barriers, several personal challenges discovered are attached to data sharing as scholars feel discourage in making their data publicly available for exertion and threat involved, confidentiality and mistrust. They claimed that sharing data may lead to misuse and attract criticism from peers which can finally have negative effect on the data donors' career (Bezuidenhout, 2013).

For infrastructure, reasons such as inadequate training, connectivity and lack of functional data repository are identified during the interview. It was revealed that there is no suitable infrastructure for training that can encourage researchers participate in data sharing practices. Nigeria as a nation do not possess the basic infrastructure, has poor connectivity, infrastructure and internet connections (Rao, 2001).

Concerning community culture, our findings discovered that Nigerian community culture enjoy exclusive preservation of property which distress collaboration among researchers. Nigerian community culture has the idea of extra monopolistic and enjoy exclusive preservation of their property which in turn discourage sharing of any kind Lewis, et al (2009).

In terms of technical barriers, this paper indicates that quite a number of researchers, especially the oldest ones lack the technical capacity required to share data with other investigators as most of them lack the specialized expertise required to make data available to others. Most of the researchers in developing nations lack specialized expertise required to make data available to others (Barry & Bannister, 2014).

Regarding economic barriers, considering the present economic situation in the country, allocations to Nigerian universities are drastically reduced with less motivation to researchers which directly affect most of the researchers' activities including data sharing practices. According to Jeng & Lyon (2016) different studies have claimed that data sharing is been discouraged by various economic bankrupt such as lack of motivations and funding to purchase needed infrastructure.

In respect to legal challenges, most of the participants described how data sharing law and policies in different areas have been accused of not protecting the right of both the data provider and the user as such prevent them from data sharing. This is in line with findings of (Cadigan et al., 2013) certain laws and policies that are significant in safeguarding individual rights, providing the mission, function and power as while as guiding data sharing practices are lacking, such relevant law are seriously needed to control and protect data flow and confidentiality (Cadigan et al., 2013).

RECOMMENDATIONS

In general, this paper shows certain barriers that have negative consequences on data sharing practices in the academic communities. Therefore, administrators as while as the researchers themselves should as a matter of urgency come together to address and provide lasting solutions for the betterment of this practice. This can effectively be done through considering the ethics and privacy of the participant's data before sharing, provision of relevant technical infrastructure and expertise, implementing simple and flexible law and policies that can support sharing, establishing sound data repositories, and giving orientations on the important of data sharing to researchers and above all providing adequate economic resources of any kind to academic communities.

LIMITATIONS AND FUTURE RESEARCH

In conclusion, the use of small sample size has affected the representativeness of the entire sample and generalization of the findings. Therefore, further studies should comprise a large sample transversely the universities for more hearty results. Furthermore, this study has used only the qualitative method, using mixed method would help collect in-depth information and obtain a better barriers data sharing within the academic circles as again the use of qualitative method alone. Hence, there is need for future research to be piloted in outside academic environment this would be useful to many people within and outside the academic communities.

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Disciplinary Differences in Publication and Citation Advantage of Open Access Journals in Scopus

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ABSTRACT

This research provides an extensive overview of Scopus-indexed gold Open Access (OA) journals' quantity and quality in 27 research areas. It shows the volume of OA journals, proportion of publications in OA journals and the quality of these journals in comparison with subscription-based counterparts. This research investigated 22256 active peer-reviewed journals indexed by Scopus in 2015. Data were gathered using Journal Metrics website. The current research adopted four indicators to compare the quality of OA and non-OA journals indexed in Scopus under each subject area, namely citedness rate, CiteScore, SNIP and SJR. Findings of the study showed that OA journals comprised approximately 17 percent out of the total journals indexed by Scopus in 2015. Results revealed an uneven spread of OA journals across disciplines, ranged from 5.5% to 28.7%. Studying the quality of journals as measured by CiteScore, SJR SNIP leads us to the finding that in all research areas except for health profession and nursing, non-OA journals attain statistically significant higher average quality than do OA journals. We can conclude that although OA publishing improves the visibility of scholarly journals, this increase is not always coupled with increase in journals' impact and quality.

Keywords: Open Access Journals; Non-open Access Journals; Journal Evaluation; Scopus.

INTRODUCTION

First scholarly journals appeared in mid-16th century in Europe as mediums for scientific communication (Solomon, 2008). Over the years, many features of scientific journals have changed, of which electronic dissemination of journals was among the most significant and revolutionary ones. Open access publishing of journals started in late 1980s with the development of the World Wide Web. According to Harnad (1999), the first open access scholarly journal was published in 1989. From that time, OA journals have received considerable attention in scientific community as an important channel of scholarly communication. Budapest Open Access Initiatives (2002) defines OA journals as one that is "freely availability on the public Internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself". Poulin and Tomaszewski (2014) believe that a significant proportion of scientific articles are being published in OA journals. In December 2016, the Directory of Open Access Journals (DOAJ)[1] listed more than 9400 fully OA journals and this increasing trend is still continuing. Beside these gold OA journals, many publishers provide free access to papers after a certain period of time (delayed OA). Moreover, green OA journals permit authors to self-archive their pre-print or post-print copy of articles in subject and institutional repositories or authors' personal webpages.

Many advantages of OA publications are mentioned in the literature, including unrestricted free and permanent access to the results of publicly funded research, broader dissemination of research findings, more production capability, rapid distribution of scholarly content over the Internet as well as higher visibility, findability and accessibility (Antelman, 2004; Solomon, 2008; Swan, 2010; Chen & Du, 2016). Beside the aforementioned advantages of OA, greater likelihood of read, download, use, distribute and cite was also mentioned in previous research, since no price and permission barriers exist for OA articles (Antelman, 2004). Solomon (2008) believes that OA publishing increase the visibility, irretrievability and audiences of a scientific article. Contrary to advantages of OA journals, some disadvantages have also been discussed, like disappearance of journals over time and emergence of OA predatory and hijacked journals (Chen, Chen & Du, 2016).

The main objective of the paper is to study the disciplinary differences in quantity and quality of OA and non-OA journals indexed in Scopus. It tries to respond to the questions that what proportion of journals and articles in 27 broad research areas are gold OA and how is the quality of these journals compare with non-OA journals in the same field. The current research is not aimed to investigate the impact of green OA or self-archiving of pre-print or post-print articles into institutional or subject-based repositories. Results of the study can enrich the theory of OA and provide researcher community with up-to-date information about subject distribution of OA journals.

LITERATURE REVIEW

A review of the literature was conducted to investigate and summarize previous studies with regard to quantity and quality of OA journals. The number of gold OA journals articles was studied by previous research. In one of the first estimations, Harnad (1999) reported that 2.5 percent out of the total world publication appeared in gold OA journals. In a study conducted in 2010, Yuan and Hua reported that DOAJ listed 68 *library and information science* journals in 2006, while this number increased to 96 journals in 2008. Bjork et al. (2010) studied the availability of OA articles through gold and green roads and found that 20.4% of the sampled articles were freely available (11.9% in websites and repositories, 8.5% in OA journals). In another research, Archambault et al (2014) reported the annual growth rate of 18% for the number of gold OA journals indexed in Scopus during 1996-2012, which means that the share of papers published in these journals doubles every 4.1 years.

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[1] www.doaj.org

Some previous studies reported the citation advantage of OA journals as opposed to toll-based journals (Murali et al., 2004; Hajjem, Harnad & Gingras, 2006; Davis et al., 2008; Joint, 2009; Swan, 2010). Results of the study conducted by Murali et al. (2004) showed that free availability of *pharmacy* OA journals increased their impact factor in a statistically significant level. Hajjem, Harnad & Gingras (2006) studied more than 1300000 articles in ten disciplines and found that OA articles have received 36% to 172% (varies with discipline) more citations compare with non-OA papers published in the same journal. Studying 2017 articles published in ten leading journals in four subject categories include *philosophy, political science, electrical engineering and mathematics*, Antelman (2004) found that OA articles had higher research impact as measured by citations received in Thomson Reuter's Web of Science. Harnad and Brody (2004) compared citations received by openly-available *physics* article posted in arXiv with those in the same journals that are not OA and reported higher citation counts for freely available articles. In another research, McVeigh (2004) compare 239 natural science journals indexed by Web of Science with regard to their citations, impact factor and immediacy index. Results of this study showed OA advantage *in physics, engineering, mathematics and medicine* and not in *chemistry and life sciences*. By comparing citation impact of one OA and one subscription journals in *communication*, Zhang (2006) reported that articles published in OA journal received on average two times more citations than articles from the subscription journal. Cheng and Ren (2008) examined 240 Chinese journals in *medicine, biology, agricultural sciences and chemistry* and resulted two-fold increase in citations for OA journals. Lin (2009) studied two journals in *molecular science* and reported an increase in journal impact factor after they were made openly accessible. Archambault et al (2014) reported citation advantage of 40.3% for gold OA and 27% for non-OA publications.

Comparison of journals' citation impact before and after OA publishing is another topic studied by previous researchers. Sahu, Gogtay & Bavdekar (2005) studied the citation rate of a *biomedical* journal before and after it went OA. Results of the study revealed that transformation to open access increased the citation impact of articles 3 to 4.5 times. Shin (2003) studied the quality of *psychology* journals before and after becoming freely available and reported greater impact factor for post-OA period compare with pre-OA period. The comparison of open and not open articles published in the same journal regarding citation and usage impact was also studied by previous researchers. In one of these studies, Eysenbach (2004) reported higher average number of citations to OA articles published in *Proceedings of the National Academy of Sciences* compare to non-OA articles of the same journal. Moreover, Gargouri et al. (2010) found that OA articles are cited significantly more than articles published in the same journal that has not been made OA. Wang et al. (2015) compared OA and non-OA articles published in *Nature Communications* journal considering citation, usage and alternative metrics. Results of the study showed that OA articles have got more citations and social media attention than non-OA articles.

The status of OA journals was also investigated in various research fields, such as *library and information science* (Yuan and Hua, 2010; Chen & Du, 2016), *computer science* (Lawrence, 2001), *psychology* (Shin, 2003), *pharmacy* (Murali et al., 2004), *physics* (Harnad & Brody, 2004), *medicine* (Sahu, Gogtay & Bavdekar, 2005), *communication* (Zhang, 2006), *biology* (Frandsen, 2008) as well as *business and management* (Lyons &

Booth, 2011). Although many previous research report higher citation impact and recognition for OA articles and journals because of their free accessibility, these kinds of findings are still controversial. In other words, some evidences of OA disadvantage are also exist in the literature (Anderson et al., 2001). Hajjem, Harnad & Gingras (2006) believe that citation advantage of a journal depends on many other factors besides free availability, including number of authors, references or pages; institution and country of publications; publisher's reputation; language of publication and the type and quality of articles. Studying the papers published in *Astrophysical Journal*, Kurtz and Henneken (2007) found no statistically significant difference between OA and toll access articles in terms of citations received. Davis et al. (2006) believe that although open access publishing increase accessibility of journals, but it might not be the only cause of the higher research impact of OA articles. Frandsen (2008) studied 119 journals in three science fields and found that the effect of OA publishing on citation impact was negative in pharmacology and neutral in mathematics and biology. Turk (2008) believe that free accessibility of publications itself does not necessarily increase their citation impact. Additionally, Calver and Bradley (2010) reported that OA had no statistically significant influence on the number of citations per article in six *biological science* journals.

As can be seen from the review of literature, the current research has two distinct characteristics compared to previous studies done on OA journals: (1) it studied both the quantity and quality of scholarly journals; and (2) it studied all peer-reviewed journals indexed by Scopus in all research areas.

RESEARCH DESIGN

Scopus was selected as data source of this study because of its broad coverage and ease of data extraction. Data were gathered using Journal Metrics[2], a free website that provides comprehensive and current data for source titles in Scopus. A total of 22256 active journals indexed in Scopus in 2015 are selected as the research population, of those more than 3800 tiles which their articles are free available without any restrictions, are identified as OA journals. These journals are considered to be OA if they are registered at one or both of the Directory of Open Access Journals (DOAJ) and/or the Directory of Open Access Scholarly Resources (ROAD). Scopus consider the following types of journals as OA:

- Gold journals: Journals in which authors pay the article processing charge and anyone wishing to read that article can do so freely.
- Subsidized journals: Journals in which the publication costs pay by government, universities and corporate sponsors instead of authors.

Therefore, hybrid and delayed OA journals as well as openly accessed articles through personal websites or institutional repositories are not identified in Scopus as OA and therefore, will not be studied in the current research.

[2] https://journalmetrics.scopus.com/

A complete list of Scopus indexed journals and all research data was extracted into a Microsoft Excel file. Journals from this list were consequently divided into two groups of OA and non-OA for further investigations. Although the volume of OA was investigated in journal and article levels, the quality of journals was just studied at the journal level and not at the article level. Due to difficulty in expressing the quality of scholarly journals by a single measure, the current research adopts four indicators to compare the quality of OA and non-OA journals indexed in Scopus under each subject area, include:

Mean citedness rate: The ratio of documents cited at least once to the total documents (Journal Metrics, 2016)

Mean CiteScore: Elsevier's new metric in 2016, CiteScore, measures average citations received per document published in the journal in a 3-year window. CiteScore for year Y counts the citations received in Y to documents published in Y-3, Y-2 or Y-1, and divides this by the number of documents published in Y-3, Y-2 and Y-1 (Journal Metrics, 2016).

Mean SNIP (Source Normalized Impact per Paper): SNIP measures actual citations received relative to citations expected for the journal's subject category. It is defined as the mean ratio of a journals citation count and the citation potential for the journals subject category (Journal Metrics, 2016).

Mean SJR (SCImago Journal Rank): SJR expresses the average number of weighted citations received in the selected year by the documents published in the selected journal in the three previous years. It shows journal's quality in terms of the number of citations received and the quality of citing journal (Journal Metrics, 2016).

It should be mentioned that categorization of journals is based on Scopus classification that journals are assigned to 27 major categories. Relatively high proportion of journals in Scopus assigned to more than one subject category, because of their multidisciplinary coverage and scope. Therefore, the sum of journals in 27 subject areas is much higher than the number of unique journals indexed in Scopus. In order to examine whether statistically significant differences exist between the quality of OA and non-OA journals in different research areas, a number of t-test was conducted in SPSS version 18 (due to normal distribution of variables).

RESULTS

Disciplinary differences in publication advantage of OA journals

Of the 22256 journals indexed by Scopus in 2015, OA journals comprise approximately 17 percent. Results of the study showed that the volume of OA journals varied across different research areas, ranged from a high of 28.7% to a low of 5.5%. The subject areas with the highest proportion of OA journals were *veterinary* (60/209; 28.7%), *dentistry* (44/164; 26.8%), *multidisciplinary* (24/98; 24.5%), *immunology and microbiology* (138/571; 24.1%) and *neuroscience* (139/592; 23.5%). On the contrary*, business, management & accounting* (85/1531; 5.5%), *economics, econometrics and finance*

(76/927; 8.2%) and *psychology* (111/1291; 8.6%) were subject areas with the lowest share of OA journals.

An attempt was also made to capture the amount of OA publications in various research areas. Results of the study revealed that the number of documents published in OA journals varied widely by research areas, with *agricultural and biological sciences* (25.5%) having the highest proportion of OA publications and *business, management and accounting* (4.2%) having the lowest. Put it in other words, of the papers appeared in 2522 *agricultural and biological sciences* journals in 2015, 195065 are published in OA journals. This proportion is 8141 out of the total of 185969 papers for *management and accounting* journals. Other areas with the greatest proportion of OA publications are *multidisciplinary* (23.9%), *veterinary* (23.1%) and *biochemistry, genetics and molecular biology* (21.4%). Findings showed that the volume of OA articles is higher in research areas which necessarily do not have the most number of OA journals. Table 1 below presents data on the absolute number and proportion of OA and non-OA journals and publications in each of 27 research areas based on Scopus.

Table 1: Number and proportion of OA and non-OA journals and publications in Scopus in 2015

Subject Area	Journals		Publications	
	OA	Non-OA	OA	Non-OA
Agricultural & Biological Sciences	591 (23.4%)	1931 (76.6%)	195065 (25.5%)	570613 (74.5%)
Art & Humanities	396 (10%)	3554 (90%)	28768 (8.3%)	316238 (91.7%)
Biochemistry, Genetics & Molecular Biology	568 (21.5%)	2076 (78.5%)	284437 (21.4%)	1043867 (78.6%)
Business, Management & Accounting	85 (5.5%)	1446 (94.5%)	8141 (4.2%)	185969 (95.8%)
Chemical Engineering	69 (13.5%)	442 (86.5)	18218 (5.9%)	292579 (94.1%)
Chemistry	112 (13.1%)	742 (86.9%)	69799 (9.4%)	671245 (90.6%)
Computer Science	242 (12.4%)	1710 (87.6%)	50877 (10%)	459279 (90%)
Decision Sciences	35 (10.9%)	287 (89.1%)	2948 (5.3%)	52341 (94.7%)
Dentistry	44 (26.8%)	120 (73.2%)	8517 (19.2%)	35935 (80.8%)
Earth & Planetary Sciences	252 (19.4%)	1047 (80.6%)	37307 (8.9%)	379257 (91.1%)
Economics, Econometrics and Finance	76 (8.2%)	851 (91.8%)	7277 (5.6%)	122498 (94.4%)
Energy	45 (10.6%)	379 (89.4%)	9735 (4.5%)	208430 (95.5%)
Engineering	319 (10.8%)	2626 (89.2%)	63676 (5.6%)	1068821 (94.4%)
Environmental Science	256 (16.7%)	1276 (83.3%)	51365 (9.7%)	480266 (90.3%)
Health Professions	59 (14.9%)	337 (85.1%)	10792 (13%)	72294 (87%)
Immunology and Microbiology	138 (24.1%)	433 (75.9%)	51673 (20.6%)	198733 (79.4%)
Materials Science	138 (10.9%)	1124 (89.1%)	41281 (4.8%)	813500 (95.2%)
Mathematics	228 (13%)	1529 (87%)	67498 (14.1%)	409604 (85.9%)
Medicine	1678 (20.2%)	6619 (79.8%)	538968 (18%)	2439367 (82%)
Multidisciplinary	24 (24.5%)	74 (75.5%)	16449 (23.9%)	52359 (76.1%)
Neuroscience	139 (23.5%)	453 (76.5%)	44849 (19.4%)	185879 (80.6%)
Nursing	56 (9%)	561 (91%)	10353 (7%)	136218 (93%)
Pharmacology, Toxicology and	182 (22.5%)	627 (77.5%)	51362 (16%)	268903 (84%)

Pharmaceutics				
Physics and Astronomy	142 (13%)	952 (87%)	91354 (10.8%)	755681 (89.2%)
Psychology	111 (8.6%)	1180 (91.4%)	16274 (7.9%)	188701 (92.1%)
Social Sciences	826 (12.4%)	5805 (87.6%)	75106 (10.8%)	620206 (89.2%)
Veterinary	60 (28.7%)	149 (71.3%)	16166 (23.1%)	53736 (76.9%)

Disciplinary differences in citation advantage of OA journals

Four indicators were utilized in an attempt to compare the quality of OA and subscription based journals in the same research area based on Scopus data in 2015. As the citation behavior differs among disciplines, we cannot directly compare different research areas according to quality indicators. On the contrary what we are interested in is to compare OA and non-OA journals in the same area. If we look at the citedness rate of journals, we see that it is greater among non-OA journals than among OA journals in 20 out of the 27 research areas. In other words, OA journals in only 7 research areas include *computer science, health profession, immunology and microbiology, medicine, multidisciplinary, neuroscience and nursing* had equal or higher citedness rate, compare to non-OA journals in those areas. The results of running a t-test revealed statistically significant mean differences [t (26) = -4.260, p<0.05] between OA (M=41.54, SD=11.44) and non-OA (M=47.04, SD=9.95) journals with regard to the citedness rate.

With regard to the CiteScore, non-OA journals showed higher quality than OA journals, except in *health profession* (1.49 for OA and 1.12 for non-OA) and *nursing* (1.05 for OA and 0.98 for non-OA). A series of t-tests were employed to determine whether the observed differences are statistically significant. Results showed a statistically significant mean differences [t (26) =-6.594, p<0.05] between OA (M=1.16, SD=0.56) and non-OA (M=1.55, SD=0.58) journals based on their CiteScore. Considering SNIP and SJR, we observe the same trend as for CiteScore: OA journals have greater quality than non-OA journals only in *health profession* and *nursing*. Utilizing a series of t-tests, the study found statistically significant mean differences [t (26) =-5.750, p<0.05] between OA (M=0.67, SD=0.15) and non-OA (M=0.86, SD=0.17) journals with regard to their SNIP. Moreover, statistically significant mean differences were observed between OA (M=0.57, SD=0.28) and non-OA (M=0.85, SD=0.3) journals in terms of their SJR [t (26) = -7.735, p<0.05]. Table 2 below shows the differences in quality between OA and non-OA journals within each research area.

Table 2: Quality of OA and non-OA journals in 27 research areas based on Scopus data in 2015

Subject Area	Mean Citedness Rate		Mean CiteScore		Mean SNIP		Mean SJR	
	OA	Non-OA	OA	Non-OA	OA	Non-OA	OA	Non-OA
Agricultural & Biological Sciences	41.9	49.16	1	1.37	0.64	0.77	0.54	0.73
Art & Humanities	12.1	20.5	0.17	0.41	0.29	0.53	0.16	0.29
Biochemistry, Genetics & Molecular Biology	60.59	64.6	2.27	2.8	0.77	0.95	1.17	1.62
Business, Management &	28.47	46.31	0.48	1.35	0.48	0.93	0.23	0.85

Accounting								
Chemical Engineering	44.75	54.58	1.28	2.22	0.69	0.91	0.48	0.96
Chemistry	47.86	58.18	1.48	2.32	0.67	0.89	0.55	0.93
Computer Science	51.41	51.5	1.19	1.77	0.88	1.36	0.53	0.8
Decision Sciences	37.97	49.75	0.9	1.54	0.79	1.13	0.52	1.09
Dentistry	39.64	46.82	0.89	1.22	0.61	0.81	0.37	0.58
Earth & Planetary Sciences	44.69	48.98	1.15	1.48	0.65	0.84	0.65	0.9
Economics, Econometrics and Finance	26.22	41.69	0.47	1.1	0.54	0.94	0.36	0.95
Energy	43.87	46.29	1.22	1.83	0.67	0.96	0.49	0.85
Engineering	38.99	44.56	0.96	1.39	0.71	0.97	0.39	0.71
Environmental Science	48.1	50.61	1.39	1.62	0.78	0.81	0.68	0.77
Health Professions	42.74	42.68	1.49	1.12	1.04	0.7	0.79	0.56
Immunology and Microbiology	60.86	60.64	2.26	2.55	0.83	0.9	1.26	1.53
Materials Science	44.21	49.97	1.33	1.87	0.76	0.92	0.51	0.84
Mathematics	35.73	43.18	0.89	1.1	0.77	1.08	0.6	0.93
Medicine	46.96	44.24	1.41	1.53	0.71	0.8	0.67	0.85
Multidisciplinary	37.2	25.41	0.89	0.96	0.63	0.7	0.35	0.81
Neuroscience	65.77	62.75	2.51	2.53	0.78	0.94	1.3	1.43
Nursing	40.44	38.27	1.05	0.98	0.64	0.6	0.53	0.51
Pharmacology, Toxicology and Pharmaceutics	48.13	53.39	1.54	1.96	0.7	0.73	0.55	0.81
Physics and Astronomy	43.03	49.67	1.53	1.8	0.8	1.01	0.75	0.96
Psychology	33.3	51.93	0.68	1.59	0.48	0.95	0.34	0.89
Social Sciences	24.29	35.07	0.5	0.82	0.55	0.75	0.3	0.51
Veterinary	32.55	39.36	0.59	0.88	0.49	0.6	0.33	0.5

CONCLUSION

The current research investigated the coverage of the Scopus with regard to the OA journals and compared the quality of OA with non-OA journals in 27 research areas. The overall OA share was approximately 17%, over 22256 journals indexed in Scopus in 2015. In comparison with the results of Miguel, Chinchilla-Rodriguez and de Moya-Anegón (2011) who reported the share of 9% for OA Scopus indexed journals in 2011, we can conclude that the volume of open access journals are becoming greater. Results revealed an uneven spread of OA journals across disciplines. The percentage of OA journals in Scopus ranged from 5.5% (*business, management & accounting*) to 28.7% (*veterinary*). The proportion of OA journals was found to be higher in physical ad medical sciences than that of in social sciences, humanities and art. Results of the study is somewhat consistent with that of Bjork et al. (2010) who reported higher proportion of gold OA journals in medicine, medicine-related areas and molecular biology in comparison with humanities and social science areas. As Becher and Trowler (2001) discuss, the intensity of OA publishing varies in different research areas based on “disciplinary culture” of scholarly communications in that area.

To shed light on the difference between OA and subscription-based journals in terms of quality, the current research utilized four indicators, namely citedness rate, CiteScore, SNIP and SJR. The higher proportion of cited documents in OA journals compared with non-OA journals was seen in *computer science, health professions, immunology and microbiology, medicine, multidisciplinary, neuroscience and nursing.* Open access journals were found to have statistically significantly lower levels of quality than non-OA journals in the same research area with regard to CiteScore, SNIP and SJR. Of the 27 research areas studied, *health profession* and *nursing* were only two areas with higher quality for OA journals versus non-OA journals based on three aforementioned indicators. This finding, to some extent, may stem from the fact that researchers' citation behavior varies greatly in different research areas. Moreover, another possible explanation may be that the majority of high-impact and high-prestige journals in different research fields are toll-access ones which attract high-quality articles from top researchers and receive sizable numbers of citations. We should bear in mind that many gold OA journals are younger and have lower reputation than established subscription-based journals in the same field, which have an adverse effect on the citation rate and hence on indicators like CieScore, SNIP and SJR. We can conclude that although OA publishing may facilitate accessibility and use, it does not necessarily lead to greater quality. Results show that free accessibility to the content of journals in insufficient for attaining higher quality because citations received by journals depend also on the quality of articles.

This research is not without any limitation. Considering the fact that Scopus covers less than half of journals listed in the DOAJ (Archambault et al. 2014), further research may be required to study the quality of other gold OA journals not appeared in Scopus. Also, It utilized only four indicators to measure journals' quality. The current research also studied open access journals in 2015 and did not take into account the temporal evolution of journals' volume and quality. Future research can also examine the evolution of the proportion and quality of OA journals in various research areas over a long period of time. The current research compared the quality of journals based on 27 broad research areas in Scopus. Considering the difference exist among disciplines in the same area, future research can broaden the scope of the research to sub-categories under each area. Moreover, further research can compare gold OA journals with other types of open access publishing, like green OA and delayed OA based on publication and citation patterns.

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Empirical Evidence of the Practice of Institutional Repository in Nigeria

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ABSTRACT

Institutional Repositories (IRs) are deployed mainly to create global visibility for scholarly output of institution which in return increase the recognition and prestige of the institution. The objectives of this paper are; to provide statistical indicators and identify technical challenges face by practice of IRs in Nigeria. The paper used quantitative exploratory research design to analyse and describe the practice of IRs in Nigeria. It highlighted the number of IRs registered with Directory of Open Access Repository (OpenDOAR) and Registry of Open Access Repositories (ROAR) in Nigeria. Statistical analysis of the content of each repository, types and the currency of the information resources were also provided. Functionality of the IRs was assessed through an investigatory study of the identified IRs web sites (URLs). The implications of the findings were assessed according to the web performance of the universities. Findings indicated that there are twenty-five (25) IRs online from Nigeria. Twenty-three (23) IRs were registered on both OpenDOAR and ROAR. Sixteen (16) IRs out of the twenty-five (25) were found active. Theses and dissertations, journal articles, conference and seminar papers formed the major types of information resources deposited on the repositories. University of Nigeria Nsukka, Covenant University and Ahmadu Bello University have the highest deposit. The web performance of the universities was found below expectation. Implementation of policy mandate, retraining and advocacy of IRs were among the main recommendations.

Keywords: IRs practice; Intellectual output; Open Access; IRs in Nigeria.

INTRODUCTION

This Open Access Movement (OAM) is a deliberate plan to curtail the high-cost of publication in the global research community. To achieve this target, OAM developed two main strategies; Green (OA) and Golden (OA) which means self-archiving of the research findings and open access publishing of the journal articles respectively. Institutional Repository (IR) is one of the common platforms used for green (OA) (J. Zhong & Jian, 2016). IR is part of the innovative method of knowledge management that focuses on preserving, disseminating and providing free access to intellectual output produced by faculty, research staff and students of a specific institution (Leila & Mina, 2018).

IR become part of the technical infrastructure of the research institutions, libraries and information centers in developed counties since 2002(Abrizah, Noorhidawati, & Kiran, 2010). With software like Dspace, ePrint, Greenstone, Fedora etc. IRs Provide web-based platform for sharing and facilitating free access to scholarly information (Shoeb, 2009).

As time goes on, IRs became more sophisticated and complex, the content of IR was revived to include different types of formats and accommodate wide range of information resources such as; theses and dissertations, journal articles, conference proceedings, books chapters, technical reports, seminar and conference presentations, working papers, data sets, software, archived documents, open courseware, course contents, multimedia, original arts, radio and TV interviews, gray literature, posters and other learning and teaching resources(Cho, 2018; Crow, 2002; Genoni, 2004; Genoni & Liauw, 2017; Leila & Mina, 2018;McDowell, 2007; Oguche, 2018; Repanovici, 2011; Sittek & Bertelmann, 2014; J. Zhong & Jiang, 2016) .

Nowadays, IRs have become a new paradigm shift in scholarly communication that increases the visibility and add more prestige to the institution as well as curtail the barriers of access to scholarly information. In addition, the driven benefits of IRs can be summarized in two categories; open access to scholarly publication and long-term preservation of the scholarly content (Leila & Mina, 2018).

Despite the promising potential of IRs for improving scholarly communication and increasing the visibility of institution, the innovation is not yet widely spread, accepted and practiced in developing counties (Abrizah etal., 2010) especially in Africa (Oladokun, 2015). The statistics on growth of IRs can be clearly track on project like the "Directory of Open Access Repositories (OpenDOAR)". Presently, Europe is having the highest proportion of the repositories by region 47% with 1,769 established repositories, followed by Americas 27 % with 1016 repositories. Asia 19% with 722 repositories Africa 4% with 165 repositories Oceania 3% with 104 repositories, making total number of 3,776 repositories on OpenDOAR (OpenDOAR, 2018). In comparison with Europe, America and Asia, the practice of IRs is very low in Africa.

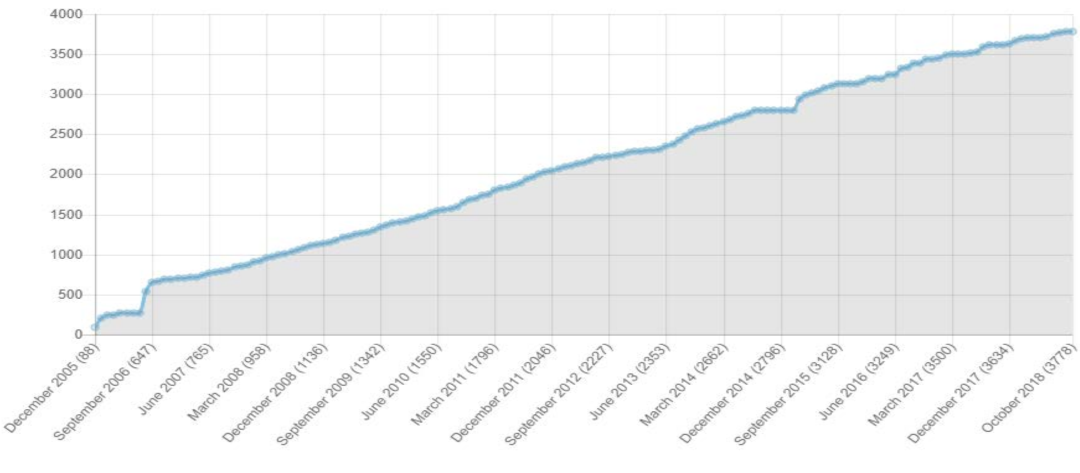

Figure 1: Growth of IRs World Wide. Source: OpenDOAR, 2018

In Nigeria, the practice of IRs started with a call from International Workshop titled Open Access Repositories: New Model for Scholarly Communications held in Ahmadu Bello University Zaria, 2008. Scholars were enlightened on the driven benefits of IRs and were motivated toward implementation of IRs for managing, sharing and preserving the scholarly output of their institutions (Bozimo, 2008). University of Jos led the trend by deploying IR as a pioneer in 2009. Although, researches on IRs in Nigeria confirmed that IRs are not commonly known by number of scholars and practice of IRs was hindered by many obstacles since inception (Eke, 2011; Ezema, 2010, 2013; Ifijeh, Adebayo, Izuagbe, & Olawoyin, 2018; Mohammed, 2013; Ogbomo & Mukebe, 2015; Oguche, 2018; Oye, Oyeniyi, &Mahan, 2017) , but from 2009 to date, Nigeria has accumulative number of twenty-one (21) registered IRs practice by sixteen (16) organizations as the statistics shown on Directory of Open Access Repositories site, 4th October, 2018.

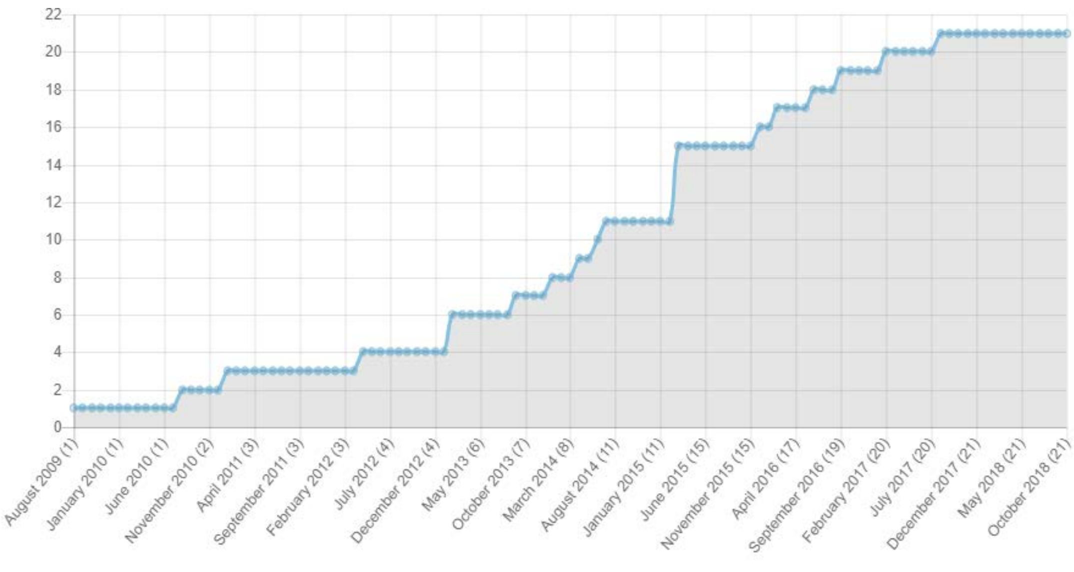

Figure 2: Growth of IRs in Nigeria. Source: OpenDOAR, 2018

After almost ten years of development, it is time to have a closer view of the performance indicators and impact of IRs in Nigeria. Although there are studies published on the state of IRs in Nigeria (Ifijeh et al., 2018; Ogbomo & Muokebe, 2015; Oguche, 2018; Oye et al., 2017) , accessibility, preservation and challenges of IRs in Nigeria(Ezema, 2013; Gbaje & Mohammed, 2017; Mohammed, 2013) . But this study is an attempt to provide comprehensive analysis on repository systems and performance, statistical indicators of deposit on the repository and relate all these to the provision of impact on the university ranking on the ranking web of universities.

Authoritative Web Sites Used for the Study

- Directory of Open Access Repositories (Open DOAR) is a worldwide authoritative directory of open access repositories hosted by the University of Nottingham in United Kingdom in the year 2006 (OpenDOAR 2018).
- Registry of Open Access Repositories (ROAR) is "a searchable international database indexing the creation, location and growth of open access institutional repositories and their contents. ROAR was created by EPrints at University of Southampton, UK, in 2003. It began as the Institutional Archives Registry and was renamed Registry of Open Access Repositories in 2006".
- Registry of Open Access Repository Mandates and Policies (ROARMAP) "is a searchable international registry charting the growth of open access mandates and policies adopted by universities, research institutions and research funders that require or request their researchers to provide open access to their peer-reviewed research article output by depositing it in an open access repository" (ROARMAP, 2018).
- Webometrics Ranking of World Universities (WRWU) is "an initiative of Cybermetrics Lab; a research group belonging to the Consejo Superior de Investigaciones Científicas (CSIC), the largest public research body in Spain. CSIC is also among the first basic research organizations in Europe.
  The Cybermetrics Lab, part of the CSIC, is devoted to the quantitative analysis of the Internet and Web contents specially those related to the processes of generation and scholarly communication of scientific knowledge." (WRWU, 2018). .

LITERATURE REVIEW

The emergence of IRs has grabbed the attention of literature worldwide, both from developed and developing nations.

Institutional Repositories in Europe, America, Australia and Canada

Reported that 40% of the universities in the United States have started the practice of IRs, and 88% of those that have not yet started are in the ongoing planning for the practice and predicted that IRs will presume as an essential infrastructure for scholarship in the modern world. In another study Van Westrienen and Lynch (2005) reported the state of the deployment of IRs in Australia, Canada, the United States and ten European countries namely; Belgium, France, the United Kingdom, Denmark, Norway, Sweden, Finland, Germany, Italy and the Netherlands. Despite fact that the study was at initial face of the adoption of IRs in the developed world, they discovered that Germany, Norway and Netherlands have 100% deployment of IRs by universities, with average number of 12,500 objects per IRs across humanities and social sciences, life sciences, natural sciences, engineering, performing arts disciplines. They also find Dspace, ePrint, OPUS, Vergina, Fedora, DIVA and other locally developed content management software in use. Chantavaridou (2009) reported that many institutions created IR using two major software namely; DSpace and CDS Invenio. The study also reported that copyright issue is one of the major challenges in the success of IR in Greece at as 2009.

From Central Europe, Koler-Povh, Mokoš and Turk (2014) described the stages conceded while developing IR in view of technical infrastructure, personnel, collaboration among librarian, expert, academics and management. They further found out that, these are the major information resources deposited on Digital Repository of the University of Ljubljana, Slovenia. Another result from the study of 137 IRs in Latin America showed index ratio of IRs from Latin America is very low in google and apparently missing in Google Scholar (Orduña-Malea & Delgado López-Cózar, 2015). In his article titled: "Repositories at master's institutions: A census and analysis", Henry and Neville (2017) of University of South Florida St Petersburg, USA stated about 20 % of the colleges and universities have academic research, student scholarly output and other university records as main types of digital objects in their repositories.

Serrano-Vicente, Melero, and Abadal (2018) conducted survey on 66 institutions in Spain, the researchers selected repositories' managers as respondent from each institution. The findings of the survey were among others; 65 % of repositories allowed import and export of data and large-scale metadata from other universities, use of altimetric is widely spread, deposit is being done by authors and librarians regularly, more than 80% of the content are full text, individual training, manuals and page help formed the major promotion tools and concluded that, management of the institutions encourage open access among researchers.

Institutional Repositories in Asia

Although studies on IRs in Asian state that IRs are not very common in some countries from the initial stage (Chen & Hsiang, 2009), but Lee (2008); Murakami and Adachi (2006) reported that number of IRs in Japan and Korean universities are increasing very fast. Fernandez (2006) related lack of infrastructure to the slow growth of IRs in India. C. Zhong (2009) also acknowledged the lack of awareness among potential contributors and lack of government policies on institutional repository implementation in China. From other perspectives, Kiran and Chia (2009) reported that the content of IRs in Malaysia is low even within the top ranked institutions and concluded that "Malaysia has a long way to go, although the beginning is promising, and it is hoped by that the user perspective may be a contributing factor to the establishment of open access initiatives".

In their article titled; "the landscape of open access institutional repositories in the Asian continent: a 2010 census" Abrizah et al. (2010) presented a comprehensive study on the state of IRs in Asian. Their findings revealed that only "48 out of 400 of Asian IRs are visible and incorporate good practices in their web". They concluded with the expression of discouragement over the growth of IR in Asia. However, Lee-Hwa, Abrizah, and Noorhidawati (2013) Employed web analysis to report the status of IRs in the "Association of South East Asian Nations (ASEAN)" in terms of content, types, subject and language. The study used OpenDOAR / ROAR to describe the contents and "Ranking Web of World Repositories (RWWR)" to reports the web performance and analyse the availability and worldwide visibility of the repositories. The Findings show that, there are total number of 61 IRs in ASEAN. Indonesia, Malaysia and Thailand have the highest deposit respectively. Only 33 IRs are visible worldwide. The study recommends that, effort should be intensified to enhance the visibility and embrace good practices in web publication.

From other hand, scholars identified technical difficulties as an obstacle in the practice of IRs and call for personnel training in building IRs across Asia (Jiagui, 2013; C. Zhong, 2009; J. Zhong & Jiang, 2016). Cho (2017) examined the establishment of open access in Asian countries. the author used investigative analysis to study the functionality of IRs and their influence on the web through OpenDOAR and bibliometric ranking of web of repositories. The result showed that; even though government support the implementation, but functionality of IRs is very low in many Asian countries. The study also revealed that, the prospect of open access through IRs in “Japan, Korea, India, Taiwan, Indonesia, China, Turkey, and Malaysia” seemed to be relatively more feasible than in other countries in Asia.
Seo (2018) use Directory of Open Access Journal (DOAJ) and Directories of Open Access Repositories (OpenDOAR) to investigate the “open access journal services platforms in Asian countries”. The investigation reported that, Indonesia has the highest number of open access journals while Japan come as third country with the highest number of IRs. XML services is widespread in Korea than any other Asian Country. The study suggest collaboration between Asian countries as a way forward for the development of effective infrastructure for good practice of open access.

Institutional Repositories in Africa

Despite having number of challenges, literature has recorded evidences of progress in the deployment of IRs in Africa. From the early stage, ENREF 5 a study by Christian (2008) indicated the presence of twenty (20) IRs in Africa. A year later Kakai (2009) reported that there are twenty- three (23) IRs visible from eight countries in the African continent. While acknowledging the impact of IRs on research output from African universities Chisenga (2006) anticipated a lot of opportunities for universities in Africa from IRs projects. Research output from African universities become visible in the global research community with much appreciation to the practice of IRs (Baro, Tralagba, & Ebiagbe, 2018).
In terms of implementation of IRs in Africa, the literature traced the history back to 2000 where the first IR developed by The University of Pretoria, South Africa (Abrahams, Burke, & Mouton, 2010; Bangani, 2018; Van Wyk & Mostert, 2014). Nyambi and Maynard (2012) reported that Solusi University established the first IR in Zimbabwe in year 2001. Namaganda (2012) acknowledged the establishment of IR in 2006 and confirmed the existence of IRs at Martyrs University, Aga Khan University and Makerere University, Uganda.

Nowadays, librarians in African universities are fully aware and use IRs for self-shelving of their publication. Recently, study on “Knowledge and use of self-archiving options among academic librarians working in universities in Africa” by Baro et al. (2018) investigated 455 academic librarians in 52 universities in Africa. The study revealed that more than half of librarians working in African universities use IRs for self-archiving while others indicated that there is dedicated librarian for uploading papers in their libraries. The study further discovered that a big number of librarians show interest to use self-archive option if is mandated by the institution.

Just like from the Asian continent, several studies lamented reason behind the low implementation of IRs in Africa (Chisenga, 2006; Nyambi & Maynard, 2012; Van Wyk & Mostert, 2014). Moahi (2010) identified policy issues, skills and resources part of the challenges of IRs in Africa. Dlamini and Snyman (2017) identified inadequate funding, lack of support from institutional management and lack of awareness of IRs at institutional management level as main obstacles facing the practice of IRs in Africa.

Institutional Repositories in Nigeria

Even though there is notable progress in the practice of IRs but literature on IRs in Nigeria is always related to restating challenges or enunciating problems. The process of digitizing theses and dissertations started years before the adoption of IRs in Nigeria. Musa, Musa, and Aliyu (2014) reported that the project of digitization of theses and dissertations started July 2005 at Ahmadu Bello University, Zaria, Nigeria using Database of African Theses and dissertations (DATAD) to upload abstracts online for archival purposes. In 2009 first IR was established by the University of Jos. From then the flows of the trend continue.

Several studies acknowledged the adoption of IRs in Nigeria. (Eke, 2011; Ezema, 2011; Mohammed, 2013; Musa et al., 2014; Ogbomo & Muokebe, 2015a; Ridwan, 2015). Universities adopting IRs to increase their visibility, reduce the cost of publication, facilitate access, preserve and showcase their intellectual out to the global community. (Abbas, 2016; Gbaje & Mohammed, 2017; Oye et al., 2017; Ukwoma & Dike, 2017). Okojie (2008), and Okoye and Ejikeme (2011) recognize the role of IRs in disseminating research findings in Nigerian universities.

Scholars attribute slow in the practice of IRs in Nigeria to various issues; Chiware, Okoye and Ejikeme (2011) observed that despite the numerous benefits of IRs researchers are not publishing their findings on IRs in Nigerian due to "lack of awareness and skills required in the use of the repository". This is also the problem that discourages many institutions to establish their IRs. According to Harnad (2009) the issue of mandate from the authorities of the institutions involved is very crucial for the success of IR in Nigeria. "This is because it has been observed that many authors are often reluctant in publishing their works in institutional repositories because of fear of breaching copyrights laws" (Oguche, 2018). Christian (2008) relate the low adoption of IRs to inadequate knowledge among the major stakeholders of IR in Nigeria including faculty, research staff, librarians and students. Mohammed (2013) sees the issue from internet connection stating that; despite the high cost of internet connectivity in Nigeria, internet bandwidth remains inadequate for running IRs in Nigerian universities. Studies incessantly identified lack of funding from government and institutions as stumbling block to the implementation of IRs in Nigeria (Christian, 2008; Oguche, 2018; Ridwan, 2015) another impediment is power supply; universities are beset by unstable power supply which hinders not only the practice of IRs but development of ICT in Nigeria (Fatunde, 2008; Oguche, 2018).

OBJECTIVES

After almost ten years of the practice of IRs in Nigeria. It is necessary to know the empirical evidence of the practice, performance, impact and implications of this practice. IRs are deployed mainly to create global visibility for scholarly output of institution which in return increase the recognition and prestige of the institution. Therefore, it is expected that the practice of IRs in Nigerian universities will have reach to some extent and have impact and implications on their institutions.

This study is posed to analyse the current statistical indicators for the practice of IRs in Nigeria and describe their performance. In a specific term the study has following objectives:

a) To provide the current statistical indicators for the practice of IRs in Nigeria.

The statistical indicators here include; number of registered repositories, deposit by each repository and total deposit by all repositories.

b) To provide content analysis of the IRs in Nigeria.

Content analysis include; types, number and currency of content.

c) To explore the technical and operational challenges as well as policy adopted by IRs in Nigeria. These include types of software uses by the repositories, functionality of the links, IRs web design and the status of the policy.

METHODS

The study adopted quantitative exploratory research design to analyse and describe the practice of IRs in Nigeria. Data for this study were collected from the followings;

- Analysis of registered repositories on the “Directory of Open Access Repository (OpenDOAR)” Database from Nigeria.
- Search enquiry for registered repositories on Registry of Open Access Repositories (ROAR) and The Registry of Open Access Repository Mandates and Policies (ROARMAP) database from Nigeria.
- An investigatory study into the identified IRs web sites; monitoring the functionality of the URLs. The evaluation of the usability and the design of the site was carried out using; 1. Functionality test; 2. Content Analysis; 3. Identification of mode of access and policy adopted; 4. Evaluation of usability and design of the site criteria. These criteria help to give us a more complete picture of the status of IR in Nigeria.
- Enquiry on the list of universities on Webometrics Ranking of World Universities (WRWU) site.

The data collected were verified to ensure they are still relevant. The data also validated through literature and contact to some of librarians working on IRs in the identified libraries. The URLS were thoroughly checked, tested and individually monitored to testify their functionality. The processes of data collection, test and analysis were conducted in three months (August, September & October 2018).

FINDINGS

The findings of this study were treated under the aforementioned objectives:

The current statistical indicators for the practice of IRs in Nigeria

Table 1: Number of registered repositories on OpenDOAR and their status

SN	Organization	University Web (URL)	SN	Name of the Repository	Repository Web (URL)	Remarks
1	Afe Babalola University	http://abuad.edu.ng/	1	Afe Babalola University Repository	http://eprints.abuad.edu.ng/	Working not 24hrs service
2	Ahmadu Bello University	http://www.abu.edu.ng/	2	ABU Zaria Research Publications	http://www.abu.edu.ng/pages/researchworks.php?pageNum_rsPaperSearch=422&totalRows_rsPaperSearch=8449/	Not Functioning
			3	Ahmadu Bello University Institutional Digital Repository (OpenAIR@ABU)	http://kubanni.abu.edu.ng/jspui/	Working Not 24 hrs Service
3	American University of Nigeria	http://www.aun.edu.ng/	4	American University of Nigeria (AUN) Digital Repository	http://digitallibrary.aun.edu.ng:8080/xmlui/	Working 24 hrs Service
4	Covenant University	http://www.covenantuniversity.edu.ng/	5	Covenant University Electronic Theses and Dissertation Repository	http://www.covenantuniversity.edu.ng/~/clr_cu/library/readonline/docsExplorer/#	Working 24 hrs Service 10 PhD Dissertations
			6	Covenant University Repository	http://eprints.covenantuniversity.edu.ng/	Working 24 hrs Service
			7	Theses & Dissertations	http://theses.covenantuniversity.edu.ng/	Not Functioning
5	Ebonyi State University, Abakaliki	https://ebsu.edu.ng/	8	Ebonyi State University Institutional Repository	http://ir.ebsu.edu.ng:8080/	Not Functioning
6	Federal University Lokoja	http://www.fulokoja.edu.ng/	9	Federal University Lokoja Institutional Repository	http://repository.fulokoja.edu.ng/	Not Functioning
7	Federal University Ndufu-Alike Ikwo	http://www.funai.edu.ng/	10	dspace.funai.edu.ng	http://dspace.funai.edu.ng/	duplicate
			11	Federal University Ndufu-Alike Ikwo Repository Archive	http://dspace.funai.edu.ng/xmlui/	Not Functioning
8	Federal University of Technology, Minna	http://www.futminna.edu.ng/	12	Federal University of Technology, Minna Institutional Repository	http://dspace.futminna.edu.ng/jspui/	Working 24 hrs Service
9	Federal University of Technology, Akure	http://futa.edu.ng/futacms/	13	Institutional Repository of the Federal University of Technology	http://dspace.futa.edu.ng:8080/jspui/	Not Functioning
10	Federal University Oye Ekiti	http://loadedmovies.com/	14	Federal University Oye Ekiti Repository	http://www.repository.fuoye.edu.ng/	duplicate

11	Federal University Oye Ekiti -	http://fuoye.edu.ng/	15	Federal University Oye-Ekiti Institutional Repository	http://repository.fuoye.edu.ng/	Working 24 hrs Service
12	Landmark University	http://lmu.edu.ng/	16	Landmark University Repository	http://eprints.lmu.edu.ng/	Working 24 hrs Service
13	University of Jos	http://www.unijos.edu.ng/	17	University of Jos Institutional Repository	http://irepos.unijos.edu.ng/jspui	Working 24 hrs Service
14	University of Lagos	http://unilag.edu.ng/	18	University of Lagos Institutional Repository	http://repository.unilag.edu.ng:8080/xmlui/	Working 24 hrs Service
15	University of llorin	http://www.unilorin.edu.ng/	19	UILSPACE	http://uilspace.unilorin.edu.ng:8080/jspui/	Working Not 24hrs Service
16	University of Nigeria Nsukka	http://www.unn.edu.ng/	20	Open Resources	http://unn.edu.ng/chart/repo	Not Functioning
			21	University of Nigeria Nsukka Institutional Repository	http://repository.unn.edu.ng/ working link http://www.unn.edu.ng/internals/repository/show	Working Not 24hrs Service Working 24 hrs Service
16	Total registered Organizations		21	Total registered Repositories	Total functioning repositories	13

On studying the name of the registered organizations and repositories on OpenDOAR database, it has been discovered that, there are twenty-one (21) registered repositories by sixteen (16) organizations and all the twenty-one (21) repositories were registered as institutional repository by type.

Table 2: Records of IRs registered on Registry of Open Access Repositories from Nigeria

SN	University	Repository	Date of Establishment	Other Registries
1	Covenant University Repository	Covenant University Repository	24 November, 2010	OpenDOAR Celestial ROARMAP
		Theses & Dissertations	27 January 2014	OpenDOAR
2	Federal University Lokoja	Federal University Lokoja Institutional Repository	14 July 2016	Celestial OpenDOAR
3	Federal University of Technology, Minna	Federal University of Technology, Minna Institutional Repository	21 July 2016	OpenDOAR
4	Afe Babalola University	Afe Babalola University Repository	21 December 2014	OpenDOAR
5	University of Nigeria, NSUKKA	University of Nigeria Institutional Repository	13 June 2017	OpenDOAR Celestial
6	University of Jos	University of Jos Institutional Repository	25 June 2014	OpenDOAR Celestial
7	University of Ibadan	University of Ibadan Institutional Repository	25 April 2017	Celestial
8	Federal University Oye-Ekiti	Research Online at Federal University Oye-Ekiti	23 February 2013	Celestial OpenDOAR
9	Landmark University	Landmark University Repository	7 June 2014	OpenDOAR Celestial
10	Federal University of Technology, Akure, Nigeria	Institutional Repository of the Federal University of Technology	22 April 2012	OpenDOAR
11	Federal University Ndufu Alike Ikwo (FUNAI)	FURA: Federal University Research Archive	17 June 2015	OpenDOAR Celestial
12	Michael Okpara University of Agriculture	DSpace at MOUAU	25 July 2013	Celestial

Going through the Records of ROAR it was found out that there are thirteen (13) intuitional repositories registered under twelve (12) organizations from Nigeria. On comparison with the records of OpenDOAR it was also found that there two (2) more additional repositories registered by University of Ibadan and Michael Okpara University of Agriculture making 23 as total number of registered repositories from Nigeria.

Literature has confirmed the existence the twenty-one (21) repositories registered on OpenDOAR in Nigeria (Oguche, 2018) . However, in their article; "Promotional Strategies for Open Access Resources Discovery and Access" Anunobi and Ape (2018) stated that:

> "Universities including Federal University of Technology Owerri, African University of Science and Technology, Federal Universities of Agriculture Abeokuta and Makurdi were not listed in OpenDOAR. The explanation was that their repositories were locally hosted as the case with Federal University of Technology Owerri or that they have not registered to be harvested in the OpenDOAR".

After enquiry into the web site of the aforementioned universities, it was discovered that, Federal University of Technology Owerri has repository online using Dspace hosted by ATMIRE. African University of Science and Technology also has repository using Dpace hosted locally by the university library. Neither Federal Universities of Agriculture, Abeokuta no Federal Universities of Agriculture, Makurdi has repository on their main web site.

Therefore, there are twenty-five (25) institutional repositories online from Nigeria. Twenty-three 23 repositories were registered with OpenDOAR and ROAR by 17 Nigerian Universities as of 5th October 2018. The issues of functionality of the twenty-five (25) repositories is treated under 5.3 Technical and operational issues as well as policy adopted.

Deposit by each repository and total deposit by all repositories.

The following table display the summary of the total contributions of IRs in Nigeria and deposit by each repository and their statistical deposit by the type of information resources as extracted from their respective platforms on 29th September 2018.

Table 3: Summary of total deposit and statistic of the type of information resources deposited

Repository	Thesis /Dessirtation	Article	Book	Seminar and Conference Paper	Others	Videos	Image	Total
Afe Babalola University Repository	2	991	2	49	4	24	1	1,073
Ahmadu Bello University Institutional Digital Repository	8,351	166	10	49	-	-	-	8,576
American University of Nigeria (AUN) Digital Repository	4	31	3	25	81	-	-	144
Covenant University Repository	9,241						-	9,241
Federal University Oye-Ekiti Institutional Repository	111	360	46	24	631	-	-	1,172
The contents of Landmark University Repository	5	587	19	12	125	-	-	748
University of Jos Institutional Repository	119	1676		13	44	-	-	1,852
University of Ilorin Institutional Repository	1,178	-	-	-	-	-	-	1,178
University of Ibadan Institutional Repository			-	-	-	-	-	418
Federal University of Technology, Minna Institutional Repository	3885	359		86	145	-	-	4,457
Federal University of Technology Owerri (FUTOSpace) Repository	374	191	79	68	500	-	-	1,212
African University of Science and Technology Repository	297	8	-	26	-	-	-	331
University of Nigeria Nsukka UNN Repository 2 repositories	6,293	14,940	-	-	392	-	-	21,607
Covenant University Electronic Theses and Dissertation Repository	10							10
University of Lagos Institutional Repository	1,009	916	77	399	170	-	-	2,571
Total	21,642	20,256	239	776	2,152	45	1	54,590

After thorough investigation into the platform of the identified IR repositories, it was found that IRs in Nigeria contributed with sum of 54,590 information resources. University of Nigeria, NSUKKA has the highest deposit, while American University of Nigeria (AUN) Digital Repository has the lowest deposit.

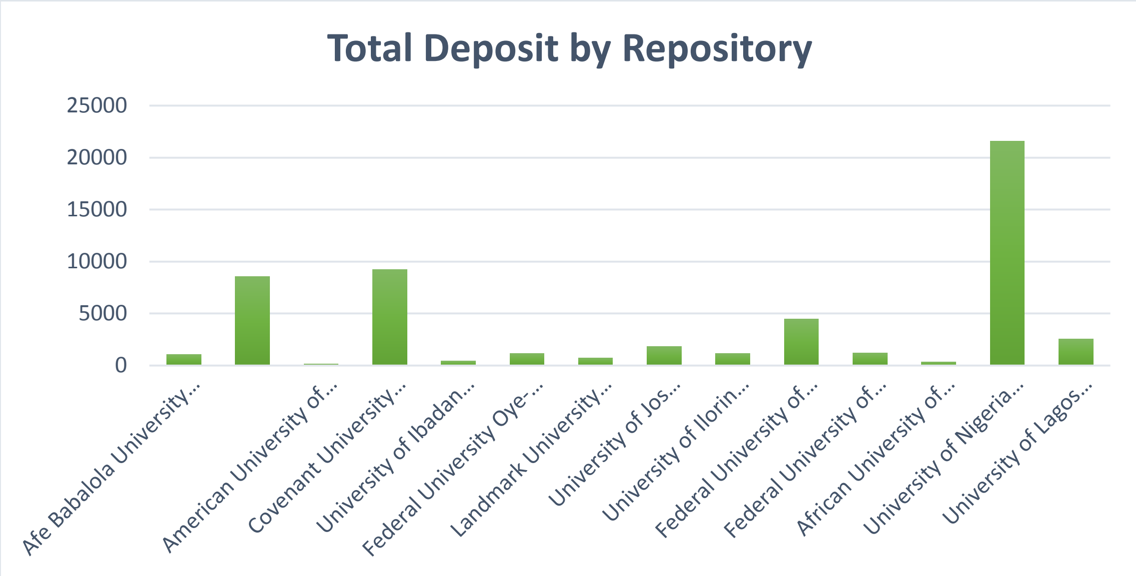

Figure 3: Summary of deposit by Repository in Nigeria

Contents analysis of the IRs in Nigeria.

Types and number of the content.

The major types of information resources deposited on the repositories in Nigeria are; theses and dissertations, journal articles, seminar / conference paper and books. Covenant University Repository has the largest deposit by theses and dissertations followed by Ahmadu Bello University Institutional Digital Repository and University of Nigeria Nsukka UNN Repository. While University of Nigeria Nsukka UNN Repository, University of Jos Institutional Repository and Afe Babalola University Repository have the highest deposit by journal articles respectively. All repositories accessed deposited 21,642 theses and dissertation, 20,256 journal articles, 239 books, 776 seminar and conference papers, 2,152 other resources, 45 videos and 1 image. Other resources include; lectures, lecture notes, courses Outline, speech, question papers, news papers data set and others. Table 3 above display the number of deposits by types for each repository as well as the total deposit by type for all repositories. The percentage deposit by types of information resources are demonstrated on figure 4 below.

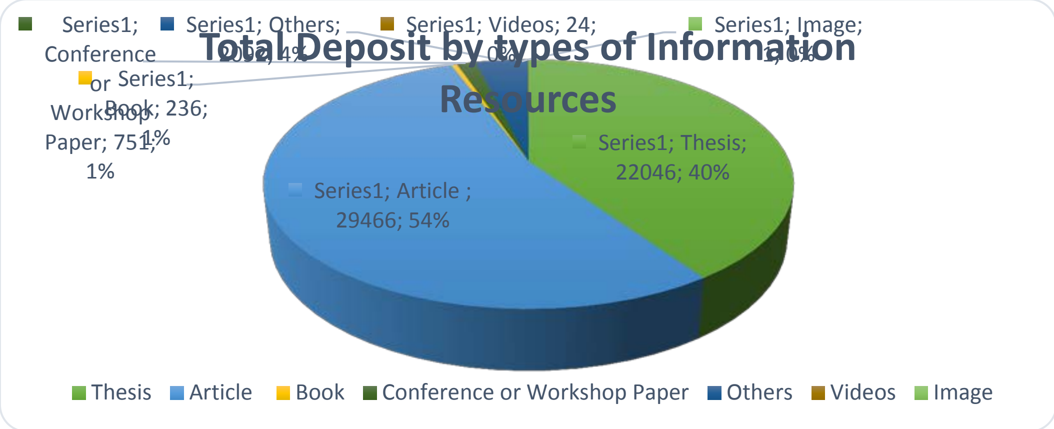

Figure 4: Analysis of Deposit by types of Information Resources in Nigeria

Currency of the content

The following figure indicated the number of information resources deposited on the repositories by year of publication:

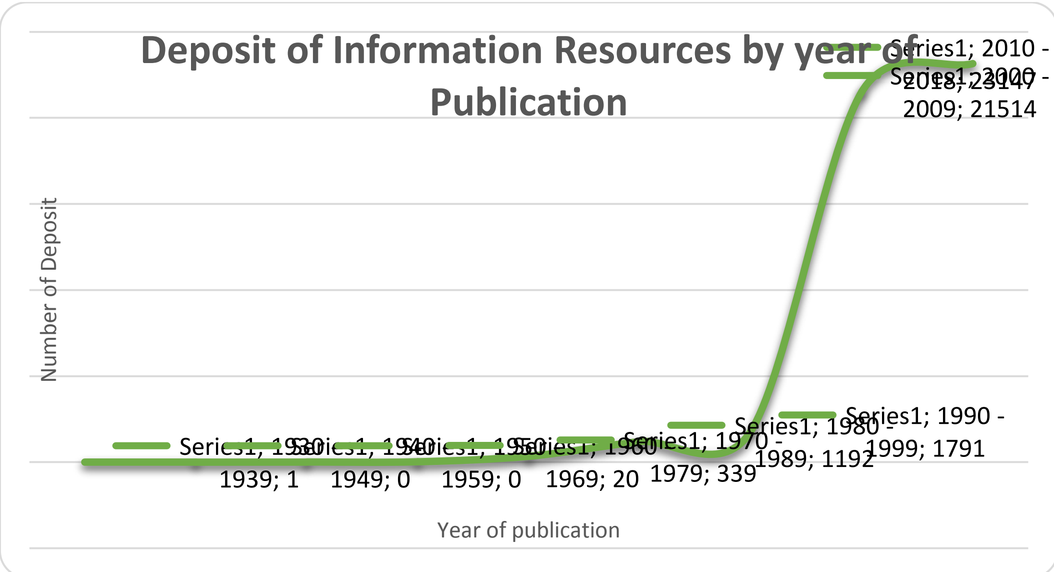

Figure 5: total deposit by year of publication

The finding on this point indicated there are publication from 1932 up to 2018. This mean that digitization plays vital role in the development of the content of IRs in Nigeria. Although there are number of repositories that did not include any option for identification of content by year of publication and some resources archived with unidentified year of publication but majority of the content of IRs in Nigeria were published between 2000 and 2018.

Technical and operational issues as well as policy adopted by IRs in Nigeria.

The technical issues include types of software uses by the repositories, falling links and the status of the policy.

Types of software use by repositories.

On investigation into OpenDOAR and ROAR, it was discovered that; Afe Babalola University, Covenant University and Landmark University Repositories use ePrint software. ABU Zaria Research Publications, Covenant University Electronic Theses and Dissertations Repository use unknown software while the rest of the 19 repositories use Dspace software.

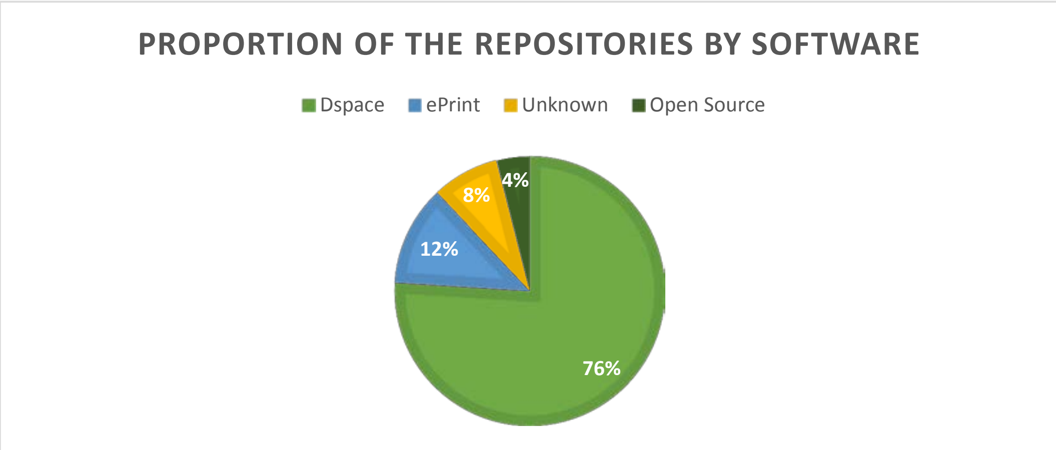

Figure 6: Proportion of the registered repositories by software

Failing links and Functionality of the repositories

After the functionality test of the identified URLs of the registered repositories on OpenDOAR and ROAR databases. The following were found

- One out of the sixteen (16) registered organization was a duplicate which is “Federal University Oye Ekiti” bearing the same name of organization and URL for the repository.
- Two (2) out of the twenty-one (21) registered repositories were duplicate and registered as Federal University Oye Ekiti Repository and dspace.funai.edu.ng. the two repositories are belonging to Federal University Oye Ekiti and Federal University Ndufu-Alike Ikwo respectively. The repositories were registered as second repository but appeared to have the same URL as the first repository in their perspective organizations. And they were not existing on the university web site.

- Three (3) repositories registered as Theses & Dissertations, ABU Zaria Research Publications and Open Resources under Covenant University, Ahmadu Bello University and University of Nigeria Nsukka respectively have non-functioning links (URLs) in other words, they are not functioning.
- The University of Nigeria Nsukka have two repositories online with the following links; http://www.repository.unn.edu.ng/ is registered on OpenDOAR but is unstable and http://www.unn.edu.ng/internals/repository is working 24 hours service hosted by Tenece Professional Services. Both repositories have different number of content and statistics.
- Four (4) registered organizations namely; Ebonyi State University, Abakaliki, Federal University Lokoja, Federal University Ndufu-Alike Ikwo, Federal University of Technology, Akure have nonfunctioning links (URLs).
- Others, i.e. Ahmadu Bello University Institutional Digital Repository, University of Ilorin are functioning but not on twenty-four hours service. They seem to be functioning only during working hours of the organization.

On RAOR, the URL of University of Ibadan Institutional Repository is functioning while URL of DSpace at MOUAU is invisible. Out of the twenty-five (25) repositories it has found that:

- Duplicate registered organization	=	1
- Duplicate registered repositories	=	1
- Nonfunctioning links	=	7
- Total registered functioning repositories	=	16

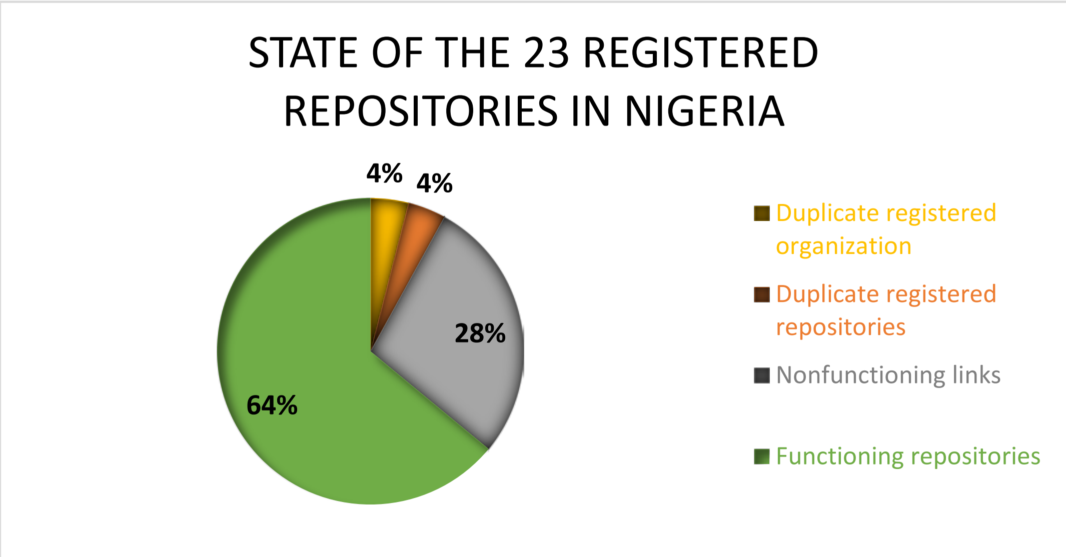

Figure 7: State of the 25 Nigerian institutional repository online

Each of the functioning URL has been monitored for more than one month to ensure of the state of functionality and time frame of work.

Policy adopted

Careful search for the policy adopted by any of the repositories on OpenDOAR, ROARMAP and site of the repositories was conducted. Only Landmark university repository appeared to have Metadata, Data, Content, Submission and Preservation policies identified on OpenDOAR. While only Covenant university repository was cited on ROARMAP from Nigeria. Apart from this two no other university has policy stated on any platforms.

IMPLICATION OF THE FINDINGS

The implications of the finding were viewed through reflection of the impact of the IRs on Webometrics Ranking of World Universities (WRWU) Site. The choice webometric ranking considered because it aims at promoting academic web presence and supporting "**Open Access initiatives"** to significantly increase the dissemination of scientific information and local content produced by universities to the global community. The process of webometric ranking "is not to evaluate websites, their design, usability or the popularity of their contents according to the number of visits or visitors. Web indicators are considered as proxies in the correct, comprehensive, deep evaluation of the university global performance, considering its activities and outputs and their relevance and impact" (RWU, 2018).

Table 4: describes the current methodology used by ranking web of universities 2018

INDICATORS	DESCRIPTION	SOURCE	WEIGHT
PRESENCE	Size (number of webpages) of the main webdomain of the institution. It includes all the subdomains sharing the same (central or main) webdomain and all the file types including rich files like pdf documents	Google	5%
VISIBILITY	Number of external networks (subnets) originating backlinks to the institution's webpages After normalization, the average value between the two sources is selected	Ahrefs Majestic	50%
TRANSPARENCY (or OPENNESS)	Number of citations from Top authors according to the source But see Transparent Ranking for additional info	Google Scholar Citations	10 %
EXCELLENCE (or SCHOLAR)	Number of papers amongst the top 10% most cited in 26 disciplines Data for the five-year period (2012-2016)	Scimago	35 %

Source: Ranking web of universities site (RWU), 2018

It is interesting to notice that almost all universities with functioning IRs were included among the first 40 ranked universities out of the 253 universities / high institution ranked by ranking web of universities in Nigeria. And they were also ranked between 1000 – 7000 in the world as indicated in Table 5 below:

Table 5: World Ranking Universities in Nigeria

Nigeria						
ranking	World Rank	University	Presence Rank*	Impact Rank*	Openness Rank*	Excellence Rank*
1	1076	University of Ibadan	571	844	1391	1682
2	2187	University of Nigeria	1551	3435	1491	2537
3	2230	Obafemi Awolowo University	3033	3791	2523	2226
4	2251	Covenant University Ota	1163	3152	2516	2594
5	2649	Ahmadu Bello University	1539	6136	2926	2339
6	2672	University of Lagos	3980	5367	2751	2513
7	2849	University of Ilorin	5461	6341	1859	2709
8	2896	University of Port Harcourt	8660	3609	2580	3472
9	3066	Federal University of Technology Minna	3197	6303	2901	3075
10	3097	Federal University of Technology Akure	2943	8515	2622	2625
11	3516	Federal University of Technology Owerri	2786	4878	3516	4120
12	3683	University of Agriculture Abeokuta	2808	6175	8474	3245
13	3707	University of Benin	13797	7433	2352	3804
14	3765	Bayero University Kano	14352	8960	3530	3323
15	3796	Ladoke Akintola University of Technology	17199	9470	2632	3370
16	3812	Lagos State University	6836	9359	3318	3472
17	3815	University of Uyo	23907	9459	3310	3143
18	3910	University of Calabar	11073	11182	2511	3245
19	4048	Nnamdi Azikiwe University	7154	9051	2625	4014
20	4157	University of Jos	4643	8737	3712	4120
21	4255	Adekunle Ajasin University	8809	6411	4463	4547
22	4266	University of Abuja	16904	11328	4396	3435
23	4406	Olabisi Onabanjo University (Ogun State University)	6738	10058	4030	4120
24	4409	University of Maiduguri	12965	11349	3976	3767
25	4733	Usmanu Danfodiyo University	8210	11520	4876	4075
26	4756	(1) Ebonyi State University	21568	12088	4350	3846
27	5032	American University of Nigeria	5002	8964	4796	4894
28	5418	Abubakar Tafawa Balewa University	18196	11870	4521	4547
29	5824	Delta State University Nigeria	20802	12183	4146	4751
30	6240	Niger Delta University	17656	12989	5474	4751
31	6255	Federal University Oye Ekiti Ekiti State	3680	7882	3739	6007
32	6369	Enugu State University of Science & Technology	13583	6097	5938	6007
33	6448	Federal University of Agriculture Makurdi	26726	12062	6241	4751
34	6567	Landmark University	4888	8371	4162	6007

WRU, 2018

DISCUSSION

From the above findings it shows that, it took Nigeria almost a decade to register 23 repositories, from 2009 to date. Even though there are more than 300 higher institutions in Nigeria (Oguche, 2018). The slow adoption appeared as a reflection of social-behavioral conflict before anything, as lamented by Harnad (2009), "many authors are often reluctant in publishing their works in institutional repositories", the same as all the stakeholders; managers, developers and decision makers. People always need mandate to motivate them before they can make any step. There is no mandate at all levels. If IRs became prerequisite for accrediting any programme by the National Universities Commission (NUC), there would be tremendous development of functioning IRs within short time. In other words, the lack of mandate and guiding policy at government, regulatory body and institutional levels contributed to low implementation and practice of IRs in Nigeria. Although, there is lack of encouragement and scholarly environment for authors to fully engage in self-archiving at institutional level but the number of articles being deposited by scholars is encouraging. Awareness of IRs by faculty members is increasing as observed by (Bamigbola, 2014).

From the issue of registration of the repository to the issue of web site usability and design (IRs interface), it shows that there is no adequate knowledge and skills for providing standard interface and efficient user information need. Some information need for web assessment are missing and many of the systems are deployed as default. Searching and browsing options are also limited. There is no detailed statistics especially on the interface; almetric, downloads, visits, data import and export and user interaction options are completely absent. One of the librarians contacted informed the researcher that; their duty as librarians is to upload the information resources but design and development of the platform is fully done by ICT unit, this shows where the problem lies. In a situation where there is no librarian with adequate ICT skills to develop the web interface, collaboration between librarians and ICT unit became necessary for effective design and development of standard IR interface. This also tallies with the finding of (Gbaje & Mohammed, 2017; Gbaje, Yani, & Odigie, 2018) that there is lack of skills on IRs management among librarians in Nigeria. Also, power supply and internet connections problems has been observed during the monitoring phase as reasons why some of IRs are not operating 24 hours service, as they may go down at any giving time. This also corroborated the finding of (Ifijeh, 2014; Ridwan, 2015; Oguche, 2018). Unstable power supply is still epidemic in Nigeria.

In a bid to identify the implication of the findings, the impact of IRs is viewed based on the performance of Nigerian universities on ranking web of universities site, the IRs have impact only at the level of Nigerian universities while it appeared to have less or no impact at the global level. Therefore, the web performance of research output of the universities is far below expectation according to their academic excellence. This show absent of good practice of IRs in Nigeria.

CONCLUSION AND RECOMMENDATIONS

Practice of IRs in Nigeria has started taking a new shape. Deposit into the repository is taking place with diverse distribution of different types of information resources. Authors started depositing their articles without any hesitations. But the process of registration of repositories on OpenDOAR or ROAR and deposition of information resources are still very slow. The absent of policy mandate is among the major challenges that are facing the practice of IRs, which if provided could have changed the slow-moving face of the development of IRs in Nigeria. Librarians are also lacking IT and professional skills for development and management of IRs. Implementation of policy mandate, more training for librarians on data curation, development and management of IRs as well as collaborations between libraries locally and internationally for the achievement of good practice of IRs were recommended. Finally, the universities are urged to consider substantial increasement of the quantity and quality of their research output through the repositories. Further study on IRs development in developing counties in Africa may provide the way forward from different perspectives.

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Ethno Medicine and Medicinal Plants Research of Bali Aga Ethnic Group in Bali Province as an Indigenous Knowledge Preservation Effort

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ABSTRACT

Indonesia is rich with tropical plants. Some of the plants are used as traditional medicine. This paper is a preliminary research that aims to identify the efforts that have been made in preserving indigenous knowledge on traditional medicine of Bali Aga ethnic group in Bali. The Ethno Medicine and Medicinal Plants Research of Bali Aga Ethnic Group in Bali Province is part of The National Research on Medicinal Plants and Traditional Medicine (RISTOJA) conducted in 2012 and 2015. The method used was qualitative, which the collected and analyzed data was obtained through observation and literature review. The result of this research was a documented data of the Bali Aga indigenous knowledge in using ethno pharmacological knowledge, traditional medicine and medicinal plants. It appeared that battra (traditional healers) knowledge was still original, despite slightly affected by external knowledge. This was supported by the fact that the informants reside in rural areas with limited access and information. The fact that this indigenous knowledge only mastered by old generation, and only 3 out of 5 battras have student to pass the knowledge on. This traditional medication has been developed, practiced widely and become a lifestyle, yet not many people know it. Some activities of preservation have been done by socialization, externalization, and combination.

Keywords: indigenous knowledge; preservation; ethno medicine; medicinal plants; traditional medicine

INTRODUCTION

Indonesia is a country with the second largest tropical forest in the world, and has high plant diversity so that it is known as one of 7 (seven) "megabio-diversity" countries. Distribution of flowering plants in Indonesia’s tropical forests has more than 30,000 species which means almost 12% of the total number of flowering plants in the world that amounting to 250,000 types (Ersam 2004). The huge bio-diversity stores potential nutritious plants that can be extracted and further utilized. World Conservation Monitoring Center has reported that Indonesia's territory is a region in which many types of medicinal plants are found with the number of plants that have been utilized reached 2,518 types (Ogata 1995).

In addition, Indonesia is also rich in diverse ethnicity and culture. It has been reviewed about 554 ethnic groups in Indonesia based on the authenticity of the language and ethnic origin (Hidayah 2015). Population Census by the Statistics Indonesia (BPS) in 2010 stated that the number of ethnic groups living in the territory of Indonesia amounting to 1331 with a total population of more than 200 million people (BPS 2010).

Each ethnic group has a different cultural repertoire. In each ethnic group, there are varieties of local wisdom, including utilization plants for traditional medicine. Knowledge of the use of medicinal plants (MP) by indigenous ethnic groups is very important for the development of traditional medical treatment and modern drug development because more than 50,000 plants are used for medicinal purposes which contributes to 33% of drugs produced worldwide (Schippmann, Leaman, and Cunningham 2002).

Globalised economy can cause a loss of traditional knowledge possessed by community (United Nations Environment Programme 1999). Another thing that is also faced by the Indonesian people is cases of germplasm and cultural piracy that are increasing from year to year. The threat of sustainability is caused by damaged habitat and lack of cultivation efforts of MP, particularly for types used in small quantities and slow regeneration abilities (United Nations Environment Programme 1999)

Basic medicinal plants (MP) data in Indonesia is still very minimal, especially information about types of MP related to local wisdom, use in potions, part of which is used and how to use it. Research to get phytogeographic data, utilization based on local wisdom, phytochemicals and socio-economics of MP is very important in building a basic data. The basic data can be used as important information in the MP cultivation process for increased productivity, as well as stub for the independence of plant-based drugs.

This paper aims to record the data, constraints in the process of preservation of knowledge, steps that can be done data in order to preserve the knowledge of medicinal plants, along with ethno medicine and medicinal plants of Bali Aga ethnic group.

LITERATURE REVIEW

Preservation

Preservation is a set of activities to preserve or protect something to prevent it from being damaged and to prolong its life. Preservation specialists in libraries, archives, and museum share a commitment to protect the cultural “property” in all forms and formats, or even including building environment that houses the raw material of history and the evidence that feeds our memories (Conway 2010).

Northeast Document Conservation Center defines preservation as the protection of cultural property through activities that minimize chemical and physical deterioration and damage and that prevent loss of informational content. It is explained that the main goal of preservation is to extend the existence of cultural property. Preservation encompasses on keeping a balance between collection-level activities that prevent damage such as environmental control, disaster planning, and proper housing, which can be difficult and/or costly to manage and item-level activities such as treatment, replacement, or reformatting that address existing damage which are often more easily understood and managed (Northeast Document Conservation Center 2015).

Indigenous Knowledge

Indigenous knowledge related to specific environmental knowledge, and rooted in particular places. Indigenous knowledge is fundamentally tacit and embedded in practice and experience and exchanged in the community through oral communication and demonstrations. Indigenous knowledge is referred to local wisdom which is exposed to all tangible cultural heritages or intangible.

Boven and Morashi (2002) suggested that indigenous knowledge refers to a complete body of knowledge, knowing and maintaining the history of interaction with the natural environment. A collection of understandings, interpretations and meanings are part of the cultural complexities that include language, naming and classification systems, practices for using resources, ritual, spirituality and worldview. Consequently, it provides the basis for local level decision-making about many fundamental aspects of day-to-day life to adapt to environmental or social changes.

Another concept about indigenous knowledge is essentially empirical knowledge, based on the experience of people who are directly involved with the natural world. Many terms are used to describe to IK; local knowledge, folk biology, folk knowledge, ethno ecology and traditional environmental knowledge (Morris 2010).

Knowledge Transfer

Knowledge transfer is defined as an activity that connects professionally across functions, platforms, and geographical distances. This connection helps in building a knowledge-sharing network formation that allows people to build relationships to share knowledge (Desouza 2011).

Knowledge transfer includes a variety of interactions between individuals and groups; within, between, and across groups (Paulin and Suneson 2012). The transfer of knowledge often adopts an analysis model which includes the existence of a source and a receiver, where knowledge is transferred from one party to another (Machado and Paulo Davim 2014).

There are four types of knowledge transformation based on Nonaka's SECI Model; socialization, externalization, internalization and combination.

	Tacit Knowledge	To	Explicit Knowledge
Tacit Knowledge	Socialization		Externalization
From			
Explicit Knowledge	Internalization		Combination

Figure 1: The Nonaka's SECI Model

1. **Socialization** :conversion of tacit knowledge to tacit knowledge (individual/team)
2. **Externalization** :conversion of tacit to explicit knowledge (individual)
3. **Internalization** :conversion of explicit knowledge to tacit knowledge (organization)
4. **Combination** :conversion of explicit knowledge to explicit knowledge (organization)

The first model is socialization, when a tacit knowledge is transformed into new tacit knowledge. Socialization aims at transferring tacit knowledge face-to-face through interactions, imitation and practice. When an experience is shared with the individual, through this experience will create new tacit knowledge for the individual itself. The second is externalization means when tacit knowledge is codified and turns into explicit knowledge so that knowledge can be shared with others, involving the personalization of a mental model into a concrete concept. A person who possesses tacit knowledge, then interprets that knowledge into a documented knowledge so that it can be shared and understood by others. Frequently, the stage of externalization is difficult to do, due to tacit knowledge is difficult to convert and codify.

The third stage is combination. In this stage newly explicit knowledge becomes widely disseminated, discussed, redesigned and modified. It is argued that the combination mode of knowledge conversion embodies the aggregation of explicit knowledge in meetings or conferences. Here, individuals or a group categorize and combine it in order to merge and then shape a new and enhanced conception. Such reconfiguration helps create new ideas (IAEA, 2011). The final stage is internalization, which means explicit knowledge is transferred to develop new tacit knowledge.

Knowledge Preservation

Knowledge preservation is a process of maintaining knowledge systems and organizational capabilities that protect and store perceptions, actions and experiences from time to time and allows recalling for the future use. Knowledge preservation is a constant struggle against the advance of time and the focus on the present and future, preservation of knowledge includes the processes necessary to capture, understand, archive, retrieve and protect explicit and tacit knowledge and to maintain its accessibility and readability in order to remain useful (IAEA 2011).

In the IAEA it is mentioned that knowledge preservation is critical precursor to knowledge transfer, the risk may come when not preserving the knowledge is the loss of tacit knowledge possessed by a competent person. Knowledge preservation efforts go through a cycle of: identification, capture, processing and organization, storage and retention, search, retrieval and representation, transfer and exchange, and maintenance and updating. The stage of knowledge preservation is storing the knowledge identified, captured and processed in robust and reliable devices to make it available for a long period of time, another stage of knowledge preservation is handling the maintenance and updating of knowledge base systems. Knowledge preservation requires information be stored in a format in which it is easily accessible and can be reused for future undertakings or decision making requirements.

RESEARCH DESIGN

The method used in this study is qualitative, where the collected and analyzed data was obtained through observation and literature review. The data collected for this study comes from articles and research report on ethno medicine and medicinal plants. Then this study was conducted to identify the efforts of preserving ethno medicine and medicinal plants of Bali Aga Ethnic using the SECI Model.

RESULTS

The main ethnic group in Bali is the Bali Aga ethnic group. Ethnic Bali Aga in the Province of Bali today still maintains tradition with utilizing the surrounding plants for treatment or health care. The ethnic community of Bali Aga is an ethnic community that identifies itself as a native of Bali (not a migrant). The Bali Aga community is administratively located in several districts, such as Gianyar, Bangli, and Karangasem. Danandjaja in Koentjaraningrat and Emmerson (1982) states that the Bali Aga ethnic group or also known as Bali Mula ethnicity (specifically Trunyan area) have the characteristics of living in the mountainous region.

The Bali Aga ethnic community generally makes a living as farmers. The plants planted are onions, cabbage, oranges, and so on. Koentjaraningrat (1971) argues that the Bali Aga community has not experienced significant influence from existence since Hindu-Majapahit ancient times although the religion is embraced by the majority of the people is Hinduism at present. The marriage system that is considered ideal is the marriage system of endogamy. Each region in the Bali Aga ethnic group has a "belief system" and different center of orientations, for example the people of the Trunyan Village believe Betara Beturuk as an orientation center and the people of Tenganan Village believe Betara Indra as their orientation center in conducting traditional ceremonies. Danandjaja in Koentjaraningrat and Emmerson (1982) states that the Trunyan belief system does not know "Leak" or creatures because they believe that gods are very hate such aggressive science. These two are locations where people still maintain the

authenticity of values and traditions that are considered as heritage. The two regions are often considered as the icon of the Bali Aga community. They also still maintain the form of traditional houses and art systems, such as dance, masks, woven handicrafts.
This is different from 3 other villages, such as Desa Pengotan, Jehem Village, and Puhu Village which have been influenced by Hindu-Javanese culture. Some of the areas targeted by RISTOJA 2015 were Trunyan Village (Kintamani District, Bangli District), Pengotan Village (Bangli District, Regency Bangli), Jehem Village (Tembuku Subdistrict, Bangli District), Puhu Village (District Payangan, Gianyar Regency), and Tenganan Village (Manggis District, Regency Karangasem). Some of these areas were selected because the people in the area are indigenous people of Bali Aga who still maintain the values and traditions of their ancestors, including wisdom local in treatment.

The battra (traditional healers) in each village are selected as informants according to certain criteria, which is having the ability and experience of treatment with medicinal plant as the main medium of treatment. “Battra” or also called “Jro Balian” is a person who is believed by the local community as a capable person treating ill people medically or non-medically. At present, Bali Aga ethnic community is trying to treat diseases by visiting doctors, hospitals, health centers and also use alternative medicine by visiting battra. The region is fertile and surrounded by tropical forests enriched with many plants, including medicinal plants, which are flourishing the region so that many herbs can be used, both by battra and society.

Battra Demography

According to the literature review it was found that the mapping of traditional Balinese Aga healers in the Bali region had found more than 50 battras, and 5 of them who successfully interviewed as informants were the most famous battra, had the most patient and considered as the most powerful used medicinal plants as media of treatment. The characteristics of the informants is shown in Table 1. While the distribution of "work" area from each informant is shown in Table 2.

Table 1: Characteristics of Informants

Characteristic	Proportion
Age	
<40 years old	0%
41-60 years old	20%
Education	
Uneducated	60%
Did not graduate from elementary school	20%
Graduated from university	20%
Number of patients	
0-5 patients	40%
6-15 patients	20%
15-30 patients	0%
>31 patients	40%

Table 2: Distribution of Work Area

Code	Name of Battra	Coverage Area of Practice	Number of Students
Battra 1	Men Minting	Banjar Mukus, Desa Trunyan, Kecamatan Kintamani, Kabupaten Bangli	0
Battra 2	Nang Seri	Banjar Dajan Umah, Desa Pengootan, Kecamatan Bangli, Kabupaten Bangli	1
Battra 3	I Nengah Darsana	Banjar Jehem Kaja, Desa Jehem, Kecamatan Tembuku, Kabupaten Bangli	0
Battra 4	I Made Perih	Banjar Carik, Desa Puhu, Kecamatan Payangan, Kabupaten Gianyar	1
Battra 5	Nengah Tanggi	Desa Tenganan, Kecamatan Manggis, Kabupaten Bangli	1

Herbal Potion

In this research all information relating to the use of plants in medication was collected, which included ingredients / composition, plants information and their uses, and the following identification and manufacture of herbaria. Potions that were successfully recorded amounted to 63, symptoms / diseases that can be treated by the battra related to illness and care for children (battra 1), specialized in cough pain (battra 2), cancer specialization (battra 3), bones and jaundice injury specialization (battra 4), and specialized in malaria (battra 5). The plants used in medicine amount to 86 plants, of which 85 were successfully identified and consisted of 85 species and 37 families.

DISCUSSION

Traditional medicine has developed widely in many countries and increasingly popular. In various countries, traditional medicine has even been used in health services, especially in the first strata health services. Developed countries, whose health care systems are dominated by conventional medicine, nowadays also accept the existence of traditional medicine, even though they call it complementary and alternative medicine, for example the United States and European countries. Traditional medicine is also widely practiced in various countries in Asia, such as China, Korea, India, Japan, including Indonesia (Siswanto 2012).

Indonesia has been blessed with abundance of biodiversity and among of them have drug effect. Herbal medicine has been used for generations to treat and maintain health. The knowledge of ethno medicine and medicinal plants are generally only known by older generations. It is important to preserve the knowledge of each ethnicity and their knowledge.

Externalization is when tacit knowledge is codified and turns into explicit knowledge, interprets that knowledge into a documented knowledge so that it can be shared and understood by others. The externalization activities undertaken in efforts to preserve the knowledge of ethno medicine of Bali Aga ethnic are by doing RISTOJA which resulted into research reports and established Museum of Jamu in Tawangmangu to display the map of jamu (herbal potions) raw material distribution and collection.

From the data, it is found that some battra are able to have at least one student. This is as the attempt to pass on the knowledge as the principal of socialization. Socialization is when tacit knowledge is transformed into new tacit knowledge, creating new tacit to other individuals. The Ministry of Health of Republic of Indonesia (MoH RI) also built Clinic of Scientification of Jamu "Hortus Medicus". This clinic carries out pre-post clinical research and synergizes to formal health care service. The clinic is supported by medical doctors, pharmacist, pharmacist assistants, laboratory technician, nurses and medical record person to learn how to diagnose a patient and give them a traditional herbal as the treatment. The socialization is also conducted by holding Annual Conference on Traditional Medicine and the program of Scientific Health Tourism, a blended program of education and recreation to encourage public interest on using safe and efficacious jamu as well as to conserve medicinal plant display, collecting sub-tropic and aromatic garden, herbarium collection, medicinal plant seed collection, integrated laboratory and scientification jamu clinic. The tour is supported by several facilities such as medicinal plant garden and traditional medicine training, library, and gift shop.

MoH RI also forming National Scientific Jamu Committee in order to preserve the ethno medicine knowledge, and to make herbal medicine become widely accepted by modern society as treatment that is scientifically proven. In the meantime, MoH RI also planning to build a virtual museum which combines the documentation of the research reports, Museum of Jamu, and Scientific Health Tourism as a media of promotion in order to enable people getting knowledge of this traditional medication using plants.

CONCLUSION

Ethno medicine and medicinal plant as traditional knowledge of Bali Aga Ethnicity is an activity of medical treatment by using herbal potions. It is just mastered by the old generation, although many young and modern generations know about the trend and have accepted it as their lifestyle. However, not many people know the variety of the plants, the ingredients, how to make the potions, and use it in scientific way.

Research on ethno medicine and medicinal plants at the Bali Aga ethnic is only one of the example since there are abundant numbers of ethnic which exist in Indonesia. The indigenous knowledge preservation activities of local wisdom have been conducted in various ways by socialization, externalization, and forming committee National Scientific Jamu Committee. Socialization preservation is done by passing it on from battra to the students, building Clinic of Scientification of Jamu "Hortus Medicus", having Scientific Health Tourism, and holding annual converence. While, preservation by externalization has been done by holding RISTOJA and establishing Museum of Jamu in Tawangmangu. As the combination, MoH of RI also in the process of building a virtual museum to collect all the explicit knowledge into new explicit knowledge that can accessed world widely through a homepage.

From the results of this study it is hoped that herbal medicine are known widely, can be accepted and developed scientifically. In addition, it is suggested that by getting the knowledge of the varieties of the plants, people will be eager to cultivate their own plants collection and help to preserve it from distinction.

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Factors That Influence Information Seeking Practices Via Social Media: A Study of Women Entrepreneurs

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ABSTRACT
The purpose of this study is to investigate factors that influence women entrepreneurs in seeking information through social media. The focus of the study is to find out how attitude and behaviour would influence women entrepreneurs in seeking information while using social media. A survey questionnaire was used to gather information from women entrepreneurs who have been using social media in their business ventures. The survey was distributed at an event conducted by Women Entrepreneur Network Association (WENA) named "WENA Global Mentoring Walk 2017". This event is a venue which provides opportunities for women entrepreneurs to discuss and share professional success stories and issues related to entrepreneurship. The population size is around 700 WENA members and using the random sampling technique, a sample size of 256 was chosen out of which 201 valid responses were analysed. Smart-PLS software was used for the data analysis process. Women entrepreneurs are inclined to social media and use it for seeking information apart from general business purposes. Social media usage in seeking information among women entrepreneurs are generally driven by their: i) attitude; ii) subjective norms and iii) perceived behavioural control. The findings in this study indicate significant correlations among the variables. Facilitating conditions and perceived behavioural control demonstrated stronger correlation while perceived ease of use is the weakest. This study provides a better understanding on usage, attitude and behaviour of women entrepreneurs in using social media platform for their business ventures particularly as information seeking tool. Therefore, government agencies such as SME, Ministry of Women, Family and Community Development could use these findings to develop strategic plans to provide suitable information services through social media platforms for women entrepreneurs to run their businesses.

Keywords: Information Seeking; Social Media; Women; Entrepreneur; Information; Malaysia.

INTRODUCTION

Information seeking is associated with a series of activities initiated by the need for information, proceeding to seek information from various resources, evaluate the information obtained, then later disseminate it. People used to seek information from traditionally printed and later from digital resources using various search engines such as Google, Yahoo, etc. These days, when most people can access social media, seeking information through social media platforms such as Facebook, Instagram and Twitter is more rampant. This is supported by other literature which have reported the role of social media in information seeking such as Abidin, Kiran and Abrizah (2013) and Hamid et al (2016).

In entrepreneurship ventures, social media had influenced the way people conduct their businesses. They have taken advantage of social media platform tools to reach people in dispersed geographical locations, providing interactive communication and social activities. Facebook, Instagram, Twitter, and other available social media platforms have extended their purposes from a social platform to that of a platform where users can seek information (Giade, Yanti and Noorhidawati, 2018). So far, very little research had been conducted to explore factors which might influence people in information seeking behaviour through social media, particularly focusing on business entrepreneurs. This study hence, seek to investigate the determinants that drive information seeking practices via social media platform.

LITERATURE REVIEW

Social media have changed the way people use information. The normal practice of using social media as a communication medium and reaching out to audiences instantaneously have now expanded. People have been reported to use social media platforms to seek information particularly from social media acquaintances or network of friends and followers. Hamid et al. (2016) had reported on the role of social media in seeking information among international students. Reaves and Bianchi (2013) also had reported that people can now easily find current information using social media. A study conducted by Jones (2015) indicated that micro-blog is used to seek information related to social events and current news. Social media have been used by entrepreneurs in supporting their business activities mainly in getting relevant information related to their businesses and for marketing purposes. Entrepreneurs' engagement in social media is important since social media networks through Facebook groups, friends and followers could provide a support system for entrepreneurs especially for those who are new to business activities. Less experienced entrepreneurs need information related to training in managing their businesses, financial support and potential target markets.

Factors that drive social media usage in information seeking practices were postulated by individual attitudes, subjective norms and perceived behavioural control adopting a decomposed Theory of Planned Behavior (Taylor and Todd, 1995). The decomposed model of Theory of Planned Behavior (TPB) is employed to provide a better understanding on attitudes when using social media for seeking information. Attitudes refer to the degree in which an individual has positive or negative thoughts to seek information through social media. In this notion, attitude is composed of:

i. Perceived ease of use – refers to the extent to which individuals' belief that seeking information in social media platform is free from effort.
ii. Usefulness – refers to individuals' likelihood to use social media as useful platform to seek information related to business activities

iii. Compatibility - refers to individuals' belief that social media is well-fitted and can be utilized as a tool for information seeking
iv. Credibility - refers to individuals' belief on trustworthiness of resources or messages gathered from social media.

Perceived behavioural control refers to individual perception on how easy or difficult it is to use social media in information seeking. It can be decomposed into:

i. Self-efficacy - refers to individuals' belief on their capabilities to seek information using social media platform
ii. Facilitating conditions - refers to the state that could facilitate in seeking information when using social media platform

Subjective norms refer to individuals' belief that an important person or group of people will approve and support the use of social media in seeking information. It is normally determined by the perceived social pressure from others for an individual to behave in a certain manner and their motivation to comply with these views.

RESEARCH DESIGN

Instrument Development

This study used a five-point Likert-type measurement scale decoded as; 1=strongly disagree, 2=disagree, 3=undecided, 4=agree and 5=strongly agree. There were two questions decoded as 1=never, 2=rarely, 3=sometimes, 4=often and 5=very often. The questionnaire consisted of 56 questions including demographic information. The questions were adopted from previous studies related to social media such as Cheng et al. (2015), Taylor (1995), Juniwati (2014), Norazah et al. (2011), Shih et al. (2004) and Rana et al. (2015). Table 1 shows the questionnaire items for each construct used and the references they were adopted from.

Table 1: Variables and Items of the Instrument

Variables	Items	References
Attitude	6	Fishbein and Ajzen (1975)
Perceived Ease of Use	5	Davis (1989)
Usefulness	6	Davis (1989)
Compatibility	3	Moore and Benbasat (1991)
Credibility	6	Yaakop et al. (2012)
Perceived Behavioural Control	5	Taylor and Todd (1995)
Self-Efficacy	6	Bandura (1986)
Facilitating Conditions	5	Taylor and Todd (1995)
Subjective Norms	4	Fishbein and Ajzen (1975)
Usage of Social Media	5	Taylor and Todd (1995)

Sampling Technique

The study employed a random sampling method from a total of 700 WENA memberships. Based on this, 256 sample size was required according to the Krejcie and Morgan (1970). Table 2 shows the distribution of the survey responses.

Table 2: Survey Response Rate

Total Sample size	256
Responses	248
Valid responses	201
Invalid responses	47
Response rate	78.5%

Data collection

The survey questionnaires were distributed at a WENA event namely WENA Global Mentoring Walk 2017. The event is a platform for businesswomen to share their experiences and discuss issues related to their business activities. It also allows impromptu mentorship to expand and strengthen the existing network among them. Out of 248 completed questionnaires, 201 were valid and used for the data analysis.

Pilot Study

To assess the reliability and validity of the survey instrument, a pilot-test was conducted. The reliability of the instruments was tested using Cronbach's Alpha statistic. Varimax rotation was used to check the construct validity of the scales, which included discriminant and convergent validity. The instrument was pilot-tested among 30 business women entrepreneurs. A high reliability coefficient is scaled at 0.90 or above, 0.80 to 0.89 as very good and 0.70 to 0.79 as adequate. In the process of assessing construct and face validity, a few items were deleted. Several items were rephrased to improve readability of the sentences. The questionnaire was bilingual in English and Malay languages to facilitate the answering of the survey questions by the respondents.

RESULTS

(a) Demographic

Table 3 shows demographic data of the 201 respondents. The highest number of respondents (72.6%) were from the age group of 21-30 years old. They were mainly of Malay ethnicity (92.5%) and with Bachelors' degree qualifications (61.2%).

Table 3: Demographic information of respondents.

Measures	**Values**	**Frequency**	**Percentage (%)**
Age	<20	4	2.0
	21-30	146	72.6
	31-40	32	15.9
	41-50	13	6.5
	>51 above	6	3.0

Ethnicity	Malay Chinese India Others	186 3 0 12	92.5 1.5 0 6.0
Education	PMR/SRP/LCE SPM/STPM Diploma/Professional Certificate Bachelor's Degree Master's Degree Others	5 10 32 123 29 2	2.5 5.0 15.9 61.2 14.4 1.0
Monthly household	Below RM1000 RM1001-RM3000 RM3001-RM5000 Above RM5000	13 76 53 58	6.5 37.8 26.4 28.9

More than two thirds of the respondents (37%) earn monthly household income equivalent to Malaysian currency RM1,001 to RM3,000. Findings indicated that majority of the respondents actively partake in business as a part time venture. The nature of their businesses was mainly retailing such as mobile accessories, food & beverages, apparel, skincare products, perfume, wedding planner, home decoration, and pre-loved item. Apparel retailing seems to be a popular business among 26.7% of the respondents.

Table 4: Nature of Business among Respondents

Nature of business	**Frequency (N)**	**Percentage (%)**
Mobile accessories	10	11.1
Food and beverages	11	12.2
Skincare product	22	24.4
Apparel	24	26.7
Home decoration	12	13.3
Pre-loved items	8	9.0
Event organizer	3	3.3
Total	**90**	**100**

Notes: Open-ended questions

(b) Validity & Reliability

To validate measurements and to test the hypothesis, Partial Least Squares (PLS) was applied using Smart-PLS 3.2.7 software. Confirmatory factor analysis (CFA) was applied to evaluate the measurement model for all constructs and to ensure the measured variables in the model are consistent and systematic (Hair et al., 2010). To assess the reliability of each item and construct, convergent validity and discriminant validity of the indicators were used to estimate the measurement model. The results of convergent and discriminate validity are shown in Table 5 and Table 6. The reliability and validity were tested by analysing outer loadings, Cronbach's Alpha (α), Composite Reliability (CR) and Average Variance Extracted (AVE).

Table 5: Results of Convergent Validity Testing

Construct	CA	CR	AVE
Attitude	0.93	0.95	0.75
Perceived Ease of use	0.81	0.87	0.57
Compatibility	0.78	0.87	0.69
Usefulness	0.85	0.90	0.70
Credibility	0.88	0.91	0.67
Subjective Norms	0.89	0.93	0.76
Self-Efficacy	0.86	0.91	0.71
Facilitating Conditions	0.90	0.93	0.72
Perceived Behavioral Control	0.91	0.93	0.78
Usage of Social Media	0.89	0.92	0.70

Table 6: Results of Discriminant Validity

Constructs	Correlations Constructs									
	1	2	3	4	5	6	7	8	9	10
1.Attitude	**0.86**									
2.Compatibility	0.63	**0.83**								
3.Credibility	0.76	0.70	**0.82**							
4.Self-Efficacy	0.78	0.63	0.73	**0.84**						
5.Facilitating Conditions	0.84	0.67	0.79	0.78	**0.85**					
6.Perceived Behavioural Control	0.78	0.56	0.65	0.70	0.73	**0.88**				
7.Perceived ease of Use	0.48	0.68	0.51	0.57	0.59	0.51	**0.76**			
8.Subjective Norms	0.84	0.56	0.70	0.69	0.77	0.84	0.45	**0.87**		
9.Usefulness	0.65	0.77	0.60	0.57	0.63	0.61	0.67	0.58	**0.84**	
10.Usage of social media	0.76	0.59	0.67	0.73	0.67	0.83	0.50	0.79	0.59	**0.84**

Notes: For adequate discriminant validity, the diagonal elements should be more than the corresponding off-diagonal elements

(c) Structural Model

Figure 1 shows the structural model with path coefficients consisting of p-values and R^2 value. All indicators for the outer loadings are above the threshold value of 0.5. The primary criteria to assess the structural model are the R^2 of endogenous latent values. The R^2 value for attitude is 0.63 which is considered high, whereas the R^2 value for perceived behavioural control is 0.58 which is considered moderate, while R^2 value for usage of social media is 0.73 which is also considered high.

(d) Hypotheses testing

The results of the structural model are shown in Table 7, where the beta values of the path coefficients indicate the combined effects of the exogenous latent variables on the endogenous latent variable. The results showed the following:

(i) *perceived ease of use had a significant effect on attitude (*â = -0.03, p = 0.63), thus not supporting H1
(ii) *usefulness* had a significant effect on *attitude (*â = 0.32, p = 0.00), thus supporting H2
(iii) *compatibility* had a significant effect on *attitude (*â = -0.02, p = 0.79), thus not supporting H3
(iv) *credibility* had a significant effect on *attitude (*â = 0.59, p = 0.00), thus supporting H4
(v) *self-efficacy* had a significant effect on *perceived behavioural control (*â = 0.32, p = 0.00), thus supporting H5
(vi) *facilitating conditions* had a significant effect on *perceived behavioural control (*â = 0.49, p = 0.00), thus supporting H6
(vii) *attitude* had a significant effect on *usage of social media* in seeking information *(*â = 0.21, p = 0.05), thus not supporting H7
(viii) *subjective norms* had a significant effect on u*sage of social media* in seeking information *(*â = 0.21, p = 0.04), thus supporting H8
(ix) *perceived behavioural control* had a significant effect on *usage of social media* in seeking information *(*â = 0.49, p = 0.00), thus supporting H9

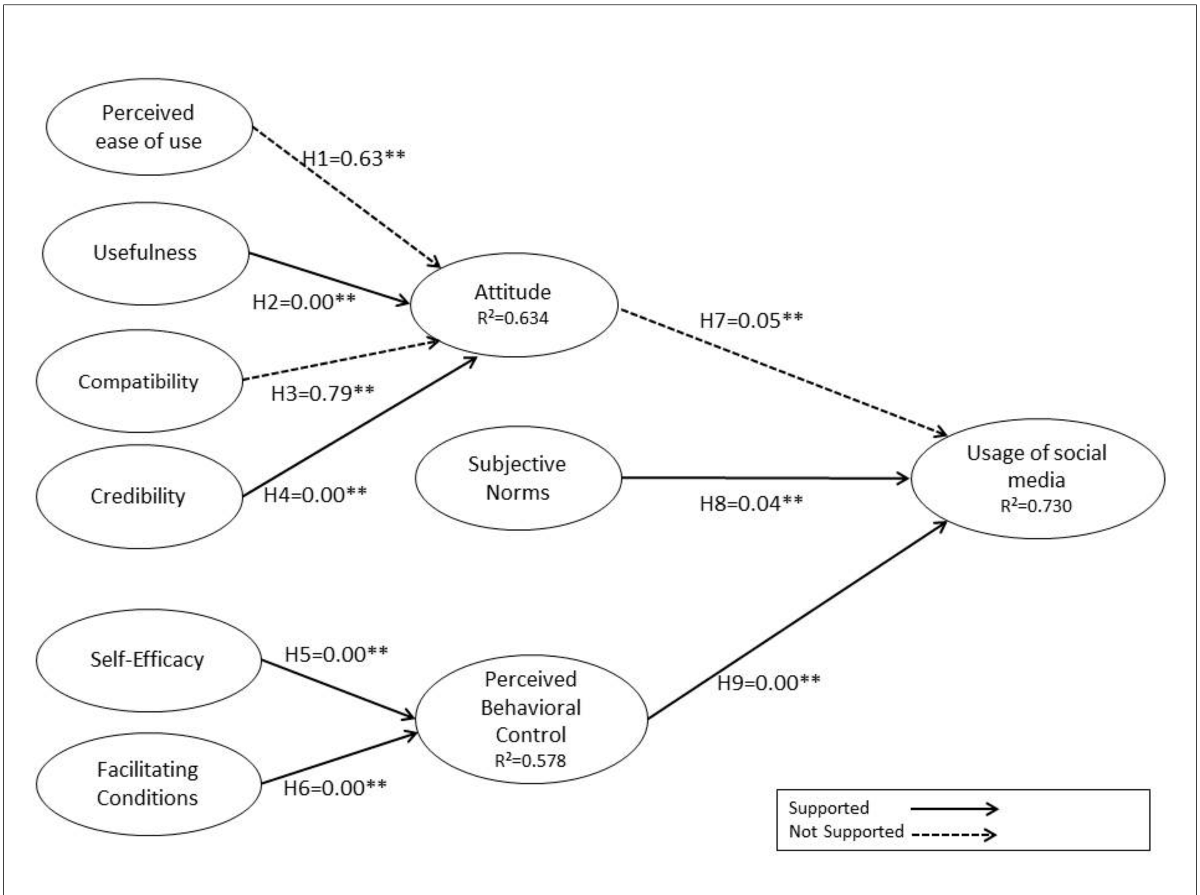

Figure 1: Path Analysis of the Structural Model

CONCLUSION

The findings in this study are useful to provide insight on information behaviour of the participants. This study can also be useful to government agencies to provide better understanding of information behaviour among women entrepreneurs and in designing related information services to support the needs of women entrepreneurs who are actively doing businesses via online. For information providers and information centres, this study could help in preparing relevant information or resources through social media platform. This study is however limited by the small sample size focusing on women entrepreneurs. Hence, generalization of the results should be treated with caution. The research framework only reports the usage of social media as information seeking platform at an individual level. The influence of higher level constructs such as organisations or government on social media usage needs further investigation.

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Gender divergence in two Indian LIS Journals: A Bibliometric study

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ABSTRACT

The present study aims to explore the publication trends and the gender divergence in Indian LIS research. The prime objective of the study is to identify the nature of authorship pattern in LIS literature and examine the research productivity among male and female authors. Further attempts are also made to identify the relationship between the research productivity and professional engagement of authors. The articles are examined from the perspective of authors' gender and the Influence of gender has been assessed with respect to at individual and collaborative levels. Findings of the study showed that the two-authored papers are top in the list having 212 (48.73%) articles followed by single authored articles 142 (32.64%). The most of the articles are published by male authors (73.33%) and only 26.66% of articles are published by female authors. Further, it is found that the male authors are more productive even as LIS teachers (81.85%), LIS professionals (72.01%) and Research scholars (54.09%). From the findings of the study, it is found that there exists a gender divergence in Indian LIS research.

Keywords: Gender divergence; Library and Information Science; Research Productivity; India.

INTRODUCTION

Research in Library and Information Science (LIS) in India has been a sporadic activity for about three decades increasing slowly until around 1986. Developments in network technologies, scholarly communication, and Indian policy, National Knowledge Commission Report are challenging libraries and information science to find new ways to engage, interact with communities and enhance research output. Library and Information science faculty and librarians are responding with service innovations in areas such as bibliometrics and research data management. Surveys have investigated research productivity/output within India and other research services globally with small samples. Faculty members and librarians need a multifaceted understanding of the research environment. Research and development activities in science and technology and other fields of human endeavour have contributed significantly to a phenomenal growth in research themes. This has resulted in an information explosion and interdisciplinary approaches to research over the last seven decades. These developments have placed new demands on the services offered by libraries and information centres and conducting research having direct or indirect bearing on these services (Mangi, 2014).

Gender bias is not localised to a particular part of the world but is prevalent in all societies of the world (Baro et al., 2009). Gender is also an obstacle, particularly for females in academic work, an area which has been dominated by men for a long time (Vanarensbergen et al., 2012). Over the years, the existence of gender parity in academic research has resulted in low contributions from females compared to males (Schroen et al., 2004; Ritchie, 2009; Kaw and Ahmad, 2013).

Women remain underrepresented in academic positions and that a lower percentage of women are published at each academic level. However, it is not always gender disparity that negatively impacts research productivity of researchers (Bentley, 2012; Hopkins et al. 2013). The issue of gender is not unique to a particular part of the world, but it is consciously or handled differently in various countries and spheres of the society. Women often claim that what their male counterpart can do, they can do better (Baro, 2009).

Despite continues scientific accomplishments of women in global movement toward the gender equality, women researchers are still underrepresented in professional scientific activities (Ebadi and Schiffauerova, 2016). Women's contribution to science is one of the social development indicators throughout the world (Sotudeh & Khoshian, 2014), but their scholarly activity is also reported to be characterised by low representation in science in general and in engineering, technology and mathematics in specific (Murphy, et al., 2007; Arruda, et al., 2009). Productivity of academic women seems to be lower than their male peers worldwide, even in the developed counties with high gender developed index where issues such as gender discrimination are less significant and women face fewer difficulties and barriers in their career compared to those in a developing country (Mozaffarian and Jamali, 2008)

However in India also many studies have absorbed gender disparities. (Kaw and Ahmad, 2013) the study reveals the effect of conflict on women in the scientific world. There are significant differences by gender in terms of research productivity. (Sampath Kumar, et al., 2018) investigate the gender disparities in LIS research productivity in India. The study reveals low participation of females in LIS research compared to males. As can be seen, while most studies have focussed on gender disparities in academia, some newer studies have investigated the role of gender in academic performance of researchers. Keeping in the view, the divergence of gender and authorship pattern in various disciplines the present research study has been undertaken to investigate the gender divergence Indian LIS research.

LITERATURE REVIEW

Numerous studies have been carried out by various researchers, professional and gender divergence in library and information science research.

Puuska (2009) has analyzed 1,367 scholars who worked at the University of Helsinki, Finland, during the period 2002–2004. Study has shown that male scholars are more productive than female scholars in all types of publications. It is observed that there is a remarkable distinction, men publishing on average 1.9 times more monographs, and 15–42 % more articles than women. In both fractionalized and non-fractionalized total output, the publishing productivity of male scholars is about 1.4 times higher. Only in the case of conference paper, there is no statistically significant difference between genders.

Borrego et al. (2010) identifed "differences in the amount of scientific output and the impact of publications, in terms of citations, according to gender". The study reveals that females have low research productivity. However, the articles by female researchers "were cited significantly more often, even when self-citations were excluded"

Mendlowicz, et al., (2012) investigated the gender gap in the authorship of psychiatric literature as a surrogate marker of gender imbalance within Brazil and Latin America. The study found that the proportion of overall female authorship grew significantly from 40% (in 2001–2002) to 49% (in 2007–2008). While the average annual increment for original articles was virtually null (.01%), for the non-original articles the corresponding figure was 3.7%. study also reveals that the chance of a woman being first author was about three times greater in original papers as compared to non-original (review) ones at the beginning of the study period. The chance of a woman being first author was about three times greater in original papers as compared to non-original ones at the beginning of the study period; this differential declined by 11% per year during this period.

Davarpanah and Moghadam (2012) reported that females accounted for 13 percent of the articles indexed in ISI databases during the study period. There is a gap of approximately 87% in research productivity between Iranian male and female academics in favour of men. An analysis of Indian scientists' publications also revealed that the gender imbalance in favour of men. The 81.83% of the Iranian female authored articles are indexed in the Science Citation Index database that represent technological-scientific disciplinary areas and the remaining (18.17%) are covered by Social Sciences Citation Index and Arts & Humanities Citation Index.

Barrios et al., (2012) identified possible gender inequalities in the scholarly output of researchers in the field of psychology in Spain. A sample of 522 papers and reviews published in 2007 were extracted from the Thomson ISI Web of Science. The data showed that women were the first authors of a lower proportion of papers than expected and signed as a corresponding author less frequently than men. The presence of women, the collaboration pattern and the impact of these scientific publications were analyzed. The results showed that the average number of female researchers per paper was 0.42 and that 42.3 % of the papers had a female researcher as the first author.

Eloy et al. (2013) found that, among academic otolaryngologists, men had significantly higher h indices than women. In addition, men had higher research productivity rates than women at points early in their career. Nonetheless, the productivity of women equalled or even surpassed those of men as they moved up the career ladder. Although gender disparities seem to be diminishing in academia during the past 30 years or so, female attrition rates remain high.

Paul-Hus et al. (2014) study revealed the Russian research output, productivity, collaboration and scientific impact over the 1973–2012 period clearly shows that women in Russia were under-represented in terms of their contribution to research output and scientific impact in almost all disciplines, all disciplines taken together, women account for less than 30% of fractionalized authorship over the studied period with Mathematics and Physics having the largest gap. However, for Psychology, the contribution of women to published articles averages 45%, reaching more than 50% after 2000, making it the most gender-equal discipline of those in the analysis.

Eigenberg and Whalley (2015) analysed the 8 criminological journals spanning 2007 to 2013. This study found that women's participation in the publication process has increased from earlier rates but remained below that of their male contemporaries. Men were more likely than women to have single-author publications (Men 25.6% vs. Women 16.7%). women's rates of participation in journal publications increased, but this did not necessarily close the gap, because the rate of men's publishing also increased significantly over the 6-year period. This growth corresponded with general trends of increasing co-authorship, suggesting that the recent gains in women's representation do not indicate decreases in gender disparities.

While most studies have focussed on gender disparities in academia, few recent studies have investigated the role of gender in academic performance of researchers. The review of literature clearly shows that gender divergence exist in different fields. But there are very few studies conducted by Indian LIS researchers to identify the gender divergence. To fill this gap this study has been conducted to know the research productivity of male and female authors in LIS research.

OBJECTIVES OF THE STUDY

The study has been conducted with in the following research objectives:

- To identify the nature of authorship pattern in Indian LIS scholarly literature.
- To examine the relationship between the research productivity and professional engagement of authors.
- To know the research productivity of male and female authors in LIS research.
- To know the most productive university as well as state based on the number of research publications.

SCOPE AND METHODOLOGY

The Scope of the study is confined to only two prominent LIS journals published in India during 2013 -17 viz., *i) Annals of Library and Information Studies and ii)DESIDOC Journal of Library and Information Technology.* The above promising journals have been considered for the study since they have long traditional history of scholarly publications in Indian LIS discipline. Further these two journals are also included in the Scopus citations database. A total of 435 articles including research articles, review articles, case studies and technical papers were examined from the perspective of authors' gender and the influence of gender were assessed with respect to at individual and collaborative levels. Biographical notes provided at the end of each article and authors' details given in the first page were the chief source of information regarding the respective the author's gender, affiliation, university and country. The required details were extracted from the articles and saved in a separate file for further analysis. The details regarding number of articles, authorship pattern and author productivity are collected to fulfil the stated research objectives. Furthermore, the professional status of authors has been examined under four categories: LIS teachers, LIS professionals, Research scholar and Others (Technician, PG student, Mangers, Directors, and Scientist etc).

ANALYSIS AND INTERPRETATION OF DATA

Table 1: Research productivity by male and female authors

Year	Number of articles	Number of authors	Male authors	Female authors
2013	87	160	122 (76.25)	38 (23.75)
2014	94	185	134 (72.43)	51 (27.56)
2015	90	171	130 (76.02)	41 (23.97)
2016	80	160	112 (70)	48 (30)
2017	84	164	118 (71.95)	46 (28.04)
Total	**435**	**840**	**616 (73.33)**	**224 (26.66)**

Note: Number within the parenthesis indicates the percentage

Table 1 reveals the research productivity by male and female authors, during 2013 to 2017. A total of 435 articles are published in 2 prominent Indian LIS journals. It is clear from the table that a total of 840 Indian authors have contributed their research work in the Indian LIS journals. Of these, 616(73.33%) authors are males and 224 (26.66%) are females. It is also evident that every year, the involvement of male authors is higher compared to female authors. The finding is in line of Gul et al., (2016) where they reported that the male authors have published more than female authors.

Table 2: Year wise authorship pattern

Year	No. of. Articles	No. of authors	Solo author	Two authors	Three Authors	Four Authors	Five and above authors
2013	87	160	32 (36.78)	42 (48.27)	11 (12.64)	-	2 (2.29)
2014	94	185	29 (30.85)	46 (48.93)	12 (12.76)	7 (7.44)	-

2015	90	171	33 (36.66)	39 (43.33)	14 (15.55)	2 (2.22)	2 (2.22)
2016	80	160	25 (31.25)	39 (48.75)	10 (12.5)	3 (3.75)	3 (3.75)
2017	84	164	23 (27.38)	46 (54.76)	12 (14.28)	2 (2.38)	1 (1.19)
Total	**435**	**840**	**142 (32.64)**	**212 (48.73)**	**59 (13.56)**	**14 (3.21)**	**8 (1.83)**

Note: Number within the parenthesis indicates the percentage

Table 2 represents the authorship pattern in LIS journal articles. The data shows that two authored papers are top in the list with 212 articles (48.73 %) followed by the single authored papers (142- 32.64%), three authored papers (59- 13.56%) and four authored papers (14 - 3.21%). Hence it is revealed that collaborative research has dominated in the field of LIS research.

Table 3: Gender wise authorship pattern by year

Year	No. of Articles	Male	Female	Male & Male	Male & Female	Female & Female
2013	87	30 (34.48)	1 (1.14)	31 (35.63)	20 (22.98)	5 (5.74)
2014	94	20 (21.27)	9 (9.57)	34 (36.17)	26 (27.65)	5 (5.31)
2015	90	28 (31.11)	5 (5.55)	36 (40)	17 (18.88)	4 (4.44)
2016	80	21 (26.25)	4 (5)	27 (33.75)	21 (26.25)	7 (8.75)
2017	84	16 (19.04)	7 (8.33)	32 (38.09)	23 (27.38)	6 (7.14)
Total	**435**	**115 (26.43)**	**26 (5.97)**	**160 (36.78)**	**107 (24.59)**	**27 (6.20)**

Note: Number within the parenthesis indicates the percentage

Five different combinations of authorship patterns are made in the study. Two combinations involve an author's work at individual levels (male only or female only) and three represent the involvement of authors in groups (male-male; female-female; and male- female). It is evident from table 3 that most of the works are produced in a team comprised of male and male authors (36.78%), followed by the works male only (26.43%) and male and female authors (24.59%). Further, the contribution of female authors is lower regardless of whether they worked at an individual level (5.97%) or in association with other female authors (6.20%).

Table 4: Research productivity and professional engagements of male and female authors

Designation	**Number of authors**	**Male**	**Female**
LIS Teachers	226 (26.90)	185 (81.85)	41 (18.14)
LIS Professionals	293 (34.88)	211 (72.01)	82 (27.98)
Research Scholars	61 (7.26)	33 (54.09)	28 (45.90)
Others*	260 (30.95)	187 (71.92)	73 (28..07)
Total	**840**	**616 (73.33)**	**224 (26.66)**

* Technician, PG student, Mangers, Directors Etc.

Note: Number within the parenthesis indicates the percentage

The table 4 shows the research productivity and the professional engagements of male and female authors. It is evident from the table that the male authors dominated over female authors even as LIS teachers (81.85%) as well as LIS professionals (72.01%). In order to substantiate this data, the Chi-square test has been employed. The test clearly indicates that there is a significant association between the research productivity and also professional engagements of male & female authors (x2 =20.465, p=.000).

Table 5: Research productivity of male and female authors cross tabulated by states and Union Territories

State	Article	Authors	Male	Female
New Delhi	103 (24)	159	116 (72.95)	43 (27.04)
Karnataka	46 (10.72)	87	59 (67.81)	28 (32.18)
Maharashtra	41 (9.55)	70	53 (75.71)	17 (24.28)
West Bengal	30 (6.99)	47	44 (93.61)	3 (6.38)
Uttar Pradesh	22 (5.12)	36	22 (61.11)	14 (38.88)
Jammu & Kashmir	20 (4.66)	28	26 (92.85)	2 (7.14)
Kerala	20 (4.66)	47	28 (59.57)	19 (40.42)
Tamil Nadu	20 (4.66)	38	34 (89.47)	4 (10.52)
Andhra Pradesh	16 (3.72)	18	9 (50)	9 (50)
Punjab	16 (3.72)	18	15 (83.33)	3 (16.66)
Rajasthan	14 (3.26)	17	16 (94.11)	1 (5.88)
Telangana	14 (3.26)	19	14 (73.68)	5 (26.31)
Chandigarh	10 (2.33)	19	12 (63.15)	7 (36.84)
Chhattisgarh	8 (1.86)	14	13 (92.85)	1 (7.14)
Haryana	8 (1.86)	9	8 (88.88)	1 (11.11)
Himachal Pradesh	7 (1.63)	7	7 (100)	-
Jharkhand	6 (1.39)	8	8 (100)	-
Odisha	5 (1.16)	18	12 (66.66)	6 (33.33)
Uttarakhand	5 (1.16)	5	3 (60)	2 (40)
Gujarat	4 (0.93)	6	4 (66.66)	2 (33.33)
Madhya Pradesh	4 (0.93)	5	5 (100)	-
Mizoram	4 (0.93)	7	5 (71.42)	2 (28.57)
Assam	2 (0.46)	3	3 (100)	-
Bihar	1 (0.23)	2	2 (100)	-
Manipur	1 (0.23)	1	1 (100)	-
Sikkim	1 (0.23)	2	2 (100)	-
Tripura	1 (0.23)	1	1 (100)	-
Total	**429**	**691**	**522 (75.54)**	**169 (24.45)**

Note: Number within the parenthesis indicates the percentage

Table 5 table shows that the contribution of articles by male and female authors of different state and union territories. During the study period, author from New Delhi have published 103 articles and secured first place in the list. Karnataka stood in the second place by publishing 46 articles, followed by Maharashtra 41articles. Table also reveals that researchers from Bihar, Manipur, Sikkim and Tripura have published least number of articles in the Indian LIS journals. It is observed that the male authors (75.54%) are dominated the female authors (24.45%) in most of the states in India.

Table 6: Research productivity of male and female authors cross tabulated by various countries

Country	**Article**	**Authors**	**Male**	**Female**
India	429 (85.28)	691	522 (75.54)	169 (24.45)
Nigeria	22 (4.37)	66	37 (56.06)	29 (43.93)
Sri Lanka	8 (1.59)	12	4 (33.33)	8 (66.66)
Bangladesh	6 (1.19)	15	12 (80)	3 (20)
Kingdom of Saudi Arabia	5 (0.99)	5	5 (100)	-
USA	5 (0.99)	7	2 (28.57)	5 (71.42)
Fiji	4 (0.79)	4	3 (75)	1 (25)
Iran	4 (0.79)	11	10 (90.90)	1 (9.09)
Sudan	3 (0.59)	3	3 (100)	-
Canada	2 (0.39)	2	2 (100)	-
Tanzania	2 (0.39)	3	2 (66.66)	1 (33.33)
Argentina	1 (0.19)	2	-	2 (100)
Austin	1 (0.19)	2	-	2 (100)
Botswana	1 (0.19)	2	1 (50)	1 (50)
Brazil	1 (0.19)	1	1 (100)	-
Malaysia	1 (0.19)	1	1 (100)	-
Singapore	1 (0.19)	2	1 (50)	1 (50)
Slovenia	1 (0.19)	1	1 (100)	-
Sloan	1 (0.19)	2	2 (100)	-
South Africa	1 (0.19)	2	2 (100)	-
Spain	1 (0.19)	2	1 (50)	1 (50)
Sultanate of Oman	1 (0.19)	2	2 (100)	-
Swaziland	1 (0.19)	1	1 (100)	-
Thailand	1 (0.19)	1	1 (100)	-
Total	**503**	**840**	**616**	**224**

Note: Number within the parenthesis indicates the percentage

Table 6 shows that the authors from 24 countries have contributed a total 503 articles in Indian LIS journals. Among these countries India produced 85.28% of articles and occupied the first place, followed by Nigeria (4.37%), Sri Lanka (1.59%) and Bangladesh (1.19%). Table also reveals that the male authors are predominated over the female authors in most of the countries.

Table 7: Research productivity of Male and Female authors cross tabulated by various Universities in India (Top 5)

Universities	Article	Authors	Male	Female	Rank
University of Delhi	23	29	19	10	1
Banaras Hindu University	13	15	6	9	2
University of Kerala	13	16	13	3	2
Indira Gandhi National Open University	12	13	7	6	3
University of Kashmir	12	16	15	1	3
Shri Venkateswar University	11	11	1	10	4
Panjab University	11	18	11	7	4
Jawaharlal Nehru University	10	12	10	2	5

Table 7 represents the list of prolific universities (Top-5) having contributed a maximum number of articles to the selected Indian LIS journals during the period 2013 to 2017. Out of the 435 contributions, highest numbers of articles have been contributed by the male and female authors of University of Delhi (23), followed by Banaras Hindu University (13) and University of Kerala (13). Further Jawaharlal Nehru University has occupied the 5th rank by contributing (10) articles. The distribution of articles by male and female authors is also presented in the table. It is very clear from the table that the most of the male authors have contributed more number of articles to the Indian LIS journals in all top 5 universities in India.

CONCLUSION AND SUGGESTIONS

Findings of the study

- The study reveals that the majority of articles (67.35%) are contributed from multi authors.
- The study found that the librarians have produced more number of articles (34.88%). The male authors dominated over female authors even as LIS teachers (81.85%) as well as LIS professionals (72.01%).
- The male authors are produced more articles (73.33%) compare to female authors (26.33%) in Indian LIS journals.
- The contribution of female authors is lower regardless of whether they worked at an individual level (5.97%) or in association with other female authors (6.20%).
- The study also found that the majority of authors contributed to Indian journals are from New Delhi (103) Karnataka (46) and Maharashtra (41) regions of India.
- The study shows that the most of the articles (23) contributed to the Indian journals from University of Delhi.

Suggestions

Based on the findings of the study, the following suggestions are hereby made:

- LIS Faculty members and Librarians need to work hard to publish articles in highly reputed journals.
- Enabling and conducive environments may be created to support female authors to carry out research and publish their research works.
- The study reveals an imbalance in terms of research productivity between male and female researchers in the field of LIS. In spite of global policies that try to heighten the position of women, the proportion of female researchers is not promising and no distinct change has been observed over time.
- In this context the Indian government and university authorities may encourage to provide research grants to support research among female authors.

Limitations and suggestions for future research

The findings of the study are based on the contribution of male and female authors in only two India LIS journals. The future researchers may expand the study by including more number of Library and Information Science journals publishing from India.

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Implementation of the LiveChat Service: A Case Study at the University Of Malaya Library

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ABSTRACT

In this digital era, libraries are trying to meet the users' need by improving their services and enhancing their resources. Virtual Reference Services (VRS) is a web-based information assistant provided to the library users. It is an effort taken by the librarians to communicate with the public without being physically present. One of the common communication channel used as virtual reference is known as Live Chat. The purpose of this study is to explore the experiences of the University of Malaya Library (UML) in implementing the Live Chat service to support the usage of library resources. Some analysis was conducted to a total of 2179 chat transcripts and coded into two categories: 'question types' and 'questions handling'. The data extracted from the Live Chat platform to discover the information that users are looking for through the type of questions being asked during the live chat sessions; and to analyze the approach of the librarians in handling the questions submitted to them to ensure that the Live Chat service meets the users' need and expectations. All of these, 1968 questions was asked by the users from May to October 2018. Each transcript was individually read by the team and coded to reflect question types, question handling and also feedback from users. Users approaches the librarian on duty via Live Chat service if they need quick answers or immediate action to assist and solve their problems while they are using the UML digital resources or online services remotely. Most of the questions were answered completely by the librarian and there are positive and negative feedbacks. Users will be provided with URL or file attachment if the answers cannot be explained in detail via Live Chat. Live Chat service gave a positive impact to the reference service at the University of Malaya Library and has supported the delivery of library of library resources and services. This new service provided by UML has increased the usage of the library services and help users to get immediate response from the librarians. We also found that this service benefits users who have hearing and speech impairments as they can communicate with librarian comfortably using VRS. Further research is recommended to evaluate the efficiency and capability of the librarian in handling this virtual reference service.

Keywords: Electronic reference services (Libraries); Reference librarians. -- Effect of technological innovations on; Academic library automation

INTRODUCTION

Reference services is one of the core businesses of the library crucial in reaching library users. No matter how huge the collection in the library, reference services is the most important and the last element to ensure that the information disseminate get to the users. Nowadays, reference services are provided to library users through many different technologies.

Virtual reference is a significant component and method used by libraries to approach users more effectively. Advancement in wireless communication and mobile technology provide the opportunities to support learners in solving their problem in the real-world with other alternatives, one of which is by using digital-world learning resources.(Hwang, Shi, & Chu, 2011).

"Virtual reference is a type of reference service initiated electronically for which patrons employ technology to communicate with public services staff without being physically present. Communication channels used frequently in virtual reference includes chat, videoconferencing, Voice-over-IP, co-browsing, e-mail, instant messaging, and text". RUSA (Reference and User Services Association)

Mu, Dimitroff, Jordan, and Burclaff (2011) found in their survey that virtual reference has been applied in the libraries to answers reference enquiries. Chat forms, instant messaging, MOOs and virtual environment has been used to approach users, which is linked from their OPAC or library websites. Virtual reference is divided into 2 categories which are asynchronous and synchronous communication. Asynchronous communication is a services provided to the user in the form of email or web form enquiries which allow users to submit enquiries anytime and everywhere and allow the librarian to respond anytime with well-prepared answers. Synchronous communication are real time services where users can submit questions through a chat window and received almost instant replies from a librarian.

The advancement and the evolution of the technology still requires a touch of a librarian in helping users to choose the relevant information. According to Miller (2018), users or individuals attempts to seek information initially on their own, using powerful technologies such as websites, social media platforms, apps, blogs, Wikipedia, videos, podcasts and many more. However, they are unable to sort and find reliable information due to the overwhelming amount of information. Some of them might then turn to librarians for help.

Erickson (2016) mentioned that the evolution of the technologies will not change the validity of the reference answers by librarian. It is a personal relationship between librarian and users which is more interactive and a more integrated approach to service delivery and new reference staffing model. Libraries have used technologies and communication tools to best suit their users changing needs.

The reference model that will be discussed and shared in this paper is about virtual reference, synchronous services- online chat, which is new reference service implemented at the University of Malaya library mediated by the LiveChat software to enable chatting between librarian and users in search for library information, resources or services.

Reference Service at the University of Malaya Library

The University of Malaya Library was established in 1959 and support University of Malaya as a research University with the population of 50++ K active library users from 12 faculties, 2 academies, 5 Institutes and 6 Centres with programmes of study that includes medicine, law, engineering, sciences, social sciences, humanities, religion and other continuing education programs in various areas of interest.

University of Malaya Library consist of Central Library, 3 branch libraries, 10 special libraries, the Museum of Asian Art and the Art Gallery located at the main campus and 1 special library located at Nilam Puri, Kelantan.
A model of reference service that has been use is a traditional walk-in reference service which is located at the Central Library and also the telephone reference for users. Outsiders or the public and external members can also access the electronic resources within the library subject to rules and regulations.

In order to improve the services, library also provides digital content and virtual library services as follows:

- Library Portal – Interaktif Portal which provide access to more than 100,000 subject based Web links to resources and is a user-driven, customizable information service, includes online past year exam papers, e-services (Publication supply, suggestion for collection, books on approval, Information Skill session)
- Library website which provide links related to the library and also information about library.
- Social media platform such as Facebook, twitter, Instagram and blog.
- Library guides which provide quick and easy access to essential resources within your subject area
- Digital@UM which provide open access digital repository containing of the details of published and unpublished research works produced by the UM researchers, valuable photos with historical context, news coverage relating to University of Malaya, manuscript contents and online archives for the written work of University of Malaya students such as academic exercises, dissertations and theses.

The evolution of the wireless communication and mobile technology environment requires the library to be in line within this digital environment. Thus, in May of 2018 the synchronous communication platform is implemented with a single service point model where professional librarians from the central library as well as all branches and special libraries are scheduled to answer questions at the front line service point- Live Chat. The traditional reference service at the reference desk are still maintained at the Central library where the senior support staff are stationed on a rotational basis to answer the questions and users are directed to the librarian on line through the Live Chat for any questions requiring a more extensive professional skill to answer.

The objectives of the implementation were to:

- Meet user expectations and being able to ask a librarian enquiries without coming to the library.
- Serve the communities and deliver the information about search engines, databases, digital collection and information about the library without charging any fees.
- Support the lifelong learning trend and respond to the need of users in a prompt manner

LITERATURE REVIEW

A study has been conducted by Mu et al. (2011) to examine the strategies used by libraries to increase the usage of virtual reference by 100 academic libraries. The research found that the key success of Virtual Reference is to go beyond the Virtual Reference Services, which is that the user needs to understand that a real librarian is sitting behind the screen. The picture of the librarian at the chat window, larger texts, user friendly interface and prominently visible link will increase user awareness of the librarian component of Virtual Reference as well as the branding of the virtual reference itself.

The quality of reference service is dependent on the reference interview. Librarians must be knowledgeable about the topic discussed with users and can respond and communicate with users in the most appropriate manners. (Mu et al., 2011)

According to Radford, Connaway, Confer, Sabolcsi-Boros, and Kwon (2011), query clarification in virtual environment can be used to improve the accuracy and satisfaction. It is the aspect of the human intelligence where professional librarians provide reference service through the digital environment.

Connaway and Faniel (2015) in their studies found that people who asking questions through live chat are actually in the library. There are multiple reasons including they do not want to lose their seat , not wanting to move, they do not want to leave their personal belongings, not feeling comfortable asking the question face to face and the virtual reference being more convenient and faster than having it face to face.

LIVECHAT SERVICE IN UM LIBRARY

A few steps had been taken before the implementation of the real time chat. They were i) benchmarking and product survey and ii) Pilot Testing

Benchmarking and product survey

A benchmarking initiative had been done to look into other local academic libraries to find out the methods they have used for VRS. We have found that most of the libraries are using free software/ platform such as WhatsApp, tawk.to and Facebook chat. UniMap Library subscribed to the commercial chat platform- LibAnswer by Springhare. Refer to Table 1.

Following that, we had also conducted a market survey to identify available live chat software that are suitable to our needs in terms of a user friendly interface, which non IT based librarians can easily use and at a reasonable cost. We also tested the live chat software Tawk.to during the pilot testing but received a negative response from the librarians using it in terms of navigation and usability. We tried another live chat software- LiveChat as a trial software during the pilot testing period and received positive feedback from the librarian on its usage and also positive feedback from the user based on the details of the data we gathered from pilot testing.

Table 1: Medium of VRS by libraries in Malaysia

Institute	Platform	Librarian responsible	Since when implement	Who decide to implement
Perpustakaan Universiti Kebangsaan Malaysia (UKM)	WhatsApp Desktop, WhatsApp Web	*Unit Pendidikan Pelanggan* Librarians & Assistant Librarian on duty at the reference desk	WhatsApp Desktop – 2015-2017 WhatsApp Web- 2018 - current	Reference service management meeting
Perpustakaan Universiti Putra Malaysia (UPM)	Facebook – not officially using FB chat	-	-	-
Perpustakaan Universiti Sains Malaysia (USM)	tawk.to	Reference department	2018	Reference Department
Perpustakaan Universiti Islam Antarabangsa Malaysia (UIA)	-	-	-	-
Perpustakaan Sultanah Bahiyah Universiti Utara Malaysia (UUM)	-	-	-	-
Perpustakaan Universiti Perguruan Sultan Idris (UPSI)	Tidio- plug-in at wordpress	*Unit Perpustakaan Digital*	2018	*Unit Rujukan dan Perundingan*
Perpustakaan Universiti Malaysia Kelantan (UMK)	WhatsApp, email	Librarians on duty at reference desk	2018	Information Service Department
Perpustakaan Universiti Malaysia Perlis (UniMAP)	LibAnswer Springshare	Office hour- Reference Librarian, all staff at the reference unit and librarians on duty	2013	Chief Librarian
Perpustakaan Universiti Teknologi Mara (UiTM)	Facebook chat, Live chat, email	Librarian/ Librarian on duty at reference desk, library assistant	2008	Chief librarian
Perpustakaan Universiti Tenaga Nasional (UNITEN)	Facebook / tawk.to / Email	Reference & Information service department	2009	Chief Librarian
Perpustakaan Universiti Sains	-	-	-	-

Islam Malaysia (USIM)				
Perpustakaan Jeneral Tun Ibrahim (UPNM)	Facebook-not officially implemented live chat service	-	-	-
Perpustakaan Universiti Sultan Zainal Abidin (UNISZA)	Facebook	-	-	-
Perpustakaan Universiti Malaysia Pahang (UMP)	WhatsApp using mobile phone	Reference librarian at main campus	2018	Reference unit

Pilot Testing

The pilot testing had been carried out starting from 6 December 2017 until 3 January 2018 from 8.30 am to 5.00 pm on weekdays only.

a) Platform

The trial mediated software to support the service was LiveChat (https://www.livechatinc.com)
The transcript of the software was embedded at the library website (https://umlib.um.edu.my).

b) Who involve?

Librarians who were on duty at the Reference Desk were responsible handling the LiveChat enquiries with users during the period of the pilot testing (6 December 2017 until 3 January 2018 from 8.30 am to 5.30 pm on weekdays only) aside from providing the face to face reference service. There were 6 librarians scheduled to be on duty at the Reference Desk for each day during weekdays. A training had been conducted for all the librarians involved in this pilot testing in terms of the navigation of the used platform. The Library Information System Division were responsible in providing the training to them.

Pilot testing results

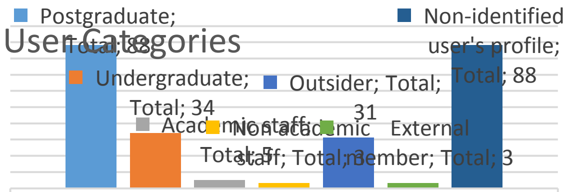
Pilot testing had been carried out to identify various user needs in terms of i) Understanding current users by gathering various information from users; ii) What library resources and services they used? and iii) How much information are they looking for?

A total of 348 chat transcripts were analyzed to get the findings as follows:

i) Understanding current users by gathering various information from users

From the chat transcript, there were 298 users who had used the service. Out of that total, 46 users were excluded due to the chat transcripts were used for training purposes. Therefore, the total numbers of counted users were 252. Refer to the bar chart below for the details of users categories:

Graph 1: User Categories



	Total
Postgraduate	88
Undergraduate	34
Academic staff	5
Non academic staff	3
Outsider	31
External member	3
Non-identified user's profile	88

The result shows that Postgraduate and non-identified user's profile scores the highest number of users with the total of 88 for both categories, followed by Undergraduate with the total number of 34 users and outsiders with the total number of 31 users. Out of the total number of users, there are 5 users who were of the academic staff category and the lowest number of users were from the External Member and Non-academic staff category with total of 3 users for each categories.

From the results, we noticed that the current users who were using the Live chat services were of the UM community including postgraduates, undergraduates, academic staff, non-academic staff and also non-identified user's profiles. Non-identified users profiles might also be from within the UM community members, however we cannot identify exactly their categories through the chat transcripts. By referring to the chat transcripts and pre-survey chat, we classified that they are from the UM community members by their emails or the nature of their questions.

The total number of outsiders also can be interpreted by the fact that the live chat service were also used by non-UM community members which means that our library resources and the library website are also referred and browsed by other external users. Table 2 below shows the location of the users based on the IP addresses.

Table 2: Location of users accessing Live Chat service

Countries	Count of Countries
Istanbul, Istanbul, Turkey	1
Kuala Lumpur, Kuala Lumpur, Malaysia	151
Kuala Terengganu, Terengganu, Malaysia	1

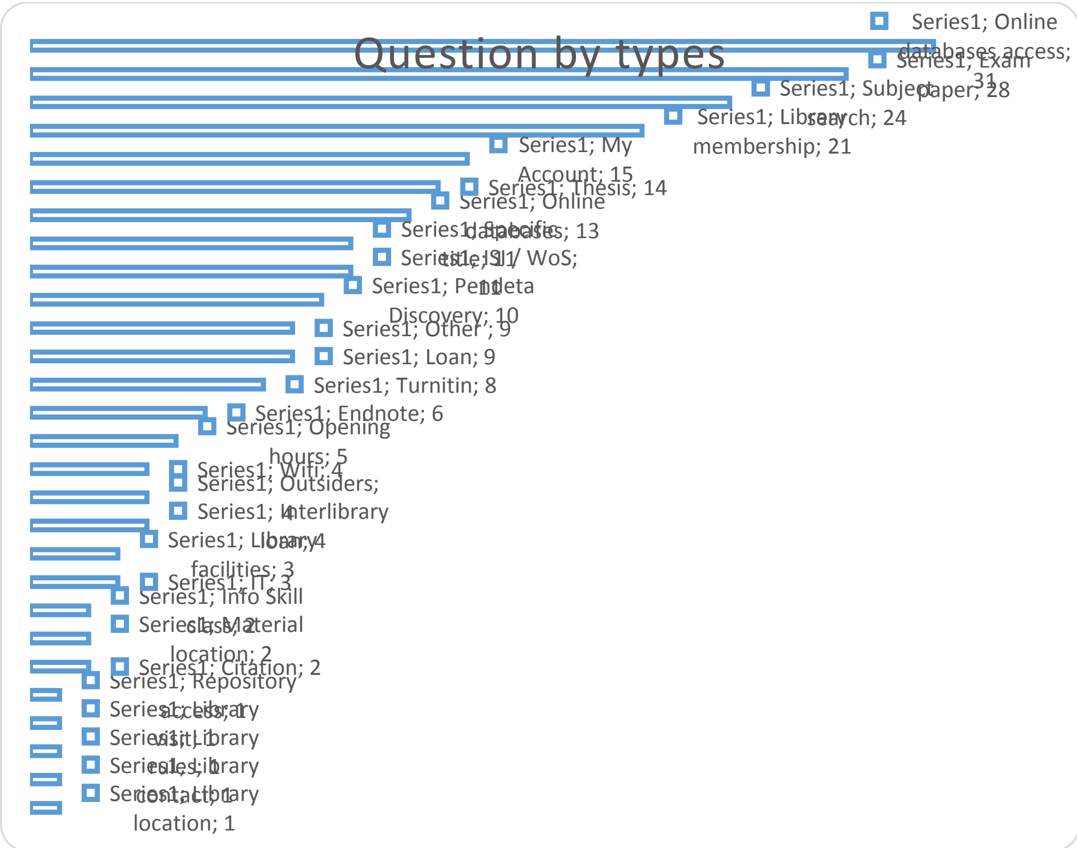
Kuantan, Pahang, Malaysia	1
Melaka, Melaka, Malaysia	2
Penang, Pulau Pinang, Malaysia	2
Selangor, Malaysia	1
Shah Alam, Selangor, Malaysia	5
Singapore, Singapore	1
Tejgaon, Dhaka, Bangladesh	1
Ampang, Pahang, Malaysia	1
Asia/pacific Region	2
Bangi, Selangor, Malaysia	2
Batang Kali, Selangor, Malaysia	1
Batu Caves, Selangor, Malaysia	4
Changlun, Kedah, Malaysia	1
Cheras, Selangor, Malaysia	2
Dhaka, Dhaka, Bangladesh	1
Frankfurt, Hessen, Germany	1
Ipoh, Perak, Malaysia	1
Isieke, Anambra, Nigeria	1
Jakarta, Jakarta Raya, Indonesia	1
Johor Bahru, Johor, Malaysia	1
Kajang, Selangor, Malaysia	5
Kedah, Malaysia	2
Kepong, Selangor, Malaysia	1
Klang, Selangor, Malaysia	2
Kota Kinabalu, Sabah, Malaysia	2
Kuala Lumpur, Kuala Lumpur, Malaysia	2
Kyoto, Kyoto, Japan	1
Lakemba, New South Wales, Australia	1
Melaka, Melaka, Malaysia	3
Penang, Pulau Pinang, Malaysia	1
Petaling Jaya, Selangor, Malaysia	28
Pusing, Perak, Malaysia	1
Putrajaya, Putrajaya, Malaysia	1
Selangor, Malaysia	4
Seremban, Negeri Sembilan, Malaysia	2
Shah Alam, Selangor, Malaysia	1
Sri Lanka	1
Subang Jaya, Selangor, Malaysia	6
Sungai Buloh, Selangor, Malaysia	1
Wolfenbüttel, Niedersachsen, Germany	1
Yogyakarta, Yogyakarta, Indonesia	1
Grand Total	**252**

Based on the list of countries, 96% of the users were from within Malaysia and 4 % were from the overseas.

ii) Library resources and services used by users and information needs by users

We had analyzed the types of questions being asked by the users in order to identify the library resources and services used by them and also to identify the category of information that they are looking for. There were 244 of questions being asked by the 252 users within 348 chat transcripts during pilot testing. Refer to the definition of chat transcript and question types at the Methodology section. Refer to Graph 2 for the details of question types.

Graph 2: Question Types



The graph shows that majority of the users were asking question about online databases access with a total of 31 questions followed by Exam Papers with a total 28 questions and subject search with a total 24 questions. Questions about the library membership also scored among the highest with total 21 questions, followed by questions about the My Account with a total 15 questions, Thesis with a total of 14 questions and Online databases content with a total of 13 questions. Questions related to journal ranking- ISI /WOS and questions related to specific titles scored a total of 11 questions each. Questions related to the usage of Library OPAC- Pendeta Discovery scored 10 questions. 9 questions asked each for two types of questions which were related to Loans and Others. A total of 8 questions related to the plagiarism software- Turnitin, 6 questions related to the citation software- Endnote and 5 questions related to the library opening hours. Questions related to Wi-Fi access and the interlibrary loan service scored the same total enquiries which is 4 questions for each type. Questions about the Library facilities and IT related questions scored a total of 3 questions each, followed by questions related to Citation and Information Skills Session with total 2 questions each. The lowest type of questions being asked were questions related to repository access, Library visits, Library rules, Library contact and the Library location which only scored 1 questions asked each.

From the results, we found that the majority users were using the live chat service concurrently while they were searching or browsing through the digital library resources such as the online databases and looking for a certain subject topic for their research. It also correlates to the library membership if users want to access the library portal-which is considered as a one stop center for online databases access. We had also noticed that the exam papers also scored among the highest type of questions being asked by users due to the fact that the pilot testing was done during the examination period. Questions that are categorized as Others were question being asked by outsiders who need information on Malaysian resources (e.g : Malaysia law cases), UM/admission or enrollment process, looking for specific titles of research by UM academicians, open access articles from Malaysia and the contact number of specific a personnel in UM.

In conclusion, we found that the LiveChat service is becoming an important service that can support users facing a problem while they are looking for a library resources remotely. They needed instant replies from the librarian to find the information or solve their problems. Therefore, the UM library decided to continue to provide the LiveChat service to users.

The implementation of Live chat

Based on the pilot testing result, the library then decided to subscribe to the LiveChat software to implement the real time chat service. Below are the features of the Livechat Plans subscribed by the Library

a) Live chat features

The library subscribed the LiveChat. Inc software to support the service - Team Plan that support multiple domains and languages, 3 librarians per seats, unlimited chat story, unlimited automated greetings, provide reports and analytics, customizable chat window and provide file sharing features.

b) Interface and accessibility

Pop-up chat window appears at the library website, the Interaktif Portal (Library portal) and the Library Guides. Refer to Image 1 and Image 2

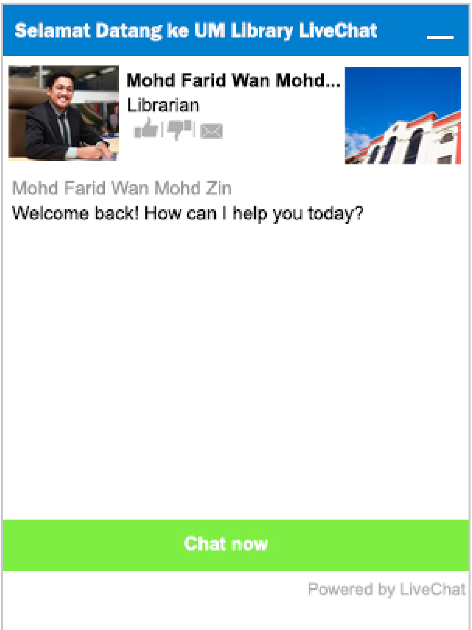


Figure 1 : LiveChat interface for user

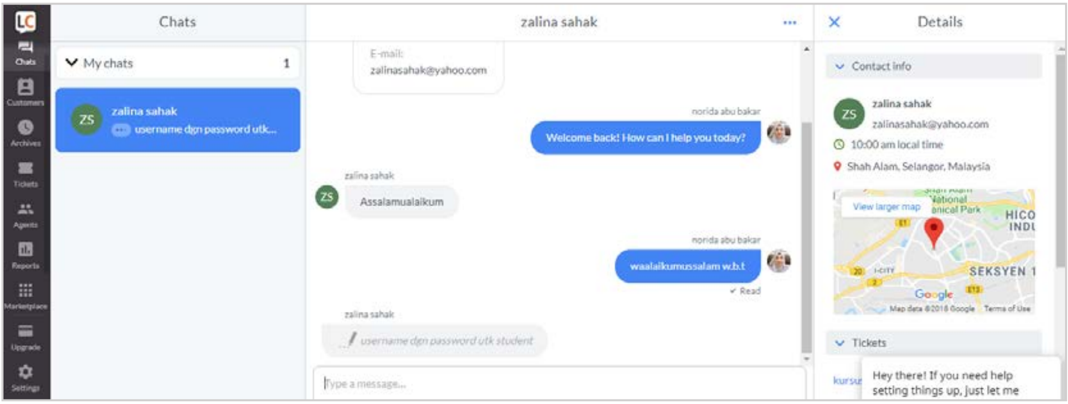


Figure 2 : Livechat interface

c) Training of librarians working in VRS

Professional librarians from Central Library, Branches and Special Lbraries are being included in the task of answering questions at the front line service point- the LiveChat. They are scheduled to be on the LiveChat roaster in a group of 3 personnel per session. The librarians will available online from 8.30 am to 5.00 pm during weekdays only.

A training session had been carried out before this service was launched in May of 2018 for all professional librarians, trained by the librarians from Information System Division. The following modules were included in the training session:

- Software training

  Librarian were given training on the features and function of the software. It is important so that they know how to utilize the agent tools, user-interface and all related technical aspect as an admin as well as being agents.

- Training on chat reference transactions
  Live chat session had been done during the session training among the librarians in order to expose them to the inner workings of chatting in digital environment.
- On-going training
  On-going training will be conducted to the librarians scheduled in order to improve the skills and implementation reference interview in digital environment.

RESEARCH DESIGN

Besides sharing our experience in implementing the Live Chat service, the other main purposes of this paper are:

1. To analyze the chats transcripts for questions posed and the handling of different types of question by the librarians.
2. To investigate the feedback received on the Live Chat services.

Methodology

A team of librarians from the Information System Division and the Information Skills Division analyzed the chat transcripts to identify the questions handling, question types and also feedbacks from the users.

Chat transcript is a record of communication or chat between librarian and the user. One user may chat with librarian in one or more than 2 sessions with the librarian until they are satisfied, get the answer or left the chat without getting any answers. Therefore, a session of chat might include more than one chat transcripts from the same user due to loss of internet connection, user closing the chat window or the chat window automatically closed due to inactivity for 20 minutes.

There will be one or more or no questions being asked from each chat transcripts and one category of question handling coded for each transcript. Therefore, the total of questions being asked is not equal to the chat transcripts and question handling. Refer to Table 3 for sample of 2 chat transcripts by the same user and one type of question being asked.

The data for this research consist of 2179 chat transcripts with 1968 questions asked by the users from May to October 2018. 81 chat transcripts were not included in the total number of the chat transcripts analyzed as those were chats that was used for practice during the demonstration/training and also excluded were some inappropriate chats. Each transcript was individually read by the team and coded to reflect question types and question handling and also feedback of users. Only one code of question handling coded for each chat transcript. The following codes were determined:

i. Correct and complete all parts with URL, citation or file attachment
ii. Correct and complete all parts without URL, citation or file attachment
iii. Incomplete/ No answer but will follow-up with email
iv. Referral only (user are referred to another unit or given phone no/email. No follow-up offered)
v. User left chat without attended by librarian
vi. User left chat– not response to librarian
vii. Technical problem – chat ended
viii. Internal chat – training session among librarian
ix. No question

The team also needed to determine the question types and tag the chat transcripts to ensure the consistency and clarity of the question types. It is quite difficult to assign the tags because the team needed to go through all the chat transcripts and as some of the chat transcripts belonged to two or more difference categories of question types as well there were only one question for more than one chat transcripts.

There are various types of the questions used to categorize the reference questions. Based on the analysis, the team found that the following categories. Some of the categories were derived from Radford and Connaway (2013), Matteson, Salamon, and Brewster (2011) and Matteson et al. (2011):

i. Subject-based research question
ii. Ready reference
iii. Procedural/policy
iv. Information/Directional
v. Circulation-related questions
vi. IT- related questions
vii. Suggestion of library collection
viii. Complaint
ix. Interlibrary Loan/Document Delivery Service
x. Holdings

Table 3: Sample of chat transcripts, question type and question handling

chat transcript 1	Chat transcript 2	Type of question	Question handling
PRECHAT SURVEY **Name:**Dr A **Email:**xxx@gmail.com Librarian : Welcome to our website. Any questions? You are at the right place! 10:00 am User left the chat.	***PRE-CHAT SURVEY*** **Name:**Dr A **Email:**xxx@gmail.com Librarian: Hello. How may I assist you? Hello Dr. xxx, how can I help you? User: Goog morning, I am Dr xxx. My library membership expired 25.4.2018 when my contract ended. I still have my UM email, xxx@um.edu.my for 12 months. I am still in Malaysia and trying to write up research that I was doing until 25.4.18. Our group presented at FMSC conference (Family Medicine Specialists conference) on 2.8.2018. It would be very, very helpful if I could continue to use UM library in these weeks when I am trying to write a manuscript for publication. Thank you for considering this. Librarian: Dr. xxx, in regards to accessing the online resources you can give a call to our membership office at 03-7967 7765 and enquire with them on the available options for you to access the resources. You can speak to either Mrs. Kohila or Mrs. Hanisah on your options to access the resources. You can also contact any of the Client services librarian at 03 7967 3357. Dr A closed the chat. 10:09 am Dr A rated this chat as good.	Renewals of Library membership	Chat transcript 1 : no question Chat transcript 2 : Referrals, with contact information/department and names of person in-charge

This will be explained in further detail from the result of data analysis.

RESULTS

Types of question

A total of 1968 questions were identified from 2179 chat transcripts. Inappropriate and internal chat transactions were excluded. Some of the transcripts belonged to multiple question types. Refer to Table 4 and Table 5. There are many attributions for each type of the questions. The team classified and coded the attributions according to the question types.

Table 4: Question types and attributions

Question Types	**Attribution**
Circulation-related questions	• Renewals of membership • Overdue fines • Loans of library materials
Information/Directional	• Library location • Library contact • Library facilities • Library website • Material location • Opening hours
Ready reference	• Citation style • How to register for Information Skill Class • How to request for Interlibrary Loan /Document delivery service • How to register to Turnitin
Complaint	• Complaints
Holdings	• Availability of the items in the library collection • Thesis collection
Subject-based research question	• Online database content • Repository content • Web of Science/Scopus • Subject search
IT- related questions	• Online database access • Repository access • Wi-Fi • Endnote
Procedural/policy	• External membership • Library rules & regulation • Library visit by outsiders
Suggestion collection	• Suggestion collection

Table 5: Question types

Question types	Sum of total	Percentage %
IT- related questions	396	20.12
Circulation-related questions	359	18.24
Subject-based research question	323	16.41
Information/Directional	295	15
Holdings	219	11.13
Ready reference	211	10.72
Interlibrary Loan/Document Delivery Service	83	4.22
Procedural/policy	75	3.81
Suggestion collection	4	0.2
Complaint	3	0.15
Grand Total	**1968**	**100**

The result shows that IT-related questions scored the highest percentage with 20.12%. Circulation-related questions scored the second highest question type asked with a total of 359 questions followed by subject-based research questions with scored 16.41%. From the results, we can also see that Informational/Directional questions were also frequently asked by users through VRS with a total number of 295 questions followed by ready reference questions with a total of 211 questions. Interlibrary loan /Document delivery questions were also being asked by users with total number of 83 questions followed by procedure /policy with the total number of 75 questions. Besides asking questions, the users also gave their suggestions of titles for library to purchase or make a complaint through VRS with total number of 4 and 3 chat transcripts accordingly.

From the results, we found that IT-related questions which including questions related to online databases access, repository access, Endnote and Wi-Fi access scored the highest percentage due to users using or accessing the library digital resources remotely. They need instants answers or immediate action from the librarian through LiveChat service to help or solve their problems related to technical issues such as their access blocked by IP address, IP address not recognized by the site and technical issues when using the citation management software- Endnote.

We also noticed that the total number of questions related to Circulation-related questions scored the second highest as it is related to the accessibility of the online resources due to library membership issues and also related to loans of library materials where users can renew books online. The need was for instant answers or help from the librarian when they face the problems in renewing the loans at that particular time.

Subject-based research questions was also related to those who can access the online resources but could not find the information they were looking for or do not know how to locate the resources. This is where they used the LiveChat service to seek help from the librarian.

Ready reference questions includes questions on citation style and questions on "how to" register for Information Skills session, request Interlibrary Loan/ document delivery service and using the Turnitin platform. Answers for all those questions are indicated as ready reference and are already set as canned response within the LiveChat as a tool for librarians to provide the answers in a quick and accurate manner.
The analysis also reveals that Information/Directional questions and library holdings were also among the highest type of questions being asked, where users needed instant answers from the librarian on issues such as the availability of the books or thesis within the library, location of the library, location of the books, library opening hours and library contacts. Those information can be provided by the librarian instantly through the LiveChat service before they come to the library.
Procedural/ policy questions were being asked mostly by outsiders, in relation to external membership issues, library rules & regulations as well as on library visits request procedures. No analysis were done on the questions types according to the users' categories.

Aside from receiving questions from users, the service also received suggestions on the library collection and also complaints. Even though the number is not that high as compared to other question types, it is an important data collection for the library to capture in helping to improve the Library's service, facilities and collection development.

The Accuracy of questions handling by librarians

Aside from the analyzing the type of questions being asked by the users, we also analyzed the accuracy of the questions handling by the librarians. There are 2 categories of question handling indicated, which are:

i. Librarians provide correct answers to users with or without any citation, file attachment or URL. Refer to Table 6 for explanatory
ii. No answers provided by the librarians in terms of deferred, referred, incorrect or lost connection. Refer to Table 7 for explanatory

Table 6: Descriptions with transcript example of questions answered correct and complete with or without any citation, file attachment or URL

Question handling	Explanatory notes	Sample of chat transcript
Correct and complete without URL, citation or file attachment	Librarians provide the answers to the users during the chat but not providing any URL , citation or file attachment as guide because the questions is Information/directional question	• Librarian : Welcome back! How can I help you today? • User : Hi. May I ask, are the theses not available in the repository only available in hard copies at the library? Thank you in advance. • Librarian Hi xxx

		• May I have the title of the thesis xxx? • User : Yes. It's "Religiosity and other factors affecting attitudes toward homosexuality" by Tan Lee Khing (2013) • Librarian : xxx, this thesis only available in hard copies:) • User : Okay. Thank you so much. :) I'll come down to the library tomorrow. xxx rated this chat as good. • xxx left the following comment: Very helpful! • Librarian : Welcome xxx • 2:41 pm xxx closed the chat.
Correct and complete with URL, citation or file attachment	Librarians provide the answers to the users during the chat and provide file attachment as a guidance or provide URL to provide more details of information to users such as library guides, link to information available at the library website	• Librarian : Welcome to our website. Any questions? You are at the right place! • User: Hi xxx, I'm a librarian at University of Reading Malaysia • I would like to ask about ILL • Librarian : https://umlib.um.edu.my/scontents.asp?tid=23&cid=149&p=1&vs=en • You can refer to this page • 3:08 pm xxx left the chat.

Table 7: Descriptions with transcript example of questions deferred, referred, incorrect or lost connection

Question handling	Explanatory notes	Sample of chat transcript
Incomplete / No answer. Librarian will follow-up with email or face to face/phone call promised	Librarians cannot answer the question instantly and need to clarify or identify the answers with respective department or expertise. ● Promised to follow-up with email ● Face to face with user	● User : Hello I wish to get access to the UM Past Exam Papers. What is supposed to be the username and password Librarian : Go to interaktif portal and log in your X barcode no ● User : I am already here under Links, when I click UM Past Exam Papers, it asks me for a username and password Librarian : I just tried and it does not ask any password ● User : really... one minute File: Doc1.pdf ● See the attachment. It prompts me for a password and a username File: Doc2.pdf Happens when I click UM Past Exam Papers Librarian : I need to clarify this to technical division? can i have your email please ● I'll contact you later User : Yes of course: Dr xxx Librarian : xxx@um.edu.my L: ok got it..i'll get back to you later
Referrals, with contact information/department and names of person in charge	Refer user to other department, with names and contact number. No following up.	User : why my membership has expired on 11/10/18 Librarian : For membership related questions:Please call the membership counter at 03-7967 7765

		Give them your X number If you can't get through, you can email to : sitijuryiah@um.edu.my User : Ok, Thanks
Technical problems	Internet connection lost by users or librarian	User : hi Librarian : Hello User : i cannot see your reply • Librarian : Can you see me typing ● Hello ● U left the chat.
User left chat- not attended by librarian	User left chat- not attended by librarian. This situation occured due to ● User queuing more than 20 minutes - the chat window automatically closed after 20 minutes of inactive chat) ● Librarian are not focused on the live chat- multi-tasking	Librarian: Welcome back! How can I help you today? User: How to renew online the books that I have borrowed? *U left the chat.*
User did not respond to librarian and left the chat	Reference interview had been done by the librarian and needed some clarification/ information from user but the user did not respond and left the chat session	L: Welcome back! How can I help you today? U: Do you have any recommendations on where to find journal articles on perception of pre-service teachers towards teaching practicum? • L : You can try use Ebscho Discovery Services from database ● Have you tried before? *U left the chat.*
Incorrect answers given by librarian	Incorrect answers given to users due to the following reasons:	Librarian: Welcome back! How can I help you today?

	● Librarian did not make a simple interview to understand users question ● Librarian did not complete the conversation and logout due to end of duty hours ● Close conversation without offering an alternative to questions that cannot be answered instantly or will follow-up with users later. ● Librarian lack of knowledge about library membership procedure, borrowing procedure, library holdings and IT-related questions	User: Good afternoon. I am a new Phd student. I got into Scopus and Wos but i can't read the whole article. They asked me to log in... Which email should I use to log in? they ask for username and password Librarian: use your XXX library barcode at the back of your matrix card and the password is 1234 User: thats it?

Below are the result of data analysis for question handling by Librarians for both categories. The analysis were based on 2179 chat transcripts. Only one code of question handling coded for each chat transcript even though it might have had more than one question or no question being asked. Refer to Table 8 for details:

Table 8: Question handling by Librarians

Question Handling	**Total**	**Percentage %**
Correct and complete without URL, citation or file attachment	727	33.36
User left chat- not attended by librarian	378	17.35
Correct and complete with URL, citation or file attachment	335	15.37
No question. Customer was "just looking" or testing new service or close the chat window	285	13.08
Referrals, with contact information/department and names of person in charge	264	12.12
User not response to librarian and left chat	90	4.13
Incomplete / No answer. Librarian will follow-up with email or face to face/phone call promised	49	2.25
Technical problems	26	1.19
Incorrect answers given by librarian	25	1.15
Total	**2179**	**100**

The result shows that majority of the questions answered correctly and complete by the librarians without URL, citation or file attachment was at 33.36% which is 727 from the total of chat transcripts received followed by User left-chat not attended by librarian with a total number of 378 chat transcripts. 335 of chat transcripts were provided with correct answers to users with URL, citation or file attachment by the librarians. Aside from providing answers for questions asked, there were also no question asked category which scored 13.08% followed by users were suggested to refer other departments or person in-charge to get the answers from 264 chat transcripts. A total of 90 chat transcripts coded with User's did not response to librarian and had left the chat. Any librarian handled chat transcripts that had been coded with incomplete/no answer and promised to follow-up with the user achieved a total number of 49 chat transcripts. 1.19% of the chats were lost due to technical issues and the lowest percentage of chat transcripts coded with incorrect answers provided by librarians was at 1.15 %.

Based on the data analysis, we have found that the majority of the answers provided were without URL, citation or file attachment due to the relation of the majority question types being asked by user which is more to IT related questions and Circulation-related questions. Most of those categories of questions did not require detailed explanations as answers. Librarians who had provided users with file attachment, URL to other sites or citations are specifically addressing questions that required detailed instructions or descriptions which cannot be explained from the chat. Refer to Table 5 and Table 6.

However, there were chat transcripts where the questions being asked were not answered by the librarian and were either deferred, referred, incorrect or loss due to issues with the internet connection. A list of causes on why the issues above happened were derived from the analysis. Refer to Table 7 for explanatory.

Users Feedback

A post-chat survey had been carried out for each chat transcript to identity the user's satisfaction. 90% of the users rated their chat sessions as "Good" while 10% of them rated "Bad". Refer to Table 9 for the categories of the positive feedbacks and Table 10 for the categories of the negative feedbacks.

Table 9: Positive feedback from users

Feedback categories	Total	Sample of feedback
Librarian response	97	• Responsive • good person :) • very helpful • Thumbs up! Good job. • Problem have been solved effectively! Good! • GOOD INFORMATION • Very helpful. Great service • Most helpful and excellent. I got the info on the very

		first reply.
Service	59	• I have now logged in and progress well. Thanks • good services • Thank you! • Excellent • I got my response very quickly. Very nice service. • really its great service... • Student service by UM staff is always excellent • thanks for the hospitality
Library resources	2	• this URL NOT download the whole thesis, it just articles • *Saya berharap dimasa akan datang, peluang penggunaan akan di perluaskan tidak kira jika caj di kenakan, Sekian terima kasih* •
Complaint/ suggestion	2	• Any possibility that we have lesser aircon on in post grad room at level 4? Currently having 3 aircons running in one room. It is freezing cold and very difficult to carry out our work. Since xxx advised us to bring sweater, we all did but it is still affecting us as it is not just cold, but freezing. Please attend to this as we spend long hours on our research here in UM library. Thanks in advance.
Grand Total	160	

Based on the results, most of the users gave positive feedbacks towards the Librarian's response with a total number of 97 comments, followed by the LiveChat service itself which are 59 comments received from users. Furthermore, 2 feedbacks received for each of the following categories, Library resources and Complaint/suggestion.
The analysis results shows that the librarians provided effective service to the users with their librarianship skills and knowledge. It also demonstrated that the LiveChat service is an effective way to approach the users.

Table 10: Negative feedback from users

Feedback categories	Total	Sample of feedback
No response	13	• no reply from librarian • no response. • did not get a response • NO ANSWER • no response
Unsolved problem	11	• I have not gotten the info I needed • I need to ask • i didn't receive a reply • there is no solution to my problem

		• Did not answer the question properly. She should conduct simple interview advice.
Late response	3	• No immediate feedback • Fail to get immediate response • slow
Technical problem	3	• difficult to connect • the chat ended so fast
No alternative solution	2	Very vague answer, I still have no idea how long it may take or when they will let me been requested and how long it might take. no solution
Library resources	1	Wasn't helpful. Library doesn't have a list of ERA journals and its part of UM publication guidelines
Total	33	

Based on the results, most of users only gave negative feedbacks towards the Librarians due to them not giving a response to the chats with a total number 13 comments, followed by unsolved problems which received 11. Late responses and technical problems received 3 comment each, No alternative solution provided received 2 comments and Library Resources received one.

User left chat- not attended by librarian and late responses occurred due to user having to queue for more than 20 minutes, that the chat window automatically closed after 20 minutes of inactivity or that the Librarian on duty are not focused on the chat and was required to multi-task with other activities during their sessions.

Unsolved questions usually referred to procedure and policy queries that had to be forwarded to the responsible division and questions that are not related to the Library services and resources.

CONCLUSION

Virtual Reference Service (VRS) gave a positive impact to the reference service at the University of Malaya Library. This new service helps the library to approach users all over world and help users to get immediate response from the librarians. This platform also benefits users who have hearing and speech impairments as they can communicate with librarian comfortably using VRS.
Based on the findings, there are several recommendations by the team to help increase the accuracy of questions handling. Group of expertise should be formed so that in-depth questions can be forwarded to them and also to evaluate the chat transactions and also Provide a simple guideline as a tool kit for librarians to solve frequently ask questions.

Conduct a reference interview training for librarians in terms of clarifying the question, closing and follow-up the questions is also needed to improve the librarians' efficiency and capability in handling reference service. According to Haddow (2012), reference librarians today need to keep up-to-date with information technologies and associated user expectations. Communication skills and personality qualities are also the most important attributes for reference librarians.

Limitation of study

The virtual reference service by the University Malaysia Library has been implemented since 2018 and is being studied from several aspects. However, the analysis of the service excluded some of the elements. In this study, we do not analyze the user category such as 'UM student', 'staff' or 'visitor'. We wanted the users to feel comfortable in having conversations with the librarians regardless their background, therefore this paper have omitted that demographic in the user details. Some of the users stated this reference service as a good platform to approach the librarians especially for the new students who are still not familiar with the library services and facilities.

The users can also leave a message when the librarians are not available, for example after working hours and the weekend. These chat transcripts are considered as "tickets". The librarians will check the "tickets" and they will answer the questions or forward them to the designated division. The offline chat transcripts that we have received during that particular time are not included in this analysis. There are some questions or enquiries that could not be resolved during the chatting session, so the librarian will take initiative to do follow up with the students regarding that matters through e-mails. Analysis of the e-mails between the user and the librarian is not available due to the communication happening outside the LiveChat platform.

Another limitation of the study is that some of the chat transcripts contained more than one question. In a chatting session, some of the user asked several questions regarding the library services to the librarian. However, we have classified each of that chat transcripts only as one category of question handling, as in based on which category took most time during the conversation session. Although there are 2179 chat transcripts, we only recorded the 1968 questions after filtering and analyzing the contents were done.

Future Research

Further studies recommended following this paper includes effectiveness of the platform used, effectiveness and efficiency of the librarian's virtual reference skills and the librarian's behavioral performance on user satisfaction in live chat service.

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Indonesia calling, preserving Indonesia's collective memory through a documentary film

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ABSTRACT
Documentary film is the founding genre of the cinema. The original imperative of that genre was to record existing human, social, physical and natural reality. Documentary film is thus, always was, and ever will be, intrinsically related to issues of realism and realistic representation. This study aims to show that a documentary film plays role in the preservation of collective memory and in the enhancement of a national sense of unity in a global community. A documentary film of Joris Ivens's Indonesia Calling (1946) was chosen, since this film tells about heroic movement of Indonesian people defending the independence of Republic of Indonesia in foreign country namely Australia. In addition, this film records and represents the close relation between Indonesia and Australia in revolution era. This is preliminary study using qualitative approach, based on library research. The study concludes that a documentary film, with its ability to capture, to storage and to visualize a representation of past-real event, can preserve collective memory of a nation in longer term. Other aspects regarded aspects of its film also discussed.

Keywords: Knowledge Preservation; Collective Memory; Documentary Film; Knowledge Management; Indonesian History

INTRODUCTION

Documentary film is the founding genre of the cinema and, just like still photography before it, the original imperative of that genre was to record existing human, social, physical and natural reality. Documentary film is thus, always was, and ever will be, intrinsically related to issues of realism and realistic representation, and this affiliation has certainly influenced the development of the medium up to the present day (Aitken, 2013). It begins in the last years of the nineteenth century (1895) with the first films ever projected soon after Lumiere brothers made their films for the first period. Since then, humans and events can be seen living and happening through a presentation of visualization. It can be a trip to exotic lands and lifestyles, as was *Nanook of the North* (1922). It can be a visual poem, such as Joris Ivens's *Rain* (1929) which is a story about a rainy day, set to a piece of classical music, in which the storm echoes the structure of the music (Aufderheide, 2007). Also it can be an artful piece of propaganda, such as Joris Ivens's *Indonesia Calling* (1946) – a story about the struggle of Indonesian Seamen in Australia to defend Independence of Republic of Indonesia and to prevent the re-colonization of Republic of Indonesia by refusing to work on Dutch-chartered ships bound for archipelago.

Individuals who ever made documentary films can be regarded as historiographer since they recreate and reconstruct the history. By this understanding, a documentary film is regarded as historiography. Documentary films thus create sites for remembering, by rewriting history through representations in visualization. As (Young, 1988) puts it, 'what is remembered of the Holocaust depends on how it is remembered and how its events are remembered depends in turn on the texts now giving them form'. These various texts, which include monuments, literature, diaries and films, are diverse and incomparable commemoration practices as they are positioned differently in the public domain and also in (popular) culture (Leeuw, 2007).

A documentary film tells a story about real life, but it is not a real life nor even a window onto real life. It is portrait of real life, using real life as its raw material, constructed by actors and technicians, and directed by a director to decide about what story to be reconstructed and to whom it will be delivered (Aufderheide, 2007). Among the purposes of documentary film is to preserve memories of the past from given communities or social groups as identified by Aitken (2013)**.** Included in these kinds of memory is collective memory of a nation.

This study aims to show that a documentary film plays role in the preservation of collective memory and in the enhancement of a national sense of unity in a global community. For this purpose, a documentary film of Joris Ivens's *Indonesia Calling* (1946) was chosen, since this film tells about heroic movement of Indonesian people defending the independence of Republic of Indonesia in foreign country namely Australia. In addition, this film records and represents the close relation between Indonesia and Australia. By exploring this film, it gives us a deeper understanding that Indonesia has a same right with other countries as an independent country and cannot be directed by foreign states.

LITERATURE REVIEW

A brief concept of collective memory: Collective memory is a term that is widely used, yet poorly understood in contemporary academic discourse. It has been part of this discourse at least since the 1920s, when the French sociologist Maurice Halbwachs published his seminal works. In *Memory from A to Z*, Yadin Dudai (2002, p. 51) remarked that ''The term 'collective memory'actually refers to three entities: a body of knowledge, an attribute, and a process''. The body of knowledge is a feature of the culture of the individuals who share some similarity, and individuals may participate in various different groups (with different collective memories) defined by generation, countries of origin, locale (e.g., Texans), and so on. The attribute is ''the distinctive holistic image of the past in the group'' (e.g., World War II veterans in the US who are referred to as ''the greatest generation'' by some). The process is the continual evolution of understanding between the individual and the group, as individuals may influence and change the collective memory of the group, and the group can change the individual's understanding and consciousness of being a member of the group (for more on this topic, see Reese & Fivush, 2008 this issue). These three entities capture some (but not all) of the various senses of collective memory used by scholars in different academic disciplines (Wertsch & Roediger III, 2008).

Although portions of the collective memory can be encoded in individual brains, as a whole, both the formation and the retention of this type of memory is an emergent property of the group (*reduction). Collective memory is a primitive of human societies. Together with other ingredients of culture, it permits non-genetic information to transcend the limited lifespan of individuals (Dudai, 2002).

Regardless of the approaches and premises that are being regarded in memory studies, they are generally rooted to an idea developed by Maurice Halbwachs in Les Cadres sociaux de la mémoire written in 1925. He was the first sociologist to use the term "collective memory" and his work was considered as the foundational framework for the study of societal remembrance. Halbwachs suggested that all individual memory was constructed within social structures and institutions. He claimed that only through a group context that includes families, organizations, and nation-states, understanding individual private memory can be grasped. Halbwachs argued that the only individual memories that are not constructed through the group context are images from dreams. Individuals organize and understand events and concepts within a social context, thus they then remember them in a way that "rationally" orders and organizes them through that same social construction. Every collective memory, as stated by Halbwachs (1925), depends upon specific groups that are canned by space and time; the group constructs the memory and the individuals do the work of remembering.

According to what has been reflected by (Halbwachs, 1925) that remembering is a process done by constructing some other external factors that requires aids to retrieve and recall the memory. These aids are sometimes organic (such as smell or sound), and at other times, they are social. Accordingly, memories are set in both temporal and spatial frameworks, while the images of collective memory focus on particular people, events, and spatial reference points (Hoteit, 2015).

Around the end of the 20th century, studies of the collective memory were extended and a new related concept came to life. This was referred to as the site of memory. Pierre Nora writes about the site of memory in his 1984 book Les Lieux de Mémoire. According to Nora, a "lieu de mémoire" or site of memory is a distinguished entity – concrete or abstract – that has changed, either due to people's voluntary will or due to time, into a symbol embodying the cultural heritage of a given society. Furthermore, site of memory is a cultural reserve of the memory that has been accumulated and saved because of its historical, spiritual or symbolic relevance. Such sites of memory can include geographical places or historical figures, forms of art, architecture, monuments, symbols, documentary film, etc (Hoteit, 2015).

Documentary films thus proves to be sites of memory or "lieu de mémoire", by rewriting history through representations in visualization. As Young (1988: 1) puts it, 'what is remembered of the Holocaust depends on how it is remembered and how its events are remembered depends in turn on the texts now giving them form'. These various texts, which include monuments, literature, diaries and films, are diverse and incomparable commemoration practices as they are positioned differently in the public domain and also in (popular) culture (Leeuw, 2007).

Preservation of Collective Memory through Documentary Film: The encoding and stability of collective memory are of extreme importance to issues of national and international policy, social policy, economy, war, and peace. Sectarian and national myths are still major powers on the national and international arenas. But not only there. Collective memory has a role in selecting and constructing our attitude toward nature and science as well (Eder, 1996). In this sense, collective memory needs to be preserved so it can be passed to next generation of given social group (society, community, organization, nation).

As Dudai (2002) states that collective memory is kind of knowledge that is regarded as one of three entities a term “collective memory” refers to, its preservation activity uses the same way as knowledge preservation process. The process of knowledge preservation involves three basic stages (or processes) of knowledge management: selection, storage, and actualization. These phases, known as the three main stages of knowledge/collective memory preservation (Agrifoglio, 2015).

First stage is selection that concerns the identification of knowledge/collective memory that may be useful in the future and therefore should be captured and protected. Ones cannot preserve all the information available to them. Among all facts and events they witness, they should select only those that are worth preserving. The guiding rule should be to preserve only information that will be usable for a third party in the future. The second stage of knowledge/collective memory preservation is storage. This stage enables individuals to save the captured knowledge/collective memory base in a suitable form. After selecting the knowledge that is worth protecting, they must effectively store it. There are three forms of storage of organization knowledge/collective memory: individual, collective and electronic. The third stage, the last stage of knowledge preservation is the actualization of previously stored knowledge (Agrifoglio, 2015).

Behind The Scene of a Documentary Film of Indonesia Calling: Joris Ivens was Holland filmmaker, and was commissioned to film the Dutch liberation of Indonesia from Japanese rule and to establish a colonial film production service. The Netherlands East Indies had been conquered and occupied by the Japanese during World War II, but, as the war was ending, the Dutch sought to re-take their colonial possession. However, having endured colonisation and war-time occupation, the Indonesians were unwilling to see their islands return to Dutch control. The American bombing of the Japanese cities of Hiroshima and Nagasaki with atomic weapons ended the war in the Pacific. The Japanese surrender unleashed the struggle for independence in Indonesia. In the ensuing chaos, British armed forces moved into areas around Batavia, Java, to secure post-war Indonesia on behalf of The Netherlands. Skirmishes between the British troops, Dutch units and armed Indonesian youth escalated. Indonesian Independence was declared on 17 August 1945, scuppering The Netherlands' hopes of a peaceful resumption of colonial rule (Cottle & Keys, 2009).

Following his acceptance of the position, Ivens had flown to Australia to assemble a film crew and to await the Dutch re-conquest of its occupied colony. Once the film unit was established, Ivens planned to make a five-part film about Indonesia's liberation. Refused entry to Indonesia because of adverse security reports, Ivens could not make any film of its 'liberation' on behalf of Dutch colonialism. Under an order from General Douglas MacArthur, the Supreme Commander of Allied Forces in the Pacific, Ivens was banned from all war zones. Prior to this ban, Ivens had arranged for the American Army and Hollywood film companies to ship war footage and film equipment to Australia for the film unit's use. American and Dutch security sabotaged Ivens' plans by reassigning the footage and equipment to a Dutch freighter which sailed to Batavia in the first days of the boycott (Cottle & Keys, 2009).

Stranded in Sydney, unable and eventually unwilling to make films for the Dutch government in exile, Ivens witnessed on Sydney's waterfront the repercussions of the Indonesian independence movement. The turmoil of World War II had left many Indonesian seamen marooned in Australian ports. With the war at an end, these seamen tried to prevent the re-colonisation of Indonesia by refusing to work on Dutch-chartered ships bound for the archipelago. Many Indonesian soldiers mutinied by walking off Dutch troopships in Sydney, demanding their freedom, and independence for Indonesia (Cottle & Keys, 2009).

It was not only the presence of Indonesian seamen that made Indonesian independence an immediate and electric issue in Australia. In the exigencies of World War II, the Australian government provided The Netherlands East Indies government in exile with its own extraterritoriality over military camps, barracks, administrative offices, hostels, airfields and workshops in Brisbane, Sydney, Melbourne and Fremantle. In 1943, the Dutch reestablished a prison camp near Casino, New South Wales, for Indonesian political prisoners transported from Tanah Merah Digul, west New Guinea. When the war ended, the 300 Indonesian prisoners held at Casino demanded to be repatriated to Indonesia. Indonesian guards serving at the Casino prison echoed this demand and they too were incarcerated. A food strike staged at the Casino prison led to one prisoner being killed and another wounded by Dutch guards (Cottle & Keys, 2009).

Australian Trade Unions launched a campaign in support of Indonesian independence, imposing black bans on Dutch-controlled ships bound for the Indonesian islands. The ACTU and thirty trade unions led by the Waterside Workers' Federation and the Australian Seamen's Union enforced and supported the bans. The bans ensured that Dutch-chartered ships would not be loaded or manned, and halted temporarily the Dutch attempt to regain Indonesia by force (Cottle & Keys, 2009).

Indonesian seamen and Australian trade unions were joined in their boycott by Australian-based Chinese, Malay and Indian seamen, who also refused to crew Dutch-controlled ships. Knowing little about what was happening inside Indonesia because of Dutch military censorship, Ivens was deeply moved by the solidarity of the struggle for Indonesian independence in Australia. He felt betrayed by Dutch officialdom and its subsequent actions in Indonesia. Ivens believed that the Indonesian liberation struggle was to be supported unconditionally. His position as a colonial film commissioner had become untenable. Between late September 1945 and November 1945, Ivens retained his official title even as his subversive film work advocated Indonesian independence (Cottle & Keys, 2009).

RESEARCH DESIGN

This is preliminary research using qualitative approach, based on library research. This approach is done by collating, analyzing and interpreting data to reach acceptable generalizations. This research was conducted by analyzing historical records and documents, reviewing of primary source (a documentary film of Joris Ivens's *Indonesia Calling* (1946)) and secondary sources (supportive data such as books and studies, periodicals and newspapers) to make a critical evaluation of the materials in hand. In order to locate the primary source, digital library database and search engines were explored by inputting some particular keywords related to history of Republic of Indonesia and its collective memories. Whilst secondary sources of this research were located by exploring digital library databases, e-journals, and websites of different organizations. Comprehensive search was conducted by using various related keywords and utilize advance searching techniques. The collected literatures then were reviewed thoroughly.

RESULTS

Overview of documentary film of *Indonesia calling*

Indonesia Calling is a documentary film directed by Joris Ivens produced by The Waterfront Unions of Australia in 1946. Ivens was Holland filmmaker, and he was appointed as Film Commissioner of The Netherlands East Indies on 28 September 1944. This film was taken from September to October 1946 in Australia.

Only 21 minutes and 10 seconds long, the black-and-white 35mm film recreated the campaign to prevent Dutch-chartered vessels loaded with troops and military supplies from leaving Australian ports for Indonesia. This film is originally collection of National Film & Sound Archive of Australia.

Figure 1: (History-Indonesia-Australia, 2017)

Aboard were 1,400 Indonesians being repatriated to Surabaya, the sole Javanese port held by the Indonesian Republican forces. This footage became the opening sequence of Indonesia Calling. The Esperance Bay'sleaving of Sydney was the only time the Dutch state equipment was used by Ivens.

Figure 2: (History-Indonesia-Australia, 2017)

An official of Australia government goes with them to guaranty that they will not end up at the Dutch-controlled port. Before they leave for Indonesia, their representative makes his speech to the public and he ends his speech by yelling a statement: "may Australia and Indonesia be united forever…Indonesia Merdeka". This shows that there is a close relation between these two countries.

Before displaying the activities of the boycott movement by Seamen against Dutch-chartered ships, the director showed the condition of the Indonesian people who had lived in Australia, the Australian people had known Indonesian people who lived there. Indonesian women learn about the types of Australia's vegetables names, and associate with Australian women in good social relationships. In addition, it was told that Indonesian soldiers had good relations with the Australian army because they together fought against the same enemy, which is Japan.

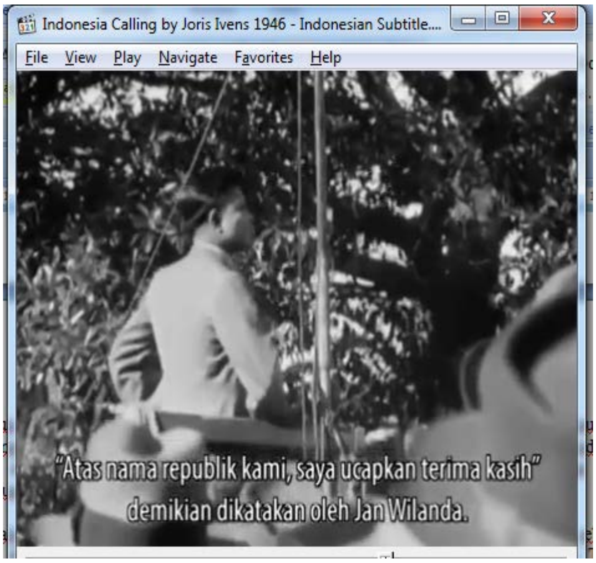

Figure 3: (History-Indonesia-Australia, 2017)

In the film, there was a man who became the spokesperson for the Indonesian people in an action carried out to oppose colonialism against the Indonesian people. The character was named in a film was Jan Walanda.

However, the existence of Indonesians in Australia at that time was not to get rid of the unitary country of Republic of Indonesia and forget about Indonesia, they were still homesick for their Indonesian homeland and for that they were still fighting for Indonesian independence from outside Indonesia.

After the boycott went as they planned, and was supported by other seamen from Australia, China, India and Malaysia, they then celebrated the success of the action by walking together around the harbor singing the first version of Indonesia Raja anthem (1928). The following is a fragment of the Indonesian Raja song that was sounded at the end film *Indonesia Calling*:

> Indones', Indones',
> Moelia, Moelia,
> Tanahkoe, neg'rikoe jang koetjinta.
> Indones', Indones',
> Moelia, Moelia,
> Hidoeplah Indonesia Raja.

Documentary film of *Indonesia calling* preserves Indonesia's collective memory

Audio-visual devices are believed to have tremendous power forming opinions mass and extend the memory of the nation's collective, including films that shows facts of life known as a term "documentary film".

The screening of the film released in 1946 seemed to be able to bring back the voices of Indonesia liberation struggle from seamen workers in Sydney port – Australia. The solidarity action was the form of a strike, which was shown by the scene of workers flocking out of his office he walked to the open space and just sat down. The strike included refusing refueling for Dutch-flagged vessels transporting weapons and ammunition to a new independent country, the Republic of Indonesia. However, the narrative of the film was faintly heard because of the quality of the old film.

The film was a representation of the fact that Indonesian nation stands, grows, and frees is inseparable from international community support. Struggle with taking up arms was accompanied by political and humanitarian struggles.

Documentary films are able to make history last longer, this means that the audio-visual media can preserve collective memories of the past facts that sometimes present the side or dimension that is forgotten by the community who memorize it. People commonly have a tendency to have short historical memories so that it does not rule out the possibility that this nation will sometimes forget the richness of history so diverse and so inspiring

So, it is important for anyone to perpetuate the nation's collective memory, one of which is by giving toponymy (scientific discussion about place names, origins, meanings, uses, and typologies). The perpetuation of the nation's collective memory can also be done through the establishment of museums, and monuments.

Then it can also be through the distribution of library collections with all forms, through archives, and through mass media. This of course includes documentary films. So, it cannot be denied that documentary film can extend memory nation's collective.

However, often "media views" are full of partiality and value become a tool for the authorities to show their dominance through hegemony.

Hegemony is a form of social group supremacy, in addition to other forms, namely domination as viewed by Antonio Gramsci, he was an Italian philosopher. The term domination is more about the use of physical power to show supremacy, hegemony is a form of supremacy of social groups that use intellectual and moral power carried out in accordance with the consensus. This method is done subtly and is at the ideological level to control and create general awareness, using a combination of coercion and voluntary(Cole, 2017).

So, this is where people must critically see every form of hegemony because sometimes writing, studies, and mass media become awareness control tools used by ruling groups. All the party hopes that Indonesian society will grow better because of the abundance of information that requires the community smarter sort and choose which ones are needed most.

Several aspects found within the research

In conducting this research, there are several things found that were behind the making of documentary film of Joris Ivens's *Indonesia Calling* (1946), which can be presented as follows:

1. The making of this documentary film was not the first plan of Joris Ivens, because initially, Joris Ivens was asked by the Dutch official to make about Indonesian liberation struggle film in Indonesia from a colonial side, not outside Indonesia.
2. This documentary film was made as an act of solidarity for Indonesia liberation struggle. He felt that he had been betrayed by the Dutch government and its subsequent actions in Indonesia. Therefore he believes that the struggle for Indonesian independence must be supported unconditionally by all parties in accordance with the decision of the Pacific Charter.
3. The Communist Party Newspaper, The Tribune, described *Indonesia Calling* as "Australia's first labor film". It gives a feeling of being made by the working people.
4. After making this subversive film, Ivens was threatened with imprisonment and deportation Holland, but did not occur.

CONCLUSION

After conducting a study of the documentary film of Joris Ivens's *Indonesia Calling* (1946) and its ability to preserve the collective memory of a nation, researcher found that it was in accordance with the theory explained by Agrifoglio (2015) that the process of knowledge / Collective Memory preservation involves three basic stages (or processes) of knowledge management : selection, storage, and actualization.

Filmmaker has identified and selected an event which later became the collective memory of a nation, this is the first step. Collective Memory is a historical, cultural and social asset for the nation. This is also found in the documentary film of Joris Ivens's *Indonesia Calling* (1946), where the content contained in the film is the collective memory of the Indonesian people in an effort to defend Indonesia's independence that occurred abroad, or precisely in Australia. Besides that, there is a narrative that tells the good relations between the people of both countries.

The collective memory then was stored in a media that was used to store content from the documentary film, so that later the film can be screened again. Media used for storage may vary following the advances of information and communication technology (ICT).

As an audio-visual media, the screening of documentary film of Joris Ivens's *Indonesia Calling* (1946) can provide past experiences experienced by the Indonesian nation's fighters with present views by the nation's next generation. This is the third step, which is actualization or visualization of a film. So that the young generation can feel the atmosphere of the struggle carried out by Indonesian sea workers who work in Australia assisted by seamen from other countries to jointly conduct boycotts against Dutch-chartered ships not to carry ammunition and soldiers that could threaten the sustainability of independence of Indonesia that has just been achieved through a long struggle, which was 350 years.

Thus, documentary films with various forms and media can play a role in preservation of collective memories of certain social groups, including communities, organizations or a country. So that it will last long and can be passed on to the next generation as a foothold in moving towards mutual progress.

For the Indonesian government to promote and support the creation of documentary films on various topics about Indonesia for all groups and communities. This is solely to preserve Indonesian indigenous culture and its history so that it is not eroded by the brunt of the storm of globalization and the advancement of information and communication technology. In addition, information institutions, including libraries, archives and museums, should pay attention to their collections, especially those relating to shared or collective memories of important historical events for certain communities and generally for particular nation. Moreover, in order to be able to innovate their services, they may transform old collections that are still in offline containers, such as CDs, and cassettes into online media, so that the content can be viewed and enjoyed by the public broadly, so that shared or collective memories content can last longer because those memories will reside inside minds of all those who retrieve or watch them.

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Indonesian Librarian's Enthusiasm and its Role in the Collection of Manuscript Development

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ABSTRACT

The study has revealed that nowadays librarians are actively utilizing their potential and resources to be useful in society, especially in their own institutions. One of them is the Librarian's Enthusiasm in maintaining the National Cultural Heritage, one of which contains historic relics in the form of manuscripts. The study was motivated by the rich historic manuscripts besides the belief, literature, and genealogy. It can also explain the development of civilization which has occurred in Indonesia for years. The National Library of Indonesia through the Preservation Department has been running the manuscript preservation since 2007 until now. The method used in this study was qualitative. The finding of the study reveals that the existence of these manuscripts is still being sought-after. Hence it can help us map out where we can get the manuscripts, and how many of them have been preserved and media-transferred so that they will be easily accessed by the wider community. The study gives an insight to reserve and campaign the requirement of preserving the national cultural heritage.

Keywords: Librarian Enthusiasm; Knowledge Preservation; Cultural Heritage; Manuscript; Ancient Manuscript.

INTRODUCTION

Indonesia is an archipelago country consisting of 2,590 identified islands which have been acknowledged to the United Nations in their 11th conference on Standardization of Geographical Names in New York. Based on the data from the Language Training Development Agency of Ministry of Education and Culture, it is clearly stated that Indonesia has 652 regional languages. Besides being rich in national scripts, currently Indonesian also owns 12 local scripts which consist of the Javanese, Balinese, ancient Sundanese, Bugis / Lontara, Rejang, Lampung, Karo, Pakpak, Simalungun, Toba, Mandailing, and Kerinci / Rencong. However, local scripts are not found in Papua even though the area has the highest number of languages in Indonesia. There are 376 languages in Papua, out of 646 regional languages, which have been validated by the government. In addition, a total of 73 regional languages are widespread in Bali and Nusa Tenggara. In Maluku, there are 65 local languages. Sulawesi has 53 local languages.

Kalimantan has 53 local languages. There are 21 local languages in Sumatra, while Java has 5 local languages. All of these show how diverse and rich Indonesia has become.

The culture has given us archeological remains which are very valuable and preservable. These relics can be seen from the facts of the writing which are spread in each area in the country in the form of manuscripts. The manuscripts contain not only predictions but also national cultures, advice, literature, beliefs, and so on. The physical condition of these manuscripts is not always good. Most of them are fragile and damaged. However, there is still information which can be read and taken. Since the storage where the manuscripts are located may not always be appropriate, the possibility for damage is greater. The originality of these manuscripts is sometimes difficult to maintain because there are still many manuscript owners who do not want to submit them even though it is only for duplication to other forms so that the information in it can be preserved. It takes seriousness to be able to coordinate and collect the manuscripts which are spread from the owners who are direct heirs. Raising awareness in the community is needed to facilitate the preservation of these manuscripts.

Indonesia's tropical climate is very fascinating but not for the manuscripts. It takes a temperature balance to be able to maintain their condition. In addition, natural disasters must also be considered. The factors causing damage to the manuscripts are biological, physical, chemical, human, and other factors. Biological factors can be among others fungi, insects or rodents. Physical factors can be in the form of dust, light, temperature, and humidity. While, human and other factors are explained as influences from people, water, fire, and natural disasters. The National Disaster Management Agency (BNPB) identified that there had been 513 disasters in the country in the span of January to March 2018. Those 513 disasters consist of 182 tornadoes, 157 floods, 137 landslides, 15 forest, and land fires, 10 combinations of floods and landslides, 7 tidal waves and abrasion, 3 earthquake damages, and 2 volcanic eruptions. Thus, the undamaged manuscript collection must be maintained by doing preventative activities so that it is not contaminated by those people who want to destroy the manuscripts.

Preventive actions must also be done in terms of the transfer of the manuscripts to other parties, such as the foreign party and irresponsible party. The ancient manuscripts' ownership to foreign parties either by buying and selling or by theft must also be taken into consideration. According to Indonesian Law number 11 of 2010 Article 55, it states that: "Everyone is prohibited to deliberately prevent, obstruct, or thwart the efforts of Cultural Heritage Conservation", and Article 66 verse (1): "Everyone is prohibited to destroy Cultural Heritage, whether all or the parts, from the unit, group, and/or place of origin ". however, there are still people who both consciously and unconsciously sell the manuscripts for commercial purposes. On one hand, the economic benefits of this transaction can be very satisfying. But on the other hand, it can be not as much as it is expected. Above all, the country losing its cultural treasures is far greater than any other reasons.
Under the Law No. 43 of 2007, the library is defined as an institution which manages collections of written works, printed works, and/or professional record works with standardized systems which meet the needs of education, research, preservation, information, and recreation of the library users. The National Library of the Republic of Indonesia, (which subsequently in the Decree of the Head of National Library No.

03/2001 is abbreviated as PERPUSNAS) is a Non-Departmental Government Institution which is under and responsible to the President. In carrying out its operational duties, the national library is somehow coordinated by the Minister of National Education. It has the task of carrying out the government tasks in the library field in accordance with the provisions of the applicable legislation. The existence of the Library Material Preservation Center at the National Library has the duty to carry out the preservation of information and physical library materials. It has several functions. Firstly, it carries out physical preservation through maintenance, treatment, restoration, and binding of library materials. Secondly, it carries out the preservation of library material information contents through the transfer of micrographic and photography media. Lastly, it carries out the preservation of library material information contents through the transfer of digital media to new media.

Library Material Preservation is a part of the National Library which supports the realization of its mission to accomplish a complete and up-to-date national collection. In this case, the implementation of library materials preservation, both the physical preservation of library materials and the preservation of information content support the completeness of national collections.

The Preservation Department has carried out preservation since 2007. Initially, the preservation of ancient manuscripts at the Samparaja Museum, Bima, West Nusa Tenggara, is around 2817 pages. The preservation efforts are carried out based on good consideration of the physical condition of the manuscript media which is in a state of concern, and the efforts to save the copy format of the information from the manuscript itself which will be stored in the National Library of Indonesia as a preservation master. The National Library of Indonesia through the Preservation Department actively moves in the search collection process, negotiate, until the preservation process is carried out. This manuscript is treated well to be media-transferred in digital and microforms. Besides, the manuscript will also be preserved physically if necessary, without changing the text and the content in it. This conservation activity depends on the budget and how many manuscripts are scattered and have been licensed for preservation. Every year, around 1 to 6 teams are sent to the regions, one team usually consists of 10 people who are from the fields of Digital Transformation, Conservation, and Reprography. Each field has its own responsibilities such as the digital transformation field. This field is to preserve by changing the form from printed to softcopy with the final results of the CD form (Compact Disk) and uploading it on the website of the National Library of Indonesia. The process of uploading a digital collection to the INLIS (Integrated Library Information System) database has only begun since 2011, so the results of the media transfer in digital format can be published and accessed by all users. Reprography field carries out the preservation of the library materials information content through the micrography and photography media transfer. In this field, there are 2 (two) subfields which are the Reproductive Subfield and the Micrographic Subfield. The conservation field examines the damage to the document to be preserved, provides the best possible improvement by minimizing changes from the original form, and also saves the contents of the manuscript so that it can still be read.

Librarians at the Preservation Department are involved in this preservation process. The role of librarians as part of the library development is very pronounced especially since the existence of work points for the preservation of media transfer which can support librarians' credit numbers. According to the Indonesian Librarian Association (IPI), librarians are those who carry out library activities by providing services to the community in accordance with the duties of their parent institutions based on the knowledge, documentation, and information they have through education. A person cannot be called as a librarian if he/she does not have education in the library field even though he has worked for decades in the library. Librarians, in this case, can do technical and non-technical work, according to their respective expertise. The conservation librarian prescribes technically by selecting library materials to be transferred, implementing preservation procedures in the field of work, making bibliographic lists, editing, and quality controlling of the products produced.

Regarding in preserving the nation's cultural heritage, ancient manuscripts are evidence of the existence of a nation and civilization that have occurred in it. UNESCO through the Memory of the World program has given awards to the heritage of the Indonesian people having a high historical value. There are 2 (two) manuscript collections of the National Library, the Diponegoro and Kertagama Chronicle Manuscripts, which received certificates from UNESCO as the Memory of the World in 2013, and the Panji Manuscript in 2017. The Indonesian National Committee for UNESCO (KNIU), MOW Indonesia, and UNESCO representatives in Indonesia, on December 11, 2017, at the Ministry of Education and Culture held a press conference related to the establishment of 3 Indonesian documentary inheritances into the Memory of the World. In addition to the Panji manuscript, 2 (two) documentary heritage archives from Indonesia, the Archives of the Borobudur Temple proposed by the Borobudur Conservation Center (Ministry of Education and Culture), and the Indian Ocean Tsunami archives proposed by the National Archives, also received an award certificate as Memory of The World. The Nagara Kertagama manuscript written by Mpu Prapanca on the e-sheet containing the testimony of the Majapahit government during the 14th century, King Hayam Wuruk, modern ideas about social justice, religious freedom, personal security, and people's welfare were upheld. The manuscript also gave testimony about democratic attitudes and openness of authority in front of the people at a time when the empire validity was still adopted. In 2018, the National Library proposed two documentary heritage collections of the National Library, the Sang Hyang Siksa Kandang Karesian Manuscript, and the Hikayat Aceh Manuscript, to be carried out and compete in the Memory of The World award. For these two manuscripts, they are still in the process of being assessed.

LITERATURE REVIEW

Librarians according to the law of the Republic of Indonesia number 43 of 2007 concerning librarians are those who have competencies obtained through librarianship education or training and have the duties and responsibilities to carry out library management and services. The librarian's role in safeguarding the nation's cultural heritage is by preserving all forms of information, looking for manuscripts which are spread throughout Indonesia, socializing the benefits of preservation and the information therein, and maintaining the existence of manuscripts or useful information by transferring them to other media so that their use becomes more leverage.

Manuscript according to Sudardi (2001: 6) derives from Arabic. In philology, this word is the equivalent of the English word manuscript 'human writing' or the Dutch word *handschrift* 'handwritten'. So, the manuscript is where the texts were written. This manuscript is concrete, tangible, can be held and touched. In the manuscript, there are writings which are language symbols to convey and express certain things. Therefore, understanding of classical texts can only be done through the manuscripts which are the storage devices. So, philology has work goals and concrete objects in the form of manuscripts.

Ancient manuscripts are one type of collection which not everyone has because a collection like this is a rare collection. However, there is still our chance to see this rare collection. A manuscript is a form of cultural heritage that its existence can still be felt until now. Ancient manuscripts are documents of various types which are handwritten but are more specialized in the original form before printing. Ancient Manuscripts are documents of any kind written by hand or typed, have not been printed or made into printed books, which are over 50 years old (Law on Cultural Heritage No. 5 of 1992, Chapter I Article 2).

Preservation according to the International Federation of Library Association (IFLA), is to cover all aspects of the effort of preserving library materials and archives. These include management policies, finance, resources, methods and techniques, and their storage.
In general, preservation is defined as the action of preserving. Since it still covers a wide range of meanings, so it focuses only on all managerial and financial aspects including accommodation and storage requirement, staff, policies, methods, and techniques of preserving library material with all information in it. Preservation derives from the word "preserve" which means in the real or original state, not changing, eternal. (Kamus Besar Bahasa Indonesia, 2017)

Knowledge Management process starts from Knowledge, "which is a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers. In organizations, it often becomes embedded not only in documents or repositories but also in organizational routines, processes, practices, and norms". Knowledge management is a field of study in managing knowledge within organizations which in reality ownership of actual knowledge resides in the individuals. According to Land (2008), there are two aspects considered in KM. First, knowledge is managed with the intention of being used as a tool to achieve several objectives, sometimes it is explicitly, but often hidden or secretly stated. Second, knowledge had been managed since humans produced speeches and that some target activities do not cover several elements of knowledge management.

The exchanging process of Indigenous Knowledge (IK) within and among developing countries and between developing and industrial countries involves essential six steps:

a) Recognition and identification: some IK may be embedded in a combination of technologies or in cultural values, rendering them unrecognizable at first glance to the external observer (technical and social analyses may, therefore, be required to identify IK);

b) Validation: This involves an assessment of IK's significance and relevance (to solving problems), reliability (i.e., not being an accidental occurrence), functionality (how well it works), effectiveness and transferability;

c) Recording and documentation is a major challenge because of the tacit nature of IK (it is typically exchanged through personal communication from master to apprentice, from parent to child, etc.). In some cases, modern tools could be used, while in other circumstances it may be appropriate to rely on more traditional methods (e.g., taped narration, drawings);

d) Storage in retrievable repositories: Storage is not limited to a text document or electronic format; it can include tapes, films, storytelling, gene banks, etc

e) Transfer: This step goes beyond merely conveying the knowledge to the recipient; it also includes the testing of the knowledge in the new environment. Piloting is the most appropriate approach in this step; and

f) Dissemination to a wider community adds the developmental dimension to the exchange of knowledge and could promote a wider and deeper ripple impact of the knowledge transfer. (Development Report World Bank, 1998)

Enthusiasm is a great eagerness to be involved in a particular activity which you like and enjoy or you think it is important. (Collins dictionary, 2018) Enthusiasm involves passion, the ability to listen to people and care about the job through the passion generated through what [they] want to accomplish. (Chow, 2018)

RESEARCH DESIGN

This research was conducted in a descriptive way with a qualitative approach in accordance with those in the field. This study uses a qualitative approach. Data collection is obtained through interviews and literature study. A semi-structured interview conducted, where open-ended questions were posted and recorded using a voice recorder.

This research uses literature study as a procedure conducted to the research, regardless it is good or not good. The technique of respondent selection used in this study is snowball sampling technique starting with a small number (one person) as a key informant, followed by the person's recommendation, the informant becomes larger to a certain number. The respondents are those working in the Preservation Department, with a total number of 7 participants. Initial information was obtained from the field coordinator who is familiar with and continued with several staffs involved.

Furthermore, in the process of data analysis, the author uses three lines of activities conducted simultaneously, namely data reduction, data presentation, and conclusion or verification. Efforts to maintain the validity of the data in the study, several steps are made by the authors, namely increasing perseverance, triangulation, using reference materials.

RESULTS

The librarian's enthusiasm in safeguarding the nation's cultural heritage is very important considering that many cultural heritages in various forms passed on by our ancestors need to be preserved and contain values related to the development of civilization in Indonesia.

Librarians in Preservation Departement usually called conservator librarian is a profession that needs special skills in which not all librarians are skillful. This job needs diligence, accuracy, seriousness and the important one is competence. In practice, an activity of preserving collection is not only the librarian’s responsibility. But the librarians in the Preservation Departement have the awareness to preserve and maintain the manuscript in good condition and in a professional way.

Based on six steps of preservation knowledge strategy, the National Library already has a written policy on the activities of manuscript preservation which are listed in the book of Principles of Library Material Conservation Policy (BP) and Ancient Manuscripts 2015-2019. The policies include damage prevention and repairing (curative) actions which are carried out based on prioritized manuscripts. The National Library has recognized and identified library damaged materials and ancient manuscripts in the top priority. Librarians of the National Library of Indonesia has validated the condition of the manuscript and carried out duplicating activities through the transfer of digital media and microfilms in order to make the information contained in the text more durable and easier to use.

Recording and documentation are one of the important things, the vulnerability of the storage media is a problem that needs to be observed, even though this technology is always updated. Recent research on the durability of magnetic media shows that its use can be 10-30 years if handled and stored properly. Related to the storage there is indeed optical disc technology which guarantees the products last up to 100 years, but it is still on a laboratory scale and its toughness has not been tested when sprinkled in the tropical nature with temperature and humidity as the threats. The manuscript will be transferred and disseminated to the user of the National Library by Library Services. The paragraph below will explain the condition of the manuscript scope.

Librarians must protect the collections from damaging factor. In addition, they are the first ones having the responsibility of taking good care of the collections in the library. Librarians in the National Library of the Republic of Indonesia have designed working procedures of preservation. Every librarian has specific skills related to his scope of work, such competence among others include preserving library materials, deciding on the storing methods in a very effective way also monitoring and taking the collection result to preserve.

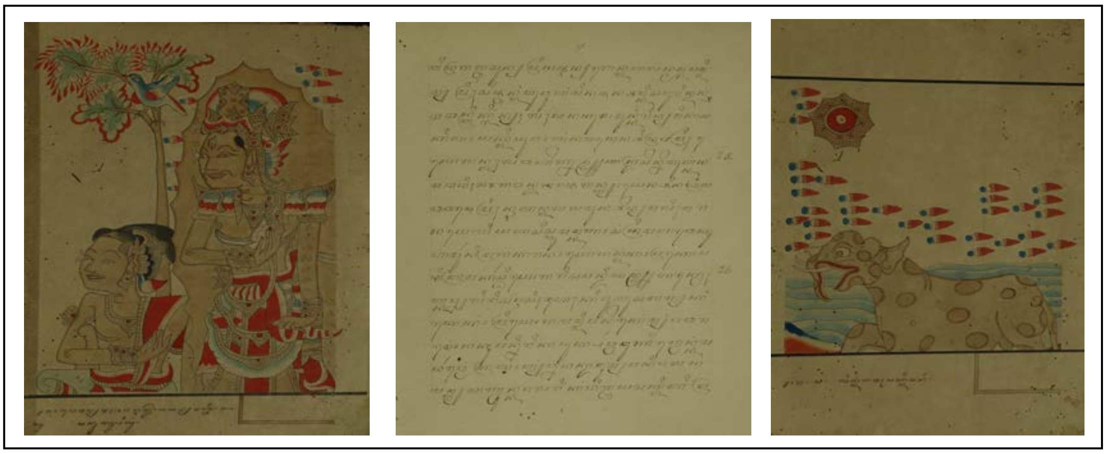

Figure 1: National Library of Indonesia Manuscript Collection

The long-term value and volume of information will vary among disciplines, and various categories of materials will be the choice for long-term curation, and preservation may be a significant problem. As a consequence, the long-term selection, curation, and preservation of digital resources can become increasingly important for various activities (Digital Preservation Coalition, 2006; Lord & Macdonald, 2003).

The constraints of difficulties in opening bureaucracy for data collection of manuscripts can be made by means of socialization. Lack of trust in the government in the effort to the archipelago manuscript preservation resulted in rejections from the owner of the manuscript to save the contents. The owner or the heir of the manuscript who has the right to the manuscript existence can be given an understanding of the importance of the data contained in the manuscript relating to the preservation of the nation's cultural heritage and also the importance of historical values that cannot be measured economically. So, this is where the Librarian can also act as a mediator to regain public trust and explain the benefits of this manuscript to form awareness in the community to participate in its preservation. The National Library of Indonesia also coordinates with the stakeholders in the area, such as regional libraries, public museums, tourism offices, and manuscript lover communities. It is done so that they can embrace the community by means of a cultural approach.

The Librarian for Preservation Departement takes part in maintaining the nation's cultural heritage by carrying out the preservation process of manuscripts in Indonesia. The journey processes of Archipelago Manuscripts Preservation carried out by the Preservation Departement are as follows:

Table 1: Manuscripts Preservation

Years	Region	Titles	Pages
2007	Samparaja Museum, Bima, West Nusa Tenggara	74	2817
	Penyengat Island Sultanate	21	2000
	the Regional Public Library, Banda Aceh	4	1007
	the Bung Karno's Manuscript Collection, Bengkulu	5	1700
2008	Lombok	7	1747
	The official Tourism and Culture Department's	3	1177
	The Museum of Mpu Tantular, Sidoarjo	5	2905
	The Mantes Foundation (MULO) Bone Regional Library	13	2604
2009	Adityawarman Museum, Padang	30	7448
	The Keprabon Palace, Kasepuhan Palace, Kedaung, Mertasinga Cirebon	56	7123
2010	The Radya Museum Library Collection	14	1948
2012	The Maluku Regional Manuscripts in the Land of Siri Sori Islam Saparua	56	
2013	The Buton Sultanate Manuscript, the city government of Bau-bau	16	1188
	The Ancient manuscripts of the Bali Museum Collection	210	21500
	The Cirebon Kasepuhan Palace Manuscript	55	9074
	Medan Regional Manuscripts of the Serdang Sultanate	30	
2014	The Cirebon Kasepuhan Palace	41	6760
2015	The Cirebon Kasepuhan Palace	47	10830
	Jambi Provincial Museum	13	1256
	the Surakarta Mosque Collection	99	30200
2017	Garut	300	
2018	Pamekasan	200	

One of the enthusiasm factors of the Librarians of the National Library of Indonesia is the ethics of collection preservation. The main philosophy is preventing the collections from is better than reconstruct them. We shall not let the library materials be damaged and get worse before we regret it.

The preservation processes of the archipelago manuscript are divided into 3 (three): the pre-digitization stage (initial procedure) which is the preparation stage before the digital object retrieval process, the initial procedures include the process of inventorying and selecting manuscripts to be digitized, surveying the physical condition of the manuscript media, checking it if the condition of the paper is strong, brittle, or very fragile, identifying manuscript descriptive metadata, determining digital file formats, and selecting capture methods. The second stage is the stage of digitalization which is an act of transferring the format of a media to digital format, which begins with the process of retrieving digital objects, the next stage is posted (after) digitalization, this stage focuses more on how digital objects are presented and accessible by the users.

Figure 2: Sri Baduga Manuscripts

The constraints that occur in the field are often to find ancient manuscript collections which do not have complete descriptive data, no title, and manuscript number, while the media transfer officers do not understand the meaning of the script written, and even the owner of the manuscript does not know the title and contents of the manuscript. Determination of digital file formats produced, in accordance with the preservation master quality standards, are file formats which have high resolution, large dimensions, and file types that do not experience compression.

In between this process, it is also carried out conservation where the manuscripts in a state of concern, fragile, torn, in the form of sheets and so on, are carefully repaired so that their existence can be maintained longer and the information in them can still be saved.

Therefore, the Preservation Department Librarian of the National Library of Indonesia conducts the preservation by identifying and mapping the existence of ancient manuscripts, so that they can be followed up for further action, either physical conservation measures or the preservation of their information. Librarian enthusiasm is very important not only for the perfectness and independency on work ethics but also to preserve and campaign the requirement of preserving the national cultural heritage.

The research finding by having the ancient manuscripts in digital forms which are then uploaded into websites, therefore the making use of the collection has greater functions. The availability of the collection has made the national library richer in the number of collections to serve and to meet the demand of the society by visiting the website or coming to the library. The librarians get satisfaction from the enthusiasm experienced and the credit point obtained. In addition, they are challenged to upgrade the knowledge possessed and technology advancement.

CONCLUSION

Every manuscript has its own value by the information inside, the finding of the preserving manuscript using IK reveals to give several meanings.

The strength, In between the process, it also carries out conservation where the manuscripts, a state of concern, fragile, torn, in the form of sheets and so on, are carefully repaired so that their existence can be maintained longer and the information in them can still be saved.

The weakness, lack of trust in the government in the effort to the archipelago manuscript preservation resulted in rejections from the owner of the manuscript to save the contents. The constraints that occur in the field are often to find ancient manuscript collections which do not have complete descriptive data, no title, and manuscript number, while the media transfer officers do not understand the meaning of the script written.

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Information Literacy Competence in Connection with Religiosity to Maintain Social Cohesion among *Santri* of Ali Maksum Islamic Boarding School, Krapyak Yogyakarta – Indonesia

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ABSTRACT
Maintaining social cohesion among society has required people, both individually and collectively, including the Santri. Information literacy (IL) competence and religiosity has become factors that can contribute to maintain the social cohesion. The objective of this research is to find out the effect of information literacy competence and religiosity of those Santri toward the social cohesion. This effect is going to be mapped into three points, namely: first, the influence of information literacy competence on social cohesion; second, the influence of religiosity toward social cohesion; and third, the the influence of information literacy and religiosity simultaneously on social cohesion among the Santri of Ali Maksum Islamic Boarding School in Krapyak, Yogyakarta. Research sampling uses a Slovin technique which results in 182 respondents from the Santri. Researchers used a Likert scale to score for each answer of questionnaire and used SPSS as a data processing tool. Based on the results of data processing tool, the results show that information literacy competence significantly influence the social cohesion because the t-count value > t table value is 5.740 > 1.97331. It is also the same significant influence by religiosity toward the social cohesion as seen from the t-count value > t table by 6.061 > 1.97331. Therefore, information literacy and religiosity, both partially and simultaneously, influenced the social cohesion in significant way as shown on F count > F table, that is 5.669 > 3.05. Due to difference of significant influence between independent variables, it needs more exploration by other further studies.

Keywords: Information literacy; Religiosity; Social cohesion; *Santri*

INTRODUCTION

This is a beginning section which states the purpose and goals of the following writing. It is usually interesting that intrigues the reader and causes him or her to want to read on. The problem of social cohesion has been currently looked more fragile, particularly in Indonesia since the social media become a dominant communication tool. The issues of hoaxes have become a daily meal especially among millennial generation. Since such situation, social cohesion has been increasingly alarming because the spirit of social integration and nationalism among the people has been gradually eroded. Social cohesion is therefore being a crucial issue as a way toward a developed society. The Council of Europe (2005) defined the social cohesion as an ability of modernity to maintain equality of access to human rights-based sources of information that refer to diversity, individuality, collective autonomy, and active participation. Social cohesion is also understood as a social commitment to reduce horizontal conflict and prevent dichotomization of society (Pahl, 1991). Social cohesion is often associated with social integration because both are the basic elements for unity of the nation. Lackwood (1999) who analysed cohesion as a micro level and social integration as a macro level believes both of which depend on each other.

The potential for the erosion of social cohesion nowadays, one of which, is caused by hoaxes and/or lies that have become a serious problem in various countries, especially Indonesia. Hoax is defined as information designed to deceive and weaken the confidence of public organizations so as to cause fear and critical threats (Bowman, 2004). Based on information from the daily Kompas on March 15 2018, the Indonesian State Intelligence Agency (BIN) said more than 60 percent of social media content in Indonesia contained hoax information. The online survey conducted by the Indonesian Telematics Society (Mastel) on February 13, 2017 through 1.116 respondents showed that social media, such as Facebook, Twitter, and Instagram, became the most popular hoax distribution channel, which was around 92.40 percent followed by chat applications (whatsApp, line, and telegram) as much as 62.80 percent. While the most widely distributed hoax content based on the highest order is social politics, racial intolerance, health, food and beverages, financial fraud, science and technology, news of grief, jokes, natural disasters, and traffic.

The abundance of hoax news that spread will be very worrying when many people trust and disseminate this kind of information. The ease of hoax information dissemination is very dependent on the ability of the community to filter information that is spread on social media and other sources of information. Thus, the ability to filter information becomes an important competency that must be mastered by each individual so as not to easily trust information which is not validated yet. The ability to filter information can also be called information literacy skills. The American Library Association (ALA) (2005) defined information literacy as an ability that requires individuals to recognize when information is needed and have the ability to effectively find, evaluate, and use the information needed.

Information literacy competence is considered as one of the main elements for the birth of a civilized society. As a main element, this capability may become an important point to reach a national development in a state level that is not only related to the quality of education but also in a broader context, such as health and welfare (Garner, 2006). In addition, information literacy may also contribute to health, democracy, and pluralism that can sustain the economy and prosperity of society in a sustainable manner (Mc Travis, 2009). For this context, people with information literacy skills are considered capable of playing a role in maintaining social cohesion in various fields, such as culture and law enforcement. The value of transcendental religiosity also becomes one of elements that affect the condition of community social cohesion. Durkheim (1961) stated that religion is a system of beliefs and deeds that are related to sacred things that can unite a community under religious system (Abdullah, 2009). In this context, Islamic boarding schools as potential institutions to involve in those issues become important to be studied. One of them is Ali Maksum Islamic boarding school due its popularity among society, particularly students from different universities in Yogyakarta. In order explore such issues; this study is going to look at three objectives, i.e. first on the influence of information literacy competence toward social cohesion; second on the effect of religiosity toward social cohesion; and third on the effect of information literacy competence and religiosity simultaneously toward social cohesion among *Santri* of the boarding school.

LITERATURE REVIEW

Information literacy as a social capital

Information Literacy (IL) is defined as understanding and a series of individual abilities to recognize when information is needed and has the ability to effectively search, evaluate, and use that information (UNESCO, 2002). People who have information literacy skills can be said to be "literate" or information literate individuals. The Australian Library and Information Association (2001) defined that information literate people are those who know when they need information. They can identify, search, evaluate, organize, and use information effectively to overcome and help resolve social problems. Meanwhile, Alexandria Proclamation (2005) explained IL as an important ability for individuals to achieve personal and social goals, including work and education.

Besides being able to develop individual and social capacity and quality, IL skills can help improve national work achievement because IL also covers broader aspects, such as the context of work and the welfare of community. This makes IL start to be considered as an important part of national development elements in various countries. Garner (2006) stated that literacy skills can develop science as a long-term learning that builds the quality of society in a country from various fields. In fact, IL has become an important skill for knowledge society nowadays. Schools begin to apply a holistic approach to IL and add it to teaching units in schools (Abrizah, 2008). This is very important because literacy competency has become a serious concern to produce information literate young generation (Yu, Abrizah, and Sani, 2016).

Information literacy competence indicators

IL competence is closely related to ability to solve problems, especially in the field of information. However, IL skills also become a collection of integrated skills that can help problems effectively in all aspects of life. The Organization for Economic Cooperation and Development (OEDC) (2006) stated that public information literacy skills become one of the objects that can measure the progress of a society. This is because IL skills can change community dependence from 'knowledge brokers' to 'knowledge builders' (OECD, 2007). Campbell (2004) mentioned that there are several elements that support IL as human development, namely: recognizing information needs, finding and evaluating information quality, storing and recovering information, using information effectively and ethically, and applying information to create and communicate knowledge. Several surveys of IL skills assessments have been conducted, such as a consortium of library scientists in the United States who developed IL knowledge tests based on the standards of the Association of College and Research Libraries (ACRL) called the Standardized Assessment of Information Literacy Skills (SAILS) using the Latent-Trait theory (O'Connor et al., 2002). Educational Testing Service (ETS) recently published a computer-based information capability assessment called the iSkills Test (ETS, 2008). In Australia, the Information Skill Survey (ISS) has also been developed by University of Australia Librarians Council to measure community literacy skills (Catts, 2005).

The standard for measuring IL skills has been also developed by the Australian and New Zealand Information Literacy Framework which can be applied in various education or in general. In this standard, there are three skills that support information literacy, namely: 1) generic skills which include problem solving, collaboration and teamwork, communication, and critical thinking; 2) information capability includes information seeking, use, and information technology fluency; and 3) information ethics capabilities, namely the use of information wisely, ethically, and responsibly (ACRL, 2003). In addition, the Australian and New Zealand Institute for Information Literacy also makes six standards of assessment to identify a person's information capabilities, namely: 1) recognizing the need for information and having ability to determine the information needed; 2) being able to find information needed effectively and efficiently; 3) evaluating the process of finding information critically; 4) having ability to manage the information gathered; 5) having ability to apply information to create new concepts and understandings; 6) and using information with understanding in accordance with ethics, culture and social law (Bundy, 2004).

***Santri* and religiosity**

The word *Santri* is a term for someone who participates in Islamic education in Islamic boarding schools and even stays there until the religious education is completed. The term *Santri* originally came from Sanskrit namely "*Shastri*" which has the same root as "literary" which may mean as a holy book, religion, or knowledge (Makhfudli, 2009). Another opinion says that *Santri* is derived from the word *'Cantrik'* meaning the servant of ascetics. A person of *Cantrik* will be rewarded in the form of knowledge after serving. This is not much different from the *Santri* who have served in Islamic boarding schools with obedience and devotion to grand teachers, called *Kyai*. They will get paid for knowledge and blessings. A majority of people believe that *Santri* are people who are very familiar with Islamic religion because they get religious knowledge from the *Kyai*. They were required to recite and learn a variety of knowledge about Islam every day.

Another reason is that the *Santri* have high religiosity because their closeness to the *Kyai*.

The concept of religiosity is understood differently because of differences in viewpoints. One of them lies in the basic aspects of emphasis, such as transcendentality and horizontality, spiritual piousness and social piousness. According to Salleh (2012), for example, religiosity is described in the aspect of trust which is then characterized by piousness situation and religiosity spirit, which then result in various terms, such as devotion, holiness, belief, and so on. Meanwhile, Ancok and Suroso (2011:76), Fridayanti (2005), and Dewi (2012) stated that religion is not only related to ritual behavior or worship, but also all activities carried out based on supernatural encouragement. They explain religiosity in five dimensions, i.e. belief/ideology, rituals/practices, consequential, intellectual/knowledge, and experiential. Besides, Mueller (1980) referred to Verbit which explains religiosity in six dimensions: community, doctrine, ethics, ritual, knowledge, and emotion. In Fukuyama, religiosity is seen in four dimensions, creedal, cultic, cognitive, devotional. Likewise, a number of other experts see religiosity in a number of more or less the same dimensions which include personal and group piousness that departs from a religious belief.

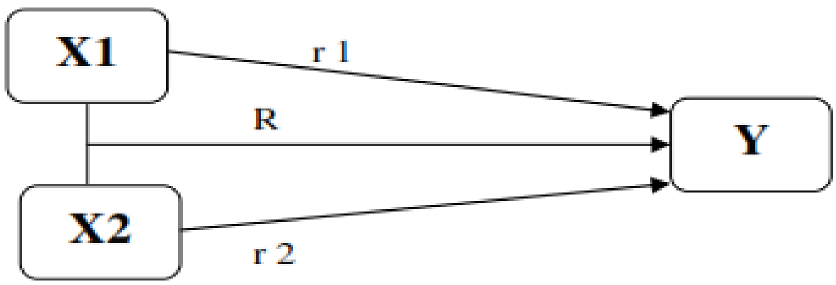
Social cohesion

Social cohesion is an important part for community construction in maintaining national unity of politics, economics, socio-culture, etc. Social cohesion is closely related to social integrity that is connected to various problems, such as the crisis of national solidarity and other social ties (Giardielle, 2014). Various problems regarding social cohesion arise from complex problems, such as ethnic conflict, globalization, or structural changes in the social bonds of society. Easterly et al. (2006) stated that the problem of cohesion is usually related to social and economic divisions (income, ethnicity, politics, caste, language, etc.). Chan, et al. (2006) made a definition of social cohesion as an inner attribute of society through the relationship of vertical-horizontal and objective-subjective dimensions. In this case, social cohesion is considered as a key aspect for a cosmopolitan environment where many people transcend the boundaries of citizenship, especially related to the attachment and solidarity with each other (Jansens et al., 2006).

Lockwood (1999) explained social cohesion as a macro (a nation) and micro (organization, city, and environment). The micro dimension is configured as a social relationship consisting of primary and secondary relationships in the local community, while the macro dimension is universal integration between fellow citizens. The importance of social cohesion for community and nation environment is a serious concern in various countries, because a good social cohesion will greatly help maintain national unity and development. Freidkin (2004) explained that cohesive groups will produce positive attitudes and behaviours in maintaining their interaction and group conditions. Attention to the conditions of social cohesion of a group or nation can be interpreted as a conservative and caring effort in solving various problems, challenges, and changes. According to the European Committee for Social Cohesion (2004), efforts to maintain this cohesion are also carried out by the government to provide welfare and security, minimize gaps, and avoid marginality. For this point, social cohesion helps cultivate a sense of belonging among individuals to achieve common social goals.

RESEARCH DESIGN

This research uses an associative quantitative research design. Quantitative research according to Sugiyono (2010) is interpreted as a research method used to examine specific populations or samples. Data collection for the research employs research instruments and quantitative or statistical data analysis. While associative is a study that aims to determine the relationship of two or more variables (Sugiyono, 2014; Siregar, 2013). The purpose of this study was to analyze the influence of information literacy competence and religiosity on social cohesion among the *Santri* of Ali Maksum Islamic boarding school in Krapyak - Yogyakarta. More specifically, the researchers are going to find out to what extent both partially and simultaneously the information literacy competence and religiosity influence on social cohesion as well as the correlation between information literacy competence and religiosity among the *Santri*. The following are pictures of research variables that will be discussed in this study:



Picture 1. Research variable relation

X1 = Information literacy competence
X2 = Religiosity
Y = Social cohesion
r = Partially influence
R = Simultaneously influence

The population of this research consists of male and female *Santri* of Ali Maksum Islamic boarding school in Krapyak - Yogyakarta, which numbered 335 persons. This number consists of 120 men and 215 women. The population in question is those who take religious education in Islamic boarding schools as well as study in higher education. The sample used is 182 respondents based on Slovin formula (Ryan, T., 2013) as follows:

$$n = \frac{N}{(1 + (N \times e^2))}$$

N = Number of population member
n = Number of samples
e = Error tolerance limit of 5% or 0.05

$$n = \frac{335}{(1 + (335 \times (0.05^2)}$$

$$n = \frac{335}{(1 + (335 \times 0.0025)}$$

$$n = 182$$

While the data analysis used is multiple regression analysis because there are two independent variables (X1, X2) that will be tested against one dependent variable (Y) through the t test to determine whether or not there is an effect of variable X toward variable Y and F test to find out the effect of the two variables X together toward variable Y. While to test the tendency of those variables' data, the researchers conducted a classic assumptions test through a normality test that is followed by hypothesis test. Meanwhile, validity test used is the Pearson product-moment correlation coefficient, which found that information literacy competence, religiosity, and social cohesion variables have r- count value > 0.03, so it is said that the measuring instrument used in this study is valid. While the reliability test shows that the Cronbach Alpha value in the information literacy competence is 0.634 > 0.06, the religiosity is 0.706 > 0.06, and social cohesion is 0.718 > 0.06. Based on this formulation, it can be concluded that all data used are reliable. All data used were collected from the interval scoring by modified Likert scale as below:

Table 1. Likert scale

Answer	Score
Very Agree	4
Agree	3
Disagree	2
Very Disagree	1

Meanwhile, the hypotheses that will be tested in this study include:

Hypothesis 1 (H1) : There is an influence of information literacy competence toward social cohesion.

Hypothesis 2 (H2) : There is an influence of the level of religiosity toward social cohesion.

Hypothesis 3 (H3) : There is a simultaneous influence of information literacy competence and religiosity toward social cohesion.

RESULTS

Research Overview

In sub-district of Krapyak, Yogyakarta, this is famously known as the village of Santri. There are three big Islamic boarding schools, namely Al-Munawwir found since 1909, Ali Maksum since 1990, and Al-Muhsin since 1991. This research is focused on Ali Maksum Islamic boarding school due to a reason that this boarding school is currently known as lots of various Islamic programs comparing to other boarding schools. Ali Maksum Islamic boarding school is one of the famous huts in the sub-district of Krapyak - Yogyakarta. This boarding school has various educational facilities, ranging from formal schools, such as junior high school, senior high school, and even higher education, to non-formal education, such as Qur'anic memorization program and Arabic book learning that are usually done inside the hut.

Educational style of Ali Maksum Islamic boarding school Krapyak adheres to an integrated mixed pattern between formal and formal education. In non-formal education, the *Santri* will get a lot of religious education in order to maintain the conventional pattern of the boarding school. This boarding school operates in a white building. There is a cottage in the white building, which is a special place for *Santri* who are currently studying in college and still want to get religious education through this boarding school. It has a special cottage area for girls and boys. The *Santri* must take part at the boarding school activities every after returning back from their formal educational activities at university. The usual Islamic boarding school activities are learning through *Kyai*, reciting the Qur'an every morning and evening prayers, and yellow book studies carried out regularly every week.

(a) Test for multiple linear classical assumptions

Multiple linear regression analysis of this research is used because there found three variables that have a linear relation, namely two independent variables influencing one dependent variable. Information literacy competence and religiosity variables simultaneously affect the social cohesion. In this classical assumption test, there found 182 questionnaires which were collected and tested using SPSS (Statistical Package for Social Sciences) tool. In this regard, regression analysis is designed to carry out the t-test and F test. The t-test is conducted to find out the influence of the independent variable (information literacy ability and level of religiosity) on the dependent variable (social cohesion). In this t-test, it will be known how much the partial effect of each independent variable on the dependent variable. While the F test is conducted to determine the effect of both independent variables simultaneously affecting the dependent variable. The classical assumption test by this research is in the following:

Normality test

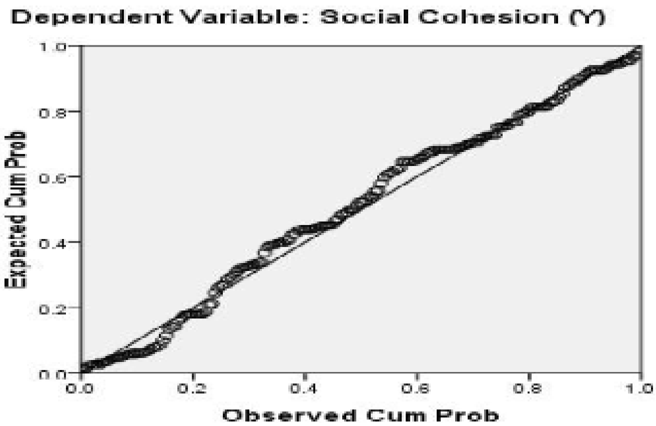
The normality test is done to know whether the sample used has a normal distribution or not. A good regression model is one that has a normal or near normal distribution. Meanwhile, the multicollinearity test is conducted to test whether the regression model shows any correlation between the independent variables. A good regression model should not have a correlation between independent variables (Santoso, 2012). The normality test used is the Kolmogrov-Smirnov test and P-plot of regression.

One-Sample Kolmogorov-Smirnov Test

		Information Literacy (X1)	Religiosity (X2)	Social Cohesion (Y)
N		182	182	182
Normal Parameters[a]	Mean	40.2857	35.3956	27.8571
	Std. Deviation	2.45078	2.69593	2.35788
Most Extreme Differences	Absolute	.132	.123	.145
	Positive	.063	.091	.085
	Negative	-.132	-.123	-.145
Kolmogorov-Smirnov Z		1.774	1.659	1.957
Asymp. Sig. (2-tailed)		.004	.008	.001

Test distribution is Normal.

Normal P-P Plot of Regression Standardized Residual



From the normality test through the Kolmogrov-Smirnov test method, it is known that the three variables used are normally distributed. This can be seen from the absolute value of each variable, which is greater than the Kolmogorov Smirnov table with N = 182, which has a value of 0.10081. The information literacy variable (X1) has an absolute value of 0.132 > 0.10081 meaning normal distribution, the religiosity variable (X2) with an absolute value of 0.123 > 0.10081 means normal distribution, and the social cohesion variable by 0.145 > 0.10081 is also normally distributed. In addition, the histogram image shows a symmetrical curve. Although, the distribution of points on the -Plots picture is found some that are slightly away from the line, but in general the data is normally distributed. This result shows that the three variables meet the requirements to be conducted for t- test and F test.

Multicollinearity test

Analysis for multicollinearity test is one of the requirements to conduct a classical assumption test. The aim of this multicollinearity test is to look at whether or not any correlation between independent variables, because a good regression model should not have a correlation between independent variables or no symptoms of multicollinearity. The basis of decision making on this test is done by looking at the tolerance value and VIF value. If the tolerance value is greater than 0.10 and the VIF value is less than 10.0, then it can be interpreted that the regression model does not occur in multicollinearity. Multicollinearity testing on this research variable can be seen in the table below:

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	18.241	3.075		5.932	.000		
	Information Literacy (X1)	.094	.076	.097	1.234	.219	.845	1.183
	Religiosity (X2)	.165	.069	.189	2.395	.018	.845	1.183

Dependent Variable: Social Cohesion (Y)

From the test table above found a tolerance value of 0.845 and a VIF value of 1,183. This value indicates that the tolerance value is greater than 0.10, that is 0.845 > 0.10 and the VIF value is smaller than 10.0, that is 1.183 < 10.0. These results indicate that there is no correlation between independent variables or no multicollinearity in the regression model. From the results of this test, the regression model is generated as follows: Y = 18,241 + 0.094X1 + 0.165X2 + e

(b) Test for Hypothesis

The influence of information literacy competencies on social cohesion

The first hypothesis test is done by t- test. The t- test or partial test aims to find out how the effects of each independent variable partially/individually toward the dependent variable. In this study, the t-test is to be conducted to determine the effect of information literacy toward social cohesion. In this test using SPSS, the calculation of t-test is done by comparing the value of t-count with t-table. If the t-count > t- table, then there is influence. While if the t-count < t-table, then there is no influence. It can be seen in the coefficients of table below.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
		B	Std. Error	Beta			Zero-order	Partial	Part
1	(Constant)	17.963	3.042		5.904	.000			
	Information Literacy (X1)	.433	.075	.393	5.740	.000	.393	.393	.393

Dependent Variable: Religiosity (X2)

In order to compare t- count with t- table, it is necessary to find out the value of t- table first. In calculating the t-table with the number df = 179 and the significance level a = 5% or 0.05, the value of t- table is obtained by 1.97331. The table shows that the t-count value found in information literacy competence is 5.740. This point demonstrates the t-count value is higher than the t- table, that is 5.740 > 1.97331 meaning that the information literacy competence by the *Santri* of Ali Maksum Islamic boarding school in Krapyak Yogyakarta has a significant influence on the social.

The influence of religiosity toward social cohesion

In testing the effect of religiosity by the Santri Ali Maksum Krapyak Islamic Boarding School toward social cohesion, the same way is also done. The t- count value is compared to the t-table values. If the t- count value is greater than t- table, then it can be concluded that there is a significant influence between variables. The results of testing on the level of religiosity variable toward social cohesion are obtained below.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
		B	Std. Error	Beta			Zero-order	Partial	Part
1	(Constant)	7.729	3.550		2.177	.034			
	Religiosity (X2)	.604	.100	.658	6.061	.000	.658	.658	.658

a. Dependent Variable: Social Cohesion (Y)

Based on the results of the test above, it is found that the t- count value is 6.061. If the point is compared to the t- table value by 1.97331, it is found that the result of the t-count value is greater than the t- table value, that is 6.061 > 1.97331. These results indicate that the level of religiosity variable also has a significant effect on social cohesion in the environment of the *Santri* of Ali Maksum Krapyak Islamic Boarding School in Yogyakarta.

Simultaneous influence of information literacy competence and religiosity on social cohesion

Simultaneous effect of independent variables toward dependent variable needs to know through multiple linear regression analysis. As this research is found two independent variables, it is necessary to know how both influence dependent variable simultaneously. Through SPSS in data processing, this simultaneous effect is known through the F test. The F test is a test that aims to determine whether the independent variables simultaneously have a significant effect on the dependent variable. The degree of trust used is 0.05. In the F test, the assessment is done by comparing the value of F count with F table which is found in the ANOVA table below.

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	59.943	2	29.972	5.669	.004[a]
	Residual	946.342	179	5.287		
	Total	1006.286	181			

a. Predictors: (Constant), Religiosity (X2), Information Literacy (X1)

b. Dependent Variable: Social Cohesion (Y)

Assessment carried out on the F test is carried out if F count > F table and Sig. < 0.005, it means that the variable has a significant effect. From the table of F test results above, it is known that the F count value is 5.669 and the sig value. 0.004. Meanwhile, the value of F table with df regression = 2 and residual df 179 is found in the value of F table 3.05. When compared then 5.669 > 3.05 and Sig. 0.004 < 0.005, so it can be concluded that the information literacy and religiosity variables (X1 and X2) have a simultaneous significant influence on social cohesion (Y).

The results of hypothesis test above can be illustrated in the form of the following table:

Table 2: Hypothesis test results

Hypothesis	Statement	Value	Description
H1	Information literacy competence influences on social cohesion	5.740	H1 is accepted and H0 is rejected, because the value of t count 5.740 > 1.97331 (t table) = significant effect

H2	Religiosity has an effect toward social cohesion	6.061	H2 is accepted and H0 is rejected, because the value of t count 6.061 > 1.97331 (t table) = significant effect
H3	Information literacy skill and religiosity simultaneously influence on social cohesion	5.669	H3 is accepted and H0 is rejected, because the value of F count is 5.669 > 3.05 (F table) = significant effect simultaneously

Critical analysis

Hypothesis test shows that the information literacy competence have a significant influence on social cohesion as can be seen from the t- count value is higher than the t-table. It is similar what occurred in the religiosity that has a significant influence on the dependent variable. This result demonstrates that information literacy abilities and religiosity among *Santri* of Ali Maksum Islamic boarding school both partially and simultaneously influenced the social cohesion. In detail way, it seems that the information literacy skills among the *Santri* have been able to contribute to help maintain their social cohesion albeit still lower than religiosity. Although, they have actually got access to different public and non-religious education, trends of religious influence are still in dominance. This result illustrates that the religiosity has a great power that is able to maintain social cohesion comparing the information literacy. According to Sumartana et al. (2001), religion is able to provide an effective base of moral strength in society because it has no other interests than to defend human rights and dignity.

Furthermore, the life in Islamic boarding schools requires *Santri* to always obey their *Kyai*. Such obedience is believed to be able to get great blessings and rewards when doing so, because aspects of faith, religious practice, and experience or morals will influence the individuals' perspectives based on the dogma or faith they believe in (Pasiak, 2012). The result can be concluded that *Santri* tend to step over the condition of modernity and adhere more to traditional Islamic creeds that make information literacy competence not as strong as religiosity in maintaining social cohesion. Another test demonstrates that the information literacy competences have a significant influence on social cohesion, both done partially and simultaneously with the religiosity (Islam and Chandrasekaran, 2016). The test is supported by the multicollinearity test showing that there is no correlation between information literacy skills and religiosity among those *Santri* in their contribution to social cohesion. This can be explained that in an Islamic boarding school environment, *Santri* also have good information literacy skills to work with their religiosity in helping maintain their social cohesion in society, nation, and state (Mahali and Mujawazah, 1993).

Another source pointing out that discourse on literacy and religiosity has a relevant root in the Islamic tradition. It implicitly describes that the instruction of reading correlates with religious obedience which is more dominant in the formation of personality, including the social groups that lead to social integration (al-Qur'an: al-Alaq:1-5; Lardinois, 2011). Therefore, the religious condition of the *Santri* community is not surprising if the result of hypothesis test on IL is lower than religiosity in its influence toward social cohesion. This may occur because the dominance of religiosity compliance effect is too high so that other factors are ignored (Ansari, 2015). The level of value in information literacy aspects of Islamic boarding schools does not mean that their literacy skills are lowest but the potential for the religiosity effect of those who have strong pressure. Therefore, this point need to research inductively in order to uncover the phenomena of literacy relations with religiosity at the level of their interaction to people lives in general (Usman et al., 2017)

CONCLUSION

Based on the results of data examination using SPSS, it can be seen that *Santri* of Ali Maksum boarding school in Krapyak - Yogyakarta have good literacy skills and a high level of religiosity. In addition, they also understand that maintaining social cohesion in society is a must for every individual of a nation. Data processing is done through multiple linear regression analysis to test three hypotheses. From the results of the test, it was found that the first hypothesis (H1) is accepted because the information literacy ability influences the social cohesion as seen in the t-count value, which is higher than the t-table that is 5.740 > 1.97331 meaning a significant effect. It is also the same in the second hypothesis (H2) because the t-count value is higher than t-table that is 6.061 > 1.97331. This means that the religiosity significantly affects the social cohesion as well. Then, in the F test for the third hypothesis (H3), the result shows that the F count value is greater than F table by 5.669 > 3.05. Thus, it can be concluded that information literacy ability and religiosity simultaneously influence the social cohesion significantly. The significant influence of the two independent variables above shows that the impacts of education carried out by the *Santri* in the boarding school illustrate the parallel effect on their intellectual and spiritual attitudes toward social cohesion. Although, both of these independent variables are equally significant, the level of significance of the religiosity is higher than information literacy ability. For this point, it is interesting to study further to see what phenomena are behind the trend of religiosity that excels the information literacy variable.

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Is it enough to build? : Users' Awareness and Utilization of AEA-IRC Learning Commons

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ABSTRACT
The study aimed to find out the current status of the Aklatang Emilio Aguinaldo- Information Resource Center Learning Commons (AEA-IRC LC) and to assess user's awareness and utilization of the space, facilities and design through the lens of social utility model. The findings of the study served as reference to enhance the design and lay-out of the AEA-IRC LC and in designing an engaging program of activities that are embedded/aligned in the curriculum or course syllabus. This paper utilized the descriptive type of research using a researcher–made survey questionnaire as data gathering instrument. The respondents are Senior High School and undergraduate students of De La Salle University – Dasmariñas (DLSU-D) who are enrolled during the school year 2017- 2018. The number of respondents was computed using the Sample size calculator with 5% margin of error and 95% confidence level. The gathered data were tabulated, analyzed and interpreted using mean and percentages and Pearson's Correlation Coefficient. In this study, the value of AEA-IRC LC to teaching and learning has been strengthened. And it has been proven that it is not enough to build a space. Its intended purpose must be known to all and its design and facilities must be aligned with the educational needs of those who will use the learning space. This paper affirmed other studies conducted on the learning commons as evolving learning space in campus. The instrument made can be duplicated alongside other methods on measuring the impact and value of the learning commons in teaching, learning and research.

Keywords: learning commons, collaborative space, social utility model, library space, space planning

INTRODUCTION

Libraries are among the most visited and most welcoming learning spaces (Demas, 2005) in the university. These spaces are intended to welcome everyone to engage in both individual study and collaborative activity. As defined by Paton (2014) learning commons (LC) is designed to facilitate learning, to enable students to organize their own learning, to participate in shared learning and to participate in the production of knowledge. Embracing these ideas, the Aklatang Emilio Aguinaldo – Information Resource Center (AEA-IRC) opened the LC to its users during the second semester of SY 2015-2016. The

LC is also an answer to the demand for more learning spaces in the library due to increasing number of users.

The AEA-IRC LC is strategically located at the second floor of the main library building near the printed book collections and the reading area. It occupies an area of 144 sq. m. and can accommodate 180 users at a time. It is a learning area with furniture, air-condition, internet access and a security system. Since the start of its operation, the LC has accommodated an average of 7,756 users every semester and continuously increasing every year. Based on the given statistics, majority of LC users are students.

The LC of the AEA-IRC supports a learner-centered approach of learning commons model which focuses on active and collaborative engagement (Faber, 2012). The user engagement is the main consideration of the space. Also, its design is made to encourage more group work activities.

Webb, et al. (2008) pointed out that if "we want to engage students in library spaces, it is imperative we discard traditional views of library space and furniture" (p.420). In relation to this, the design of the LC is attuned with the current trends in interior design as reflected in the available furniture which invokes encouragement to library patrons. Moreover, the choice of colors for the sofas, bean bags and chairs were made conducive for collaboration among students.

In 2014, Wong mentioned that the "LC was not just another quiet study space in the campus" (in Chang and Wong, 2013, p. 434). The LC's appearance sends an atmosphere where our millennial users would be more encouraged to come because of the vibrant learning space where they could collaborate ideas with fellow students. The value of LC as facilitator of learning should become an important part of students' life in the campus, hence, it should respond to users' needs in a learning space that encourage and promote shared learning.

Library users are utilizing the LC of AEA-IRC as a learning space for various purposes and activities. Since its conception, the LC has been accommodating many library users. In spite of the good intention for creating it as additional learning space, the library has received unfavorable reactions from faculty, alumni and students as to the real purpose of the LC. Thus, this study was conceived.

It aimed to find out the current status of the LC and assessed user's level of awareness with regard to the LC's purpose, facilities and design and the level of its utilization. The findings of the study served as reference in creating a program of activities for the improvement on the use of the AEA-IRC Learning Commons for the school year 2018-2019. Likewise, this paper hoped to contribute to AEA-IRC's research outputs and to the existing studies and literature on the importance of the learning commons as a learning space.

LITERATURE REVIEW

Dr. R.S. Ranganathan once said that library is a growing organism. The library has evolved and continues evolving as technology advances and resources becoming sophisticated. The change on the role played by the library is synonymous to the transformation on how it has been addressed or named. Today, the library has been called the learning commons which discussed thoroughly in most literature. It may take its root on the constructivist educational philosophy "which asserts that real understanding and knowledge are constructed through personal experience and reflection rather than conveyed passively through a classroom lecture. This decenteredness of the learning space with emphasis on "co-learning and co-construction of knowledge is best exemplified in the Commons 2.0. (Nancy Van Note Chism, in Sinclair, p.4) Commons 2.0 follows the principles of: 1) "openness to cross disciplinary exchange of ideas; 2) freedom which pertains to flexibility and mobility; 3) comfortable to accommodate diverse learners and their learning styles ; 4) inspiring wherein the furnishings, layout, and design should present a uniform and consistent vision of functionality, sophistication and creativity, and practical space where real work and learning takes place" (Sinclair, p. 4-6). Mary Bangert (2017) called it as "dynamic, flexible accessible student-centric space designed to accommodate multiple learning activities and facilitate both quiet, individual study and collaborative conversations" (p.1). More than physical space, the learning commons is a human space where relationships is given high importance as underscored by Lippincot and Greenwell (2011). The learning commons model has also been adopted in the classroom setting with the librarian as co-teaching partner in designing curriculum and instruction (Burress, Atkins & Burns, 2018).

To become more effective as a learning space, the learning commons first and foremost "must be willing to understand and be responsive to the needs of community of learners" (Sinclair, p.6). This approach is known as user-centered / learning focused library (re)design. Sommerville and Collins (2008) study has proven the efficacy of collaborative design practice or participatory design philosophy when they plan for library learning commons and learning spaces for California Polytechnic State University and San Jose State University in California U.S.A.

Moreover, the impact and value of the learning commons to the academic community should be measure regularly. The best way to do this is through assessment and evaluation (Choy and Goh, 2016; Wong, 2014; UI, 2014-2015; Webb, Schaller, & Hunley, 2008). According to Wong, "evaluation must be an iterative process in order to effectively and continually measure learner behaviors and pedagogic changes" (p. 442). If the library wants to thrive in this digital and virtual age, it should have what the HKUST Library strives for - the "foresight" and ability to bring change in teaching, learning and research (p.442).

CONCEPTUAL FRAMEWORK

This study is guided by the concept of social utility model which defined by McIntyre and Miller (1992, p. 1) "as those benefits of a product or service that satisfy interpersonal needs" and beneficial "to the majority of population of any given society (Gupta, 2018; Sinha, 2015)." Lippincott and Greenwell, (2011) adopted this philosophy in their concept of the modern learning commons which according to them "is a flexible environment built to accommodate multiple learning activities" based on the users' needs and the nature of their learning activities. According to them, there are seven questions that must be answered in developing a modern learning commons (p.1-2). These questions are:

a) What is it?
b) How does it work?
c) Who is doing it
d) Why is it significant?
e) What are the downsides?
f) Where is it going?
g) What are the implications for teaching and learning?

Using these questions as a guide, the researchers developed the following indicators in assessing the user's awareness on the purpose of the LC and how the facilities were being utilized.

a) Knowledge on the purpose of the space
b) Suitability of the LC to user's needs
c) User's engagement on the LC
d) Implication to teaching and learning

This study is guided by the concept of social utility model which defined by McIntyre and Miller (1992, p. 1) "as those benefits of a product or service that satisfy interpersonal needs" and beneficial "to the majority of population of any given society (Gupta, 2018; Sinha; 2018)." Lippincott and Greenwell, (2011) adopted this philosophy in their concept of the modern learning commons which according to them "is a flexible environment built to accommodate multiple learning activities" based on the users' needs and the nature of their learning activities. According to them, there are seven questions that must be answered in developing a modern learning commons. These questions are:

a) What is it?
b) How does it work?
c) Who's doing it
d) Why is it significant?
e) What are the downsides?
f) Where is it going?
g) What is the implications for teaching and learning?

Using these questions as a guide, the researchers developed the following indicators in assessing the user's awareness on the purpose of the LC and how the facilities were being utilized.

a) Knowledge on the purpose of the space
b) Suitability of the LC to user's needs
c) User's engagement on the LC
d) Implication to teaching and learning

PURPOSE OF THE STUDY

Based on the indicators given, the aims of the study are: 1) to determine the awareness on the purpose of the LC; 2) to assess the LC's facilities and design; and 3) to identify the level of utilization of AEA-IRC LC by the Senior High School and undergraduate students of De La Salle University – Dasmariñas (DLSU-D) SY 2017-2018. It also aimed to utilize the responses of the respondents as a basis to develop a program of activities for the improvement of the use of the AEA-IRC Learning Commons for the school year 2018-2019.

Specifically, it sought to answer the following questions:

1. What is the level of awareness of users of AEA-IRC LC with regard to purpose?
2. How do users assess the AEA-IRC LC with regard to facilities and design?
3. What is the level of utilization of AEA-IRC LC by the users?
4. Is there a significant relationship with the level of awareness and level of utilization of the users of AEA-IRC LC when they are grouped according to:
   4.1 College
   4.2 Year level
5. Based on the results of the study, what improvements for AEA-IRC LC can be proposed?

RESEARCH DESIGN

This paper used the descriptive survey type of research. A researcher-made survey questionnaire was used as data gathering instrument to determine the level of awareness of the users with regard to the LC's purpose, facilities and design and the level of utilization by the respondents. The questionnaire was divided into four parts: 1.) respondent's profile; 2.) awareness of LC's purpose, facilities and design; 3.) utilization of LC; and 4.) recommendations for improvement. Under awareness of purpose, the researchers identified five LC purpose and the respondents rated their knowledge about the purpose using a Likert scale (1=not aware, 2=aware to a little extent, 3=aware to a moderate extent, 4=aware to a high extent, and 5=fully aware). Under facilities and design, the researchers identified nine (9) items to be rated (1=strongly disagree, 2= disagree, 3= neither agree nor disagree, 4=agree, and 5=strongly agree). Under utilization of LC, fifteen (15) activities were provided to be rated (1=never, 2=rarely, 3= sometimes, 4=often, and 5=always).

In determining the validity of the research instrument, a pilot study was conducted to 45 respondents. To measure the reliability of the test items, the researcher performed Cronbach Alpha test. Result indicated .916 internal consistencies of all items and interpreted as excellent. Mean and percentages and Pearson's Correlation Coefficient were the statistical treatment used in data analysis. As for the sample distribution, a non-probability purposive sampling method was used wherein members of particular group of undergraduate college students and Senior High School students from different levels and tracks, respectively were purposefully chosen to answer the survey questionnaire from the months of November to December 2017. The number of respondents is computed using Raosoft sample size calculator with 5% margin of error and 95% confidence level.

RESULTS

(a) Knowledge on the purpose of the space

According to Schultz of Starbucks there is a need to define the core purpose for being (Williams, 2018). In the case of the Learning Commons, its rai·son d'ê·tre must be clearly defined and the library patrons should have knowledge about it. Otherwise, it will defeat its real purpose as “powerful venues to support student learning” and will result to what William Badke called “foundational flaws”. According to Lippincott and Greenwell (2011), in designing or redesigning a commons, there is a need to assess student needs and the nature of their school works to determine the alignment of the space to its intended purpose and function. This view of Lippincott and Greenwell on the importance of conducting assessment to determine the value of the learning commons to its users as basis for its improvement is supported by Wong (2014).

In this study, as disclosed in Table 1, the results revealed that the respondents are highly aware of the purpose of AEA-IRC LC. They were aware that this university facility could serve not only as venue for group learning and non-traditional learning activities of the students but also in developing teamwork and promoting culture of exploration and collaboration among students. Majority of them were cognizant that this space can also be used by individual learner. The LC’s characteristic of providing multiple needs of students was also highlighted in the study conducted by Wong in 2014 as “most loved” by the students of Hong Kong University of Science and Technology.

Table 1: Level of Users’ Awareness of the Purpose of AEA-IRC LC

Awareness of Purpose	Mean	Std. Deviation	Verbal Interpretation
1. serves as venue for group learning	4.16	0.988	Aware to a high extent
2. serves as venue for non-traditional activities of learning	4.12	0.892	Aware to a high extent
3. provides venue in developing teamwork	4.07	0.928	Aware to a high extent
4. promotes culture of exploration and collaboration	3.95	0.931	Aware to a high extent
5. encourages individual learning	3.75	1.018	Aware to a high extent
Overall	**4.01**	**0.9514**	**Aware to a high extent**

(b) Suitability of the LC to user’s needs

To meet the needs of the 21st century students and pedagogies, today’s library should be able to support knowledge economy, collaborative learning and outcomes-based pedagogy (Jones and Grote, 2018). It should serve as a learning-focused place for individuals and teams, and where creative technologies, library resources and educational activities interact and merge seamlessly together. “A revitalized library will be a “preferred destination,” an active participant in supporting knowledge creation—a “want to space for the diverse disciplines it serve” (Jones and Grote, 2018, p. 56). These features must be considered when planning to (re)design the library which is now called a learning commons. Another basic element that must be included in the design process is the partnership, collaboration, and team integration (Jones and Grote, 2018; Sommerville and Collins, 2008). Studies have shown that user participation in the planning process is essential for the following reasons: 1) to generate baseline data; and 2) encourage engagement among stakeholders. The result would be a user-centered design space suitable to the needs of its intended users.

Table 2 divulged the user's assessment of AEA-IRC LC that determine the suitability of facilities and design to their needs. The lighting design, comfortable seats, existence of CCTV cameras and well regulated room temperature got the highest mean and described as strongly agree. These results may be interpreted that the respondents are highly satisfied and approved with these features of the facilities of the LC. On the other hand, the W*i-fi* connection and the number of electrical outlets got the lowest ratings which the researchers believed is associated with the existing bandwith at the LC and the uneven proportion of available electrical sockets against the number of users. Whereas, the ratings given to design and arrangement of furniture and the flexibility of the space to cater various user's activities may be attributed to the size of the space, absence of other furniture such as movable type of tables and the overall interior design of the space. These findings was also confirmed in the study of Webb., et al. (2008) which stated that "the type of learning environments that students prefer are spaces that are comfortable, facilitate interpersonal communication, spaces that they can control, and areas that promote the integration of basic human needs and desire along with learning activites" (p.419). Also, these results braced with the idea advocated by Choy & Goh (2016) of the importance of maintaining vibrancy and space variety of the library interior to serve the diverse learning needs of its users.

Table 2: Assessment of AEA-IRC LC's Facilities and Design

Facilities and Design	**Mean**	**Std. Deviation**	**Verbal Interpretation**
1. has a well-lighted area	4.49	0.687	Strongly Agree
2. has a very comfortable seats	4.39	0.793	Strongly Agree
3. has CCTV for security and safety of the user	4.38	0.763	Strongly Agree
4. has a well regulated room temperature	4.31	0.817	Strongly Agree
5. has wi-fi connection	4.06	0.941	Agree
6. has a well design furniture suited to the users	4.03	0.919	Agree
7. has a well-planned arrangement of furniture	3.88	0.964	Agree
8. has more electrical outlet for user's gadget	3.65	1.127	Agree
9. has enough space to cater different student activities	3.44	1.107	Neutral
Overall	**4.07**	**0.902**	**Agree**

(c) User's engagement on the LC

Library users utilized the learning commons for a variety of reasons. Table 3 shows various activities that students are engaged with inside the learning commons. Most of the time, they used the space to access internet using their laptop/mobile phones and to relax during their vacant period. This result implies that most of the respondents preferred LC to engage in these kinds of activities probably because of the accessibility of Wi-fi in the area and of comforting ambiance. This finding is also comparable with the report of University of Iowa Libraries Learning Commons (2015) which affirmed that "the more that students believed they could use their laptops in the Learning Commons and the more they believed they could concentrate, the more satisfied they were with the overall Learning Common"(p.1).

Meanwhile, activities rated "Often" by the respondents include listening to music, socializing with friends, doing assignments, group study, film viewing using personal gadget, individual study, accessing online resources of AEA-IRC and watching movies. The activities wherein the students have least engagement inside the LC include creative writing, playing educational card games and doing drawing/art and tutorial session. It maybe associated again with the overall design of the space, the absence of board/card games for circulation, and lack of drawing table to be used. These user activities were expounded by Banguert (2017) when she said that learning commons demands flexibility in order to meet the evolving needs of students, allowing them to meet, talk, study, create, and use technology and other resources" (p.1).

The forgoing results provide an overview that different simultaneous activities are happening in the LC and each user has his/her own preferred type of activity to engage in. This notion of the "the learning commons as a dynamic, student-centric space designed to accommodate multiple learning activities and facilitate both quiet, individual study and collaborative conversations." is cited by Banguert (2017, p.1). Wall (2016) also highlighted the need for making the learning spaces versatile and flexible "to support different teaching and learning activities" (p.8).

Table 3: Level of utilization of AEA-IRC Learning Commons by the users

Utilization of AEA-IRC LC	**Mean**	**Std. Deviation**	**Verbal Interpretation**
1. Using laptop/mobile phone	4.32	0.890	Always
2. Relaxing between classes	4.21	0.992	Always
3. Socializing with friends	4.19	0.994	Often
4. Listening to music	4.19	0.994	Often
5. Doing assignments	3.83	0.997	Often
6. Group Study	3.79	1.053	Often
7. Film viewing / using personal gadget	3.78	1.067	Often
8. Individual Study	3.73	1.181	Often
9. Reading for pleasure	3.72	1.158	Often
10. Accessing online resources of AEA-IRC	3.65	1.051	Often
11. Watching movies	3.56	1.339	Often
12. Tutoring session	3.26	1.179	Sometimes

13. Drawing/Art Activity	3.11	1.272	Sometimes
14. Playing educational card games	3.06	1.392	Sometimes
15. Writing literary pieces	3.05	1.238	Sometimes
Overall	**3.70**	**1.119**	**Often**

Relationship between the Level of Awareness and level of Utilization of the users of AEA IRC Learning Commons

In terms of relationship between the level of awareness of purpose and level of utilization of the users of AEA-IRC LC when they are grouped by college, the respondents from the Senior High School Department has the highest mean rating of 4.08 in terms of awareness of purpose and has the highest mean rating of 3.95 in terms of utilization. The computed π is .454 with a p-value of <0.000 described as moderately small positive correlation. This finding means that the two variables are significantly related.

Finding shows that all colleges get the same result wherein the two variables (awareness of purpose and utilization) are significantly related except for COE which has a p-value of .080 (not significant). This could be accounted to having the least number of respondents and also to the same scores of the respondents. The data shows that the users' awareness of the purpose of LC is significantly related with their utilization of the space. These findings signify that as the level of awareness of purpose increases, the level of utilization also increases and vice versa which is highly evident in the College of Liberal Arts and Communication and College of Tourism and Hospitality Management, respectively. The reason could be their proximity to the library as they are all located in the East side of the campus. This finding corroborated with the study conducted in the University of Iowa Libraries (2018) where majority of students from the College of Liberal Arts and Sciences are the frequent users of the Learning Commons compared with business and engineering students. It also implies that the purpose of LC should be known to all particularly those colleges located in the farthest side of the campus to encourage more students' collaboration and engagement.

With regards to relationship between the level of awareness of purpose and level of utilization of the users of AEA-IRC LC when they are grouped according to year level, the respondents from the 5th year level has the highest mean rating of 4.30 in terms of awareness of purpose and has the mean rating of 3.78 in terms of utilization. The computed π is .438 with a p-value of <0.037 described as moderately small positive correlation. These findings indicate that the two variables are significantly related. The data reveals that all year level get the same result wherein the two variables (awareness of purpose and utilization) are significantly related except for 2nd year level which has a p-value of .774 very small positive correlation and not significant. Possibly this could be accounted to having the least number of respondents during the survey due to the number of students enrolled as they are affected by the K to 12 transition program. As for the Senior High School, between grade 11 and 12, the grade 12 has highest mean rating of 4.03 in terms of awareness of purpose and has the mean rating of 3.95 in terms of utilization. The computed π is .487 with a p-value of <0.000 described as moderately small positive correlation This result revealed that as students level gets higher their awareness of purpose and utilization of the LC increases. This result somewhat deviate from the report made by the University of Libraries of IOWA where the majority of the learning commons users are newer students.

(d) Implications to teaching and learning

This study verified the purpose of the LC to its users as noted by Lippincott (2011) who said that "while the name of the facility can be important in conveying its functions to potential users, it is far more important to develop a clear mission for the space and to configure it to support learning" (p.96). As such, the researchers proposed areas for improvement of AEA-IRC LC and a program of activities in support of teaching and learning. The proposed indicators for the improvement of design and facilities and in designing the program are patterned after the Moreillon Model (Loertscher, Koechlin, & Zwaan, 2011*).* The model stated that "Facilitating a program based on the Learning commons (LC) model is a whole school approach that fosters deep learning for all library stakeholders." (See Appendices)

CONCLUSION

Findings of the study revealed that though the users of the LC are very much aware of its purpose, utilization is still on the average level. It only means that there still a need to market the AEA-IRC LC to the users wherein its intended purpose will be highlighted and activities which users could engage in are known. With regards to suitability of the LC to user's needs, it was highly suggested that there is a need to redesign the space based on user's preferences and educational demand. As for user's engagement with the space, this study asserted that the LC serves as multipurpose learning space catering to variety of students activities including social engagement.

However, different type of activities being performed by and engaged in by the students and other library users must be considered when redesigning the space. The study also established that the users' awareness of the purpose of LC is significantly related with their utilization of the space when grouped according to college except for COED and year levels except for second year. This means that as students level gets higher their awareness of purpose and utilization of the LC increases.

Moreover, through this study, the value of AEA-IRC LC to teaching and learning has been strengthened. And it has been proven that it is not enough to build a space. Its intended purpose must be known to all and its design and facilities must be aligned with the educational needs of those who will use the learning space.

Based on these findings, it is recommended that promotion of the space highlighting its intended purpose particularly with the freshman students be improved. Implementation of winning entry in the LC interior design competition must be done considering the results of this study and the written suggestions of the participants such as improvement of furniture, food vendo machine, faster internet connection, and additional electrical sockets. Regular cleaning of the beanbags and sofas must be carried out regularly to maintain cleanliness and sustain the comfortable environment. There should also be regular personnel who will consistently monitor the area and solicit advice from the LC users. Finally, for full realization of the purpose and maximum utilization of the LC, an annual program of engaging activities embedded in their courses/subjects must be created giving priority to the development of their creative, critical and artistic skills.

It is further recommended that a follow-up research must be conducted after the program has been implemented based on the actual LC users as sample population and utilizing mixed-method research design approach. The aim is to determine the success of the program and to assess the evolving needs of the LC users. Likewise, the library management may consider adopting the learning commons model in transforming the AEA-IRC.

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Islamic finance taxonomy development: the INCEIF KMC's experience

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ABSTRACT
Knowledge organization is a very crucial activity in libraries. Knowledge in INCEIF KMC is available in the form of printed and digital collection. The limitation of Library of Congress Classification (LCC) in describing Islamic finance topics and insufficient coverage topics for Islamic finance in previously developed taxonomy, motivate the team to embark the development of INCEIF Islamic Finance Taxonomy. The taxonomy development aiming to showcase INCEIF thought leadership and improve previously developed INCEIF Digital Library Taxonomy. The taxonomy development adopted content modelling approach. The approach consists of 1) identify key users; 2) develop use case scenario; 3) extract user, content, and standard warrant; 4) model ecosystem and content types; and 5) design and test. This paper presents the INCEIF Islamic Finance Taxonomy structure comprises of Topics, Document Types, and Content Models (Person, Organization, and Event). The taxonomy has been operationalized into INCEIF Knowledge Repository (IKR) since June 2016.

Keywords: Islamic finance; Taxonomy; Knowledge organization; Academic libraries; Knowledge Management Centre (KMC); INCEIF

INTRODUCTION

Organizing knowledge in libraries is a very challenging and critical activity. The activities include describing a document, performing classification, and indexing. The key reason for organizing knowledge is to ensure the specific knowledge is discovered and accessible by the knowledge seekers quickly. Knowledge is regarded as a valuable asset in institutions of higher learning. Primarily two types of knowledge are attached to institutions of higher learning which are tacit knowledge and explicit knowledge. Institutions of higher learning are connected to knowledge where the institutions are the business of producing, disseminating, and transferring knowledge (Fullwood, Rowley and Delbridge 2012). Knowledge which is available in printed and digital formats required the libraries to employ the techniques in organizing knowledge such as subject classification schemes, taxonomies, ontologies, concept maps, and thesauri (Lambe 2007; Abbas 2010; Hedden 2010; Bhat and Shafi 2014; Milton and Lambe 2016).

Application of taxonomy attempts as a searching tool across an organization, to map tacit knowledge embedded in staff (Basaruddin, Haron and Noordin 2013), and to manage internal knowledge resources within an organization (Malafsky 2008). Since knowledge is created and produced every single second, knowledge organization is essential for the librarians and information specialists to communicate and retrieve knowledge.

Hjorland, a Professor in Knowledge Organization defines knowledge organization (KO) as activities which involve describing, indexing, classifying, and organizing within libraries, databases, and archives performed by librarians, information specialists, and computer algorithm (Hjorland 2008; 2016). Knowledge organization functions as a bridge between the user's information need and material in the collection (CLIR n.d.)

The Hammurabi's Code (the first set of codified laws of society set down on stone sculptures), the clay tablets listing titles of first books, and the Quipu or "talking strings" of ancient Incan messengers in Peru (served as a repository of the laws or other information of this early society) are the earliest known forms of organizing knowledge (Abbas, 2010).

Knowledge organization in libraries began in the late eighteenth century with the development of cataloging codes by Anthony Panizzi – "91 Rules" in 1893 and Charles Cutter – "Rules for a Printed Dictionary Catalog" in 1876 (Abbas, 2010; Bhat and Shafi 2014). Cataloging codes such as the Anglo-American Cataloguing Rules (AACR), the second edition of AACR (AACR2), and Resource Description and Access (RDA) are developed to act as guidance to catalogers for descriptive aspects of cataloging, developing access points, or authorized headings for names and titles.

The majority of libraries and knowledge management centers have been using library classification schemes and controlled vocabularies for organizing knowledge. Sayers describes library classification as "the arrangement of book shelves or description of them, in the manner which is most useful to those who read" (as cited in Md. Ashikuzzaman 2016). Libraries classification is used in libraries where the books are arranged according to the subjects. The most widely used library classification schemes are Dewey Decimal Classification (DDC), Library of Congress Classification (LCC), Universal Decimal Classification (UDC), and National Library of Medicine Classification (NLM). Controlled vocabularies are defined as "list of words and/or phrases that are used to index and/or retrieve content" (Library of Congress 2015). Examples of controlled vocabularies are Library of Congress Subject Heading (LCSH) and Sears List of Subject Headings (Sears).

The literature on taxonomy proposes vast definition of the term. The word taxonomy originates from the Greek *taxis* and *nomos*. *Taxis* means 'order' and 'arrangement', while *nomos* means law and custom (Lambe 2007; Hedden 2010). Garshol (2004) defines taxonomy as a subject-based classification that arranges the terms from a controlled vocabulary into a hierarchy without doing anything further. Morville and Rosenfeld (2007) argue that there is no single accepted definition of a taxonomy either within information architecture or information science. Lambe (2007) describes taxonomy in its basic definition as a structured set of names and description used to organize information and documents in a consistent way. He further describes taxonomy as navigation for knowledge discovery using a controlled vocabulary (Lambe 2015). The term taxonomy used by Whittaker and Breininger (2008) as a controlled vocabulary which show hierarchical and synonymous relationships.

According to Corcoran (2002), taxonomy is widely recognized at a higher and broader level in library and information science field. Taxonomy provides the libraries with huge benefits such as:

i. Make explicit knowledge embedded in documents available at the right point (Lambe 2007; Hedden 2008)
ii. Improve the effectiveness in searching and retrieving relevant information (Corcoran 2002; Hawkins, Larson and Caton 2003; Cisco and Jackson 2005)
iii. Improve information sharing (Wood 2004; Lambe 2007)

TAXONOMY DEVELOPMENT BY INCEIF KNOWLEDGE MANAGEMENT CENTRE

Organizational Background

International Centre for Education in Islamic Finance (INCEIF) is a private university set up by the Central Bank of Malaysia in 2005 and offers postgraduate level courses in Islamic finance. It is established to serve the need to develop and nurture talents and experts in the Islamic finance industry.

INCEIF Knowledge Management Centre (KMC) envisions to be the reference point for Islamic finance knowledge. It is a powerhouse in supporting INCEIF's vision to be the knowledge leader in Islamic finance. The KMC has over 16, 000 collection of printed and digital format knowledge resources in Islamic and conventional finance. The KMC team found the difficulty to classify its collection as there is extensive knowledge related to Islamic finance. The Islamic finance field encompasses knowledge of Shari'ah (Qur'an and Sunnah), knowledge of mu'amalat, technical finance knowledge (economics, finance, accounting, laws and others) and practical knowledge from reasoning and industry practices (leadership and management).

Motivation of the Taxonomy Project

Since its establishment in 2005, the KMC is using library classification scheme, the Library of Congress Classification (LCC) to classify and categorize its printed collection. A huge number of research works produced in the field of Islamic finance cannot be classified using LCC because LCC provides a very general and limited classification when describing Islamic finance topics. For example, two topics such as Islamic capital market and capital markets are sharing the same call number, but in actual these topics are different in their scope. In 2011, the KMC developed INCEIF Digital Library Taxonomy to classify and categorize Islamic finance topics specifically for its digital collection. However, the coverage of the topics for Islamic finance is not comprehensive, making the task to be harder than it should be.

The issues and limitation highlighted motivate the team to embark into the development of INCEIF Islamic Finance Taxonomic in 2015. The taxonomy is expected to provide specific categorization because the key topics in Islamic finance are presented without excluding conventional finance.

The main objective of this taxonomy development is to showcase INCEIF thought leadership. By developing INCEIF Islamic Finance Taxonomy, KMC could systematically organize the tacit knowledge (experience) of Islamic finance that was captured through various forms as part of our initiative in showcasing INCEIF thought leadership in Islamic finance knowledge. The second objective of taxonomy development is to improve the previously developed INCEIF Digital Library Taxonomy, which has limitation to organize and describing topics in Islamic finance and its document types.

METHODOLOGY

Towards achieving the objectives above, this study adopted a content modelling approach in developing INCEIF Islamic Finance Taxonomy as illustrated in Figure 1. Content modelling approach is a representation of the topics, document types, and content models and their inter-relationships (Lambe 2015). Before we embarked on the journey to develop the taxonomy, we determined two purposes: (1) to showcase INCEIF thought leadership and (2) to improve the previously developed INCEIF Digital Library Taxonomy. This approach is well suited to INCEIF KMC since we tend to focus on the knowledge which resides at INCEIF and our scope is content management.

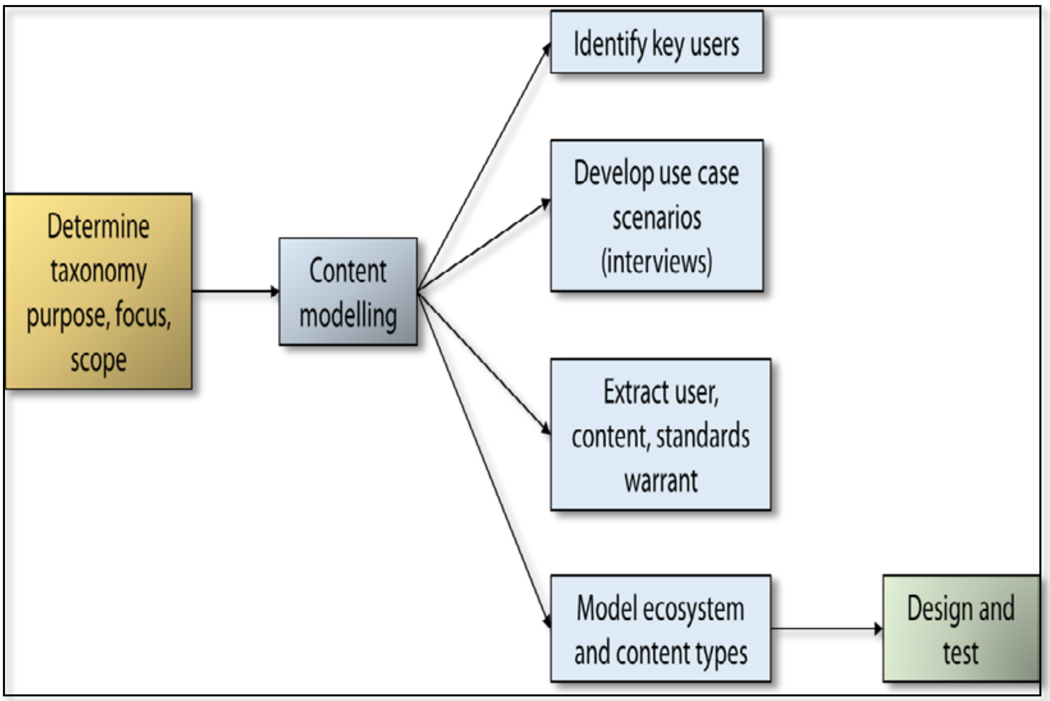

Figure 1: Stages of development INCEIF Islamic finance taxonomy

The steps in the development of INCEIF Islamic Finance Taxonomy are as follows:

i. Identify key users
The stakeholders of INCEIF KMC are regarded as the key users, which include faculty members, students, and researchers. These are the main users who uses KMC resources for their teaching, learning and research activities.

ii. Develop use case scenario (interview)
Use case scenarios for each user group was developed to investigate the main activities performed by each user group. The team conducted a series of semi-structured interviews. The faculty member user group described that they are involved with four main activities – teaching and learning, research development, writing publications, and providing training. The student user group responded that they are involved with writing publications and research proposals, producing project papers, and organizing industry talks. Lastly, the researcher user group informed that they are involved with research development. For each activities described, the specific tasks and information resources used in completing the activities were identified.

iii. Extract user, content, and standard warrant
The development of taxonomy involves three main types of warrant – user, content and standard warrant. User warrant is a level of understanding on how, when and why people use the information resources. For content warrant, the team needs to understand the language of the information resources that will be organized by the taxonomy. The standards warrant is where an organisation needs to exchange information regularly with external partners or with official agencies. At this stage, the main goal is to collect abundant Islamic finance vocabularies and illustrate the vocabularies into the facets and topics. The team searched from different types and sources of documents, for instance, books, Islamic finance websites and online databases related to Islamic finance mentioned by the faculty members and students during the interviews.

iv. Model ecosystem and content types
From the vocabularies related to Islamic finance that were collected, the team then modelled the facets (structure) of the taxonomy, which consists of Topics, Document Types, and Content Models – Person, Organisation, and Event.

v. Design and test
The team engaged in face-to-face interviews with 11 subject-matter-experts (SMEs) to achieve consensus from the SMEs on facets and topics which were designed and developed by the team. During the interview session, discussion and validation were done on the developed facets, specifically the Topics facet. The team also conducted focus group syndication sessions involving all the faculty members, which were divided into 5 groups. The intention was to get feedback from the faculty members on the operationalization of INCEIF Islamic Finance Taxonomy into INCEIF Knowledge Repository (IKR). The team modified

the taxonomy based on the feedback received from the focus groups wherever applicable.

FINDINGS AND THE IMPACTS

In this section, the findings of the development of Islamic Finance Taxonomy are presented, followed by the management of taxonomy and the impact of developing a taxonomy.

INCEIF Islamic Finance Taxonomy Structure

The structure for INCEIF Islamic Finance Taxonomy comprises of Topics, Document Types, and Content Models (Person, Organisation, and Event) as illustrated in Figure 2. The Topics and Document Types are arranged in two levels of hierarchical structure, while the arrangement for Content Models is in a tree structure. The category names for each Topics, Document Types and Content Models were drawn from the activities that were carried out using the content modelling approach.

Topics

The Topics facet is the most important structure in INCEIF Islamic Finance Taxonomy to organize and categorize the Islamic finance collection. Limitation of Islamic finance vocabularies' structure in LCSH and the structure issue of INCEIF Digital Library Taxonomy were the major reasons that inspired the team to develop the Topics facet. Identification of the Topics was based on a collection of vocabularies from various sources – printed sources, websites and online databases related to Islamic finance – and observation on how these sources organize/categorize the Islamic finance-related resources.

The team has identified 13 topics to represent INCEIF Islamic Finance Taxonomy without neglecting Conventional Finance (Figure 2). For each topic, the sub-topics (2nd level hierarchy) were identified which expresses more specific terms related to the main topic.

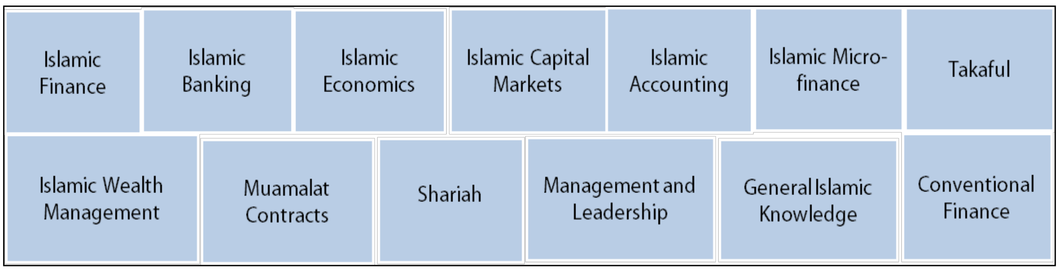

Figure 2: Islamic finance topics

Document Types

The Document Types facet was developed based on the document inventory (types of documents that are available in INCEIF KMC) and user case scenario activities. The Document Types facet allows the Islamic finance collection to be organized and categorized according to distinct types of document. In INCEIF Islamic Finance Taxonomy, the Document Types is classified into 6 types – Scholarly works; Expert insights; Learning materials; Reports; Regulations and supervisions; and Theses. Figure 3 shows the 6 main categories of Document Types and its 2nd level hierarchy of each category. At the moment, INCEIF KMC is using only 4 of the Document Types for INCEIF Knowledge Repository (IKR), namely Scholarly works, Expert insights, Learning materials, and Theses.

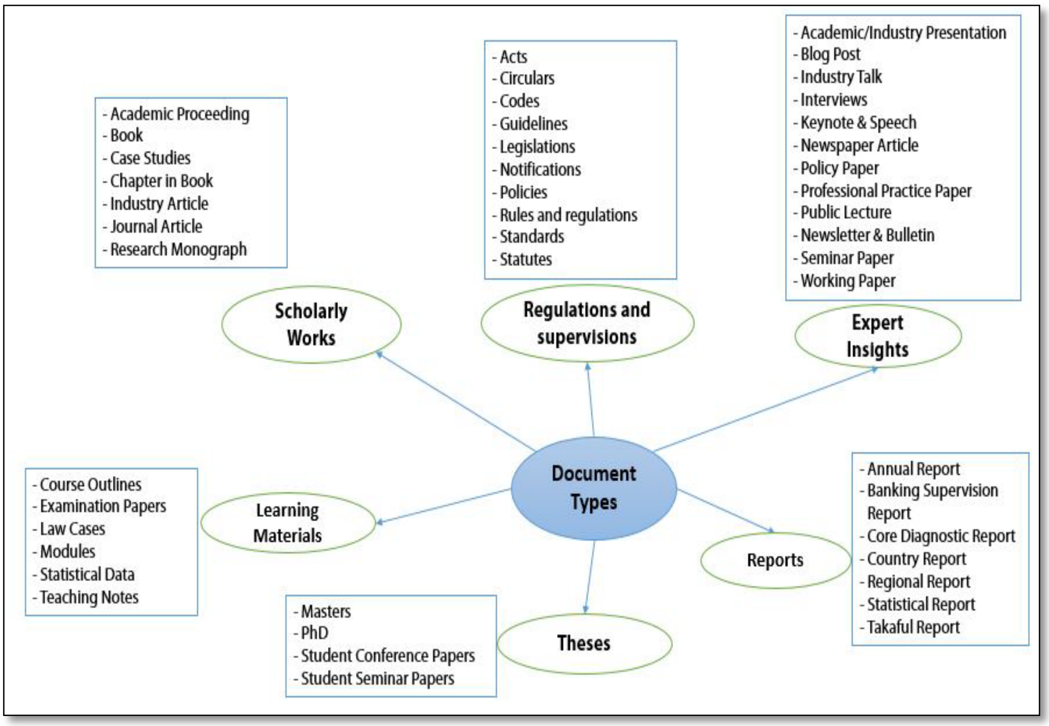

Figure 3: Document types

Content Models

The Content Model is used to design the relevant entities as part of implementing content strategy and content management system and process. Each Content Model describes the key attributes for the specified entity. The team constructed Content Model for 3 identified entities – Person, Organization and Event, based on the collection of document inventory and user case scenario activities.

i. Content Model – Person

The Content Model – Person was developed in the taxonomy to describe the information about an author or individual faculty member. The key attributes for Content Model – Person are person's name, designation, qualification, professional membership, working experience, courses taught, and contact information.

This Content Model is also linked to other facets such as Topics, Document Type, Content Model – Organization and Content Model – Event. These linkages might help the users to identify research areas of an author, the organization that the author belongs to and the events that the author has attended (such as conference, seminars, and exhibition). The Content Model – Person is illustrated in Figure 4.

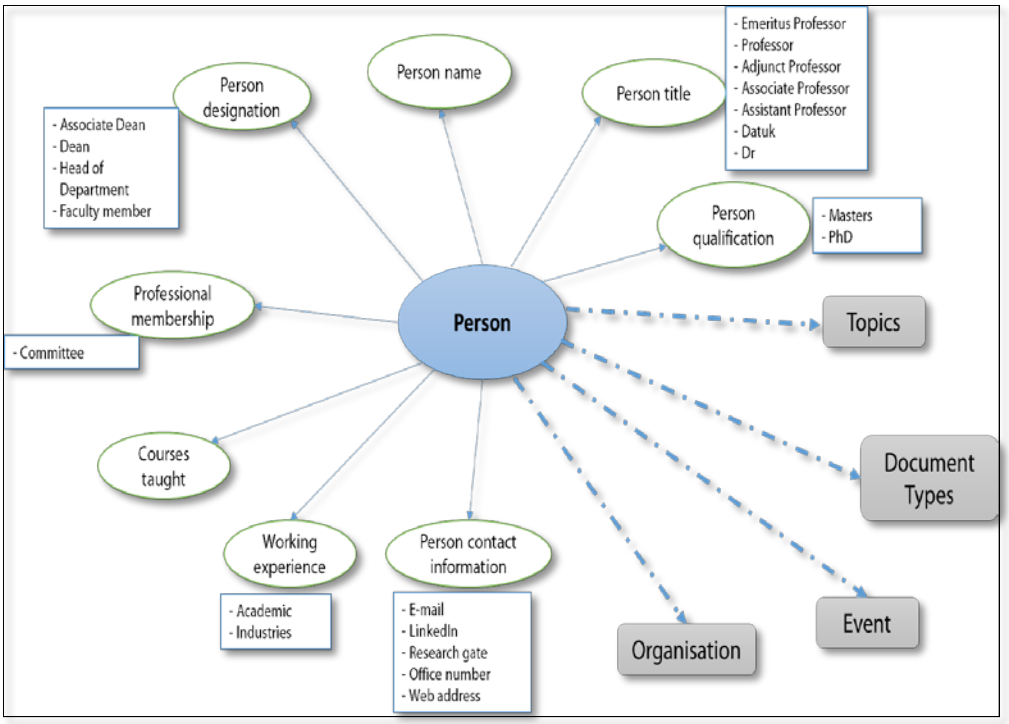

Figure 4: Content model - Person

ii. Content Model – Organization

The Content Model – Organization was constructed in INCEIF Islamic Finance Taxonomy to represent the key information related to an organization or institution as well as the relationships of that an organization with other Content Models (Person and Event). The key attributes of the model are organization's name, acronym, type, description, URL, address, and location.

This Content Model is also associated with other facets such as Content Model – Person and Content Model – Event. These connections could benefit the users in identifying the events that the author has attended (such as conference and seminar) and the author(s) associated with a particular organization. Figure 5 portrayed Content Model – Organization.

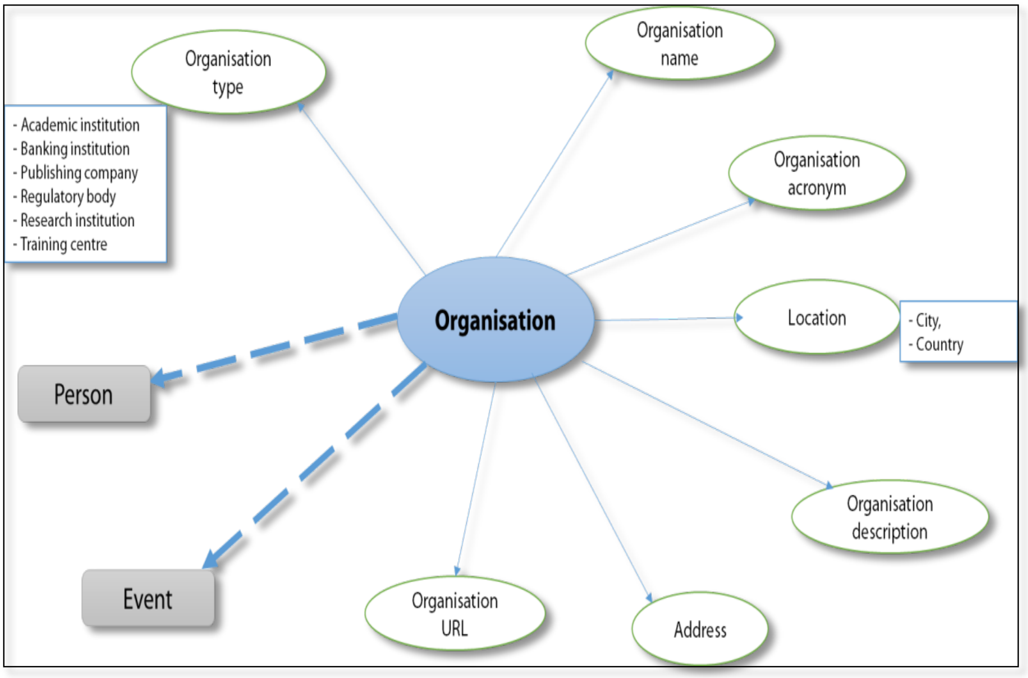

Figure 5: Content model – Organization

iii. Content Model – Event

The key attributes for Content Model – Event are event name, event description, event type, event date, event venue, event contact, and event URL.

Content Model – Event was constructed to describe the information regarding events that have been attended by the author. This Content Model has a connection with other facets such as Topics, Content Model – Person and Content Model – Organization. These connections provide advantages to the users in discovering the information about an author or individual faculty member, the research areas or themes related to the events, and organization or institution that organized/associated to the events. The Content Model – Event is illustrated in Figure 6.

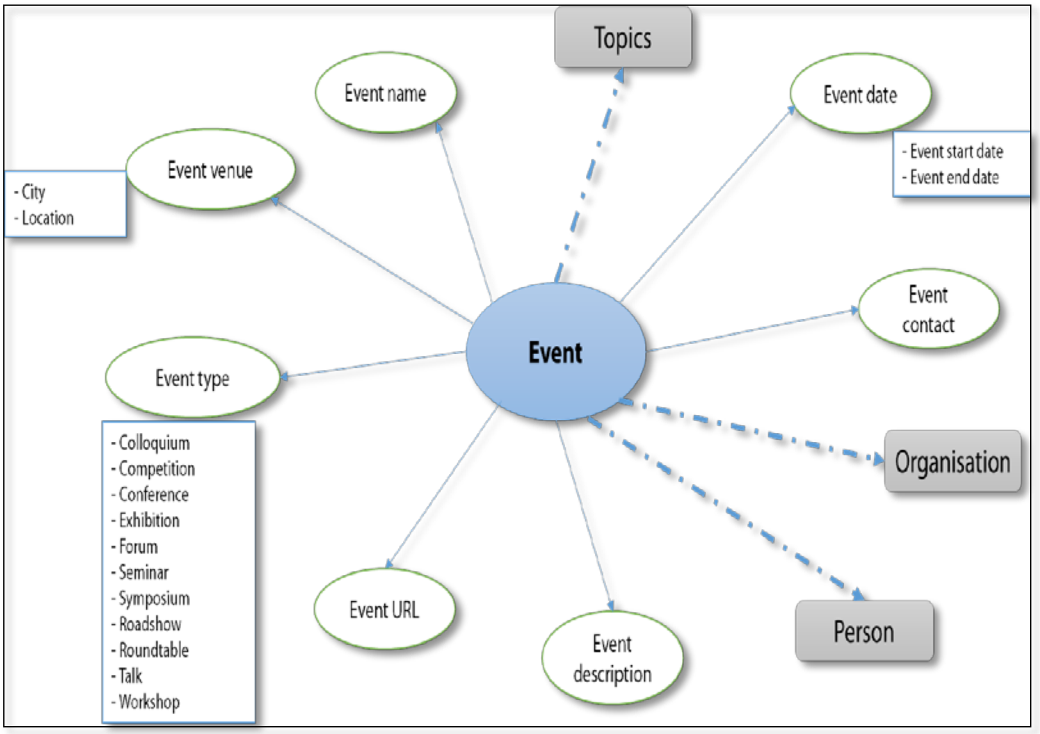

Figure 6: Content model - Event

Taxonomy Management

INCEIF Islamic Finance Taxonomy terms are organized following the relationships such as broader term (BT), narrower term (NT), related term (RT), use (USE), and used for (UF). Scope note (SN) is also included to provide a description for the terms that are difficult to understand. Table 1 depicted a brief explanation for each type of relationships.

Table 1: Category of Term Used in INCEIF Islamic Finance Taxonomy

Types of Relationship	Description
Broader Term (BT)	The superordinate term in a hierarchical relation
Narrower Term (NT)	The subordinate term in a hierarchical relation
Related Term (RT)	A term that is associated with BT and NT
Use (USED)	A term that is used as a controlled vocabulary
Used For (UF)	A term that is used as an alternate term
Scope Note (SN)	To explain and clarify the meaning or use of a term

INCEIF Islamic Finance Taxonomy has been documented and managed using a taxonomy management tool called MultiTes Pro. This tool runs on Windows and serves as a tool for creating, editing, updating and managing the vocabularies. Some of the features of MultiTes Pro include:

- Manage thesaurus files (create, open, copy, delete, and display thesaurus)
- Define codes and preferences (relationships, categories, languages, preferences, and controlling access)
- Manage terms (add, search, display, edit, and remove terms)
- Manage term relationships (create relationships, manage notes, manage categories by terms)
- Report and export data

In MultiTes Pro, the taxonomy list displays the entire window width, thus allow a taxonomist to view or edit a term. A taxonomist can click on the desired term and a pop-up window will be opened, as illustrated in Figure 7.

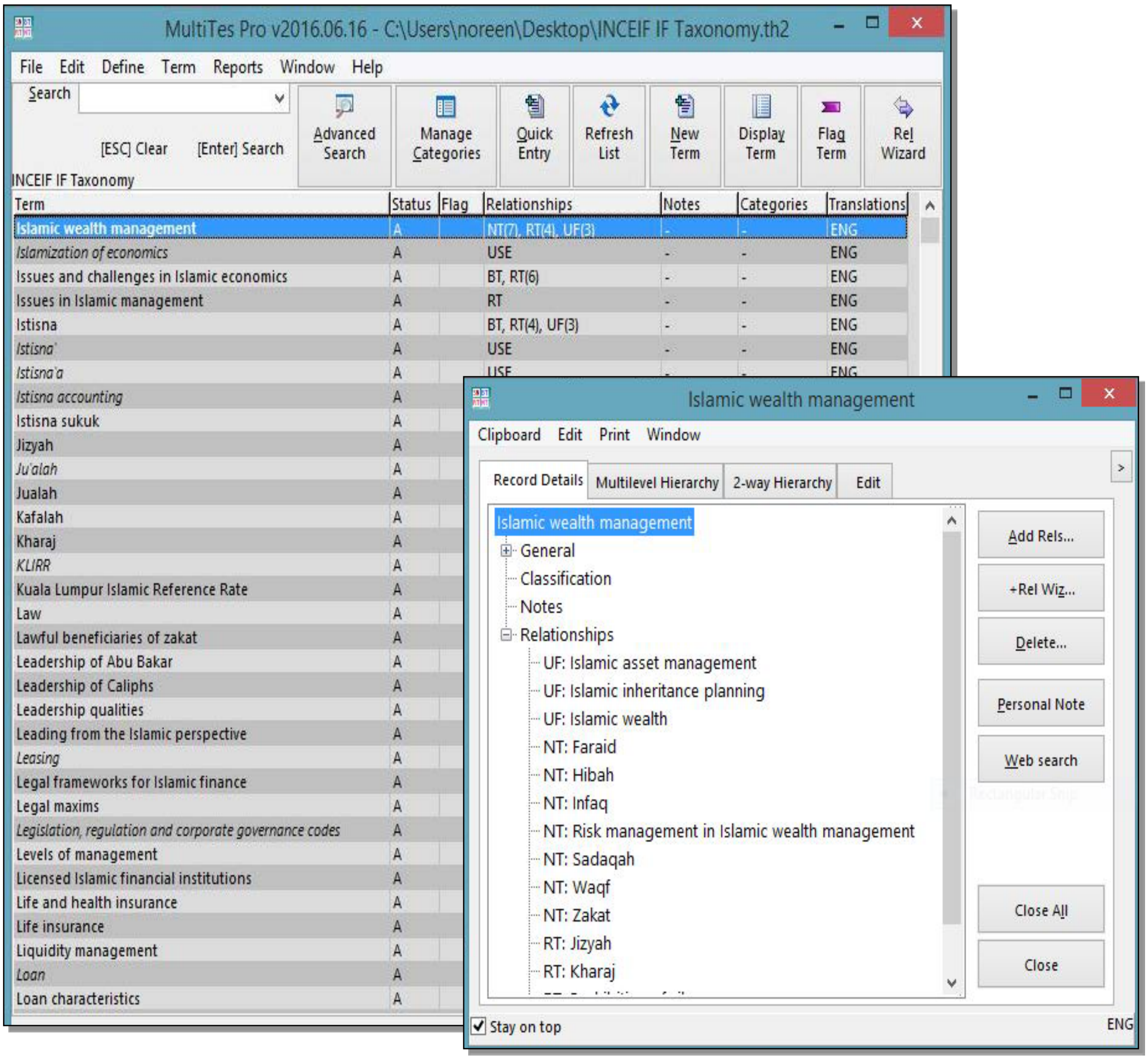

Figure 7: MultiTes Pro taxonomy display with selected term details

The advantages of using MultiTes Pro are:

- Support for ANSI/NISO standard relationships (for examples: USE, UF, BT, NT, RT, Scope Note)

- Unlimited number of terms, relationships, categories and hierarchies, as allowed by your system's resources
- Quick data entry window allows typing of terms and relationships in free text mode
- Allow for editing of multiple thesauri at the same time, the same computer
- Standard reports such as Alphabetical, Top Term, Hierarchical, Classified & Rotated Index

Figure 8 illustrates the hierarchical level of structure and category of terms on the selected topic of Islamic Wealth Management.

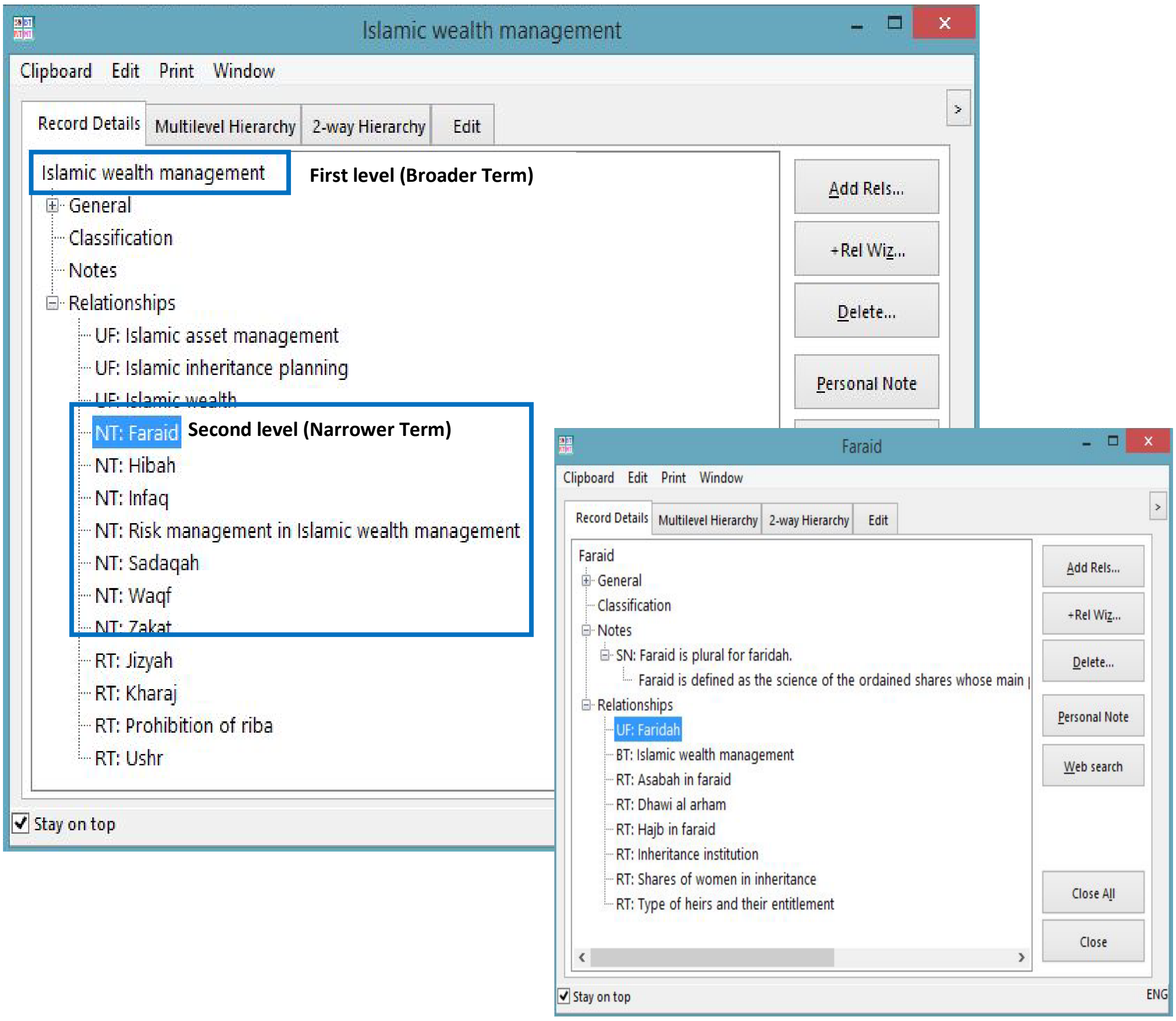

Figure 8: Hierarchical level of structure and category terms on selected topic of Islamic Wealth Management

The Impacts

INCEIF Islamic Finance Taxonomy has been operationalized and incorporated into INCEIF Knowledge Repository (IKR). IKR is an institutional repository which supports INCEIF's knowledge community by collecting, managing, preserving, showcasing and sharing thought leadership and intellectual contributions such as journal articles, conference papers, research reports, dissertations and other scholarly and research output by INCEIF's faculty, staff and students - and of their collaborators from around the world. IKR can be visited via https://ikr.inceif.org.

The topics, document types and content model for person were included as the metadata element in the IKR as illustrated in Figure 9. This will empower our key user groups and stakeholders (especially students, faculty members, alumni and researchers) to access Islamic finance knowledge that resides at INCEIF. The taxonomy speed up the process of searching and retrieving documents because our key user groups can choose from the topics, document types, and content model for person, facilitating them to narrow down the search field.

In support of INCEIF’s vision to be the knowledge leader in Islamic finance, the taxonomy acts as a focal point that direct audience to the topics of Islamic and conventional finance. The audience may identify the 13 topics that represents Islamic finance. The taxonomy that is incorporated in the IKR platform offers potential topics in Islamic finance to be explored by the students, faculty members, and researchers. The taxonomy can reduce the amount of time spent on duplication and reinvention. The findings from the researches on Islamic finance can contribute to the body of knowledge practically.

It is worth to mention that INCEIF Islamic Finance Taxonomy acts as a bridge where the entire organization speak the same language when describing topics and document types. This finding echoes that taxonomy provides a shared language for different parts of an organization.

The development of INCEIF Islamic Finance Taxonomy also helps to build internal capability of the information professionals (capacity building). Skillsets such as library skills (metadata, index, and subject classification), information management, content management and writing skills (Milton and Lambe 2016) have been applied during the taxonomy development journey.

Figure 9: INCEIF Islamic Finance Taxonomy operationalized and incorporated into IKR

CONCLUSION AND FUTURE WORK

In this study, we present our experience on development of INCEIF Islamic Finance Taxonomy which comprises of Topics, Document Types and Content Models (Persons, Organization, and Event). The team has completed INCEIF Islamic Finance Taxonomy in December 2016 after a series of taxonomy development activities, which began since October 2015. The INCEIF Islamic Finance Taxonomy has been operationalized in INCEIF Knowledge Repository (IKR) since June 2016. The taxonomy acts as a navigator for discovering Islamic finance knowledge.

The team is dedicated to continue improving the quality of INCEIF Islamic Finance Taxonomy and plans to conduct educational outreach activity outside INCEIF. The taxonomy can also be enhanced to be used by other department at INCEIF. Finally, the team aims to review and revise the taxonomy on yearly basis.

ACKNOWLEDGEMENT

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"Library 4 You Program": shaping and revitalizing relationships between patron and library

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ABSTRACT

Although the academic library has it owns specific patrons compared to public libraries, the challenges in encouraging users to visit the library still one of the issues especially the millennial generations nowadays. In conjunction with the issue, an initiative has been taken by UPM Library to conduct the "Library 4 You Program" for the purpose of bringing the library nearer to the users. The aim of this paper is to share the initiatives taken by an academic library in shaping good relationship between library and its patrons as a best practice. The data for this study were collected through documents, personal experiences and observations from the program implementation. The study also focused on the arrangements and activities done throughout the program. Pictures were included in this paper to show the actual activities and programs conducted. This initiative has been conducted yearly as one of the library programs in collaboration between library and faculty members. UPM Library had found that this program is a positive approach in promoting the library services and facilities to the patrons by bringing the library to them. The library promotions, strategic alliances and partnership among faculty members can help to revitalize the library and stay relevant. The Library 4 You Program could also close the gaps between librarian and user which exists in certain libraries across the region. Along with the experience sharing, the limitation of this paper it was done within the academic library setting. It may differ in approach according to the types of that specific library.

Keywords: Outreach program; marketing; library initiatives; library services; library usage; academic library; best practices.

INTRODUCTION

Revitalize (verb) according to Cambridge Dictionary (2018), to give new life, energy, activity, or success to something. Towards the new technology environment, it has given a new shape to educational life across the world (Jayaprakash & Venkatramana, 2006). People use internet to find valuable information, connect to people, sharing ideas and others which also affect the physical libraries function. Although tremendous digital format sources available online, a large part of the information not yet digitize, so that makes libraries important and still relevant. However, to make sure current libraries are vulnerable to provide comprehensive services and facilities to users, it is a need to better understand the patrons' needs and desires. In revitalizing and shaping concept in library generally and academic library specifically, is to make something grow, develop, or become successful again which most fit by meaning of revitalize in this paper (Cambridge Dictionary, 2018). In other words; freshen, recharge, recreate, refresh, refreshen, regenerate, rejuvenate, and renew the existing library itself (Merriam-Webster, 2018). This concept is very important to be included in strategy and planning of each library management to overcome the current and future issues in term of services and facilities. Therefore, from varies of aspects all libraries across the world have taken initiatives to revitalize their library which in the same time give added value on their image.

Sultan Abdul Samad Library (PSAS) also known as Universiti Putra Malaysia (UPM) Library is one of academic library in Malaysia. In supporting the University's mission which is to make meaningful contributions towards wealth creation, nation building and universal human advancement through the exploration and dissemination of knowledge, UPM Library has organized several programs in terms of marketing the library services and creating connection with the faculty members. One of the programs organized is the Library 4 You Program.

As an academic library, issues regarding the users and visitors are not so challenging compared to public libraries. It is because students and university staffs are the patrons of an academic library. However, due to time evolvement and technology development, academic libraries also affected. Library users, especially students, no longer use libraries as their main reference centre. Students who are mostly youth nowadays also known as millennial generations, prefer to get information and reference materials through the Internet. They are more inclined to getting things fast and in an easy way. These have been proven by several previous studies related to information seeking behaviour among youths (Kerins et al., 2004; Liu and Ye Yang, 2004; Heinstrom, 2005; Earp, 2008; Catalano, 2013). Most of the facilities and services available are rarely used by patrons. There is a wastage in terms of budget spending and labour costs on unused facilities and services. Therefore, what is the role of academic libraries and librarians in addressing this issue? What steps or best practices can be taken in dealing with this issue?

In initiatives to revitalize the library and shaping the relationships between patron and library, librarians really play an important roles. Studies on user's need and want could help libraries to strengthen and reinforce the role of librarians and information professionals. There have been numerous studies that relate the success of a library with the role of a librarian (Wei et al., 2013; Abrizah, 2015; Omar et al., 2016; Baba, 2017; Baba and Abrizah, 2018). One of the initiatives that could be done in dealing with the issue discussed is by conducting outreach programs.

Outreach Program Approach

The Library 4 You Program organized by UPM Library being significant with the outreach program definitions. For the purpose of this paper, the following definition of outreach activities as the outreach program from Joly et al. (2012) was adopted: "*Outreach activities are often used to increase awareness, provide access to services, and recruit individuals to participate in community activities, research projects or health promotion interventions. Outreach programs have also been used by non-traditional sectors to encourage community engagement*".

Connection between library and their patrons is really important nowadays. This is to make sure the services and facilities provided will still be relevant and fully utilized. Through this initiative, library roles and functions will be noticed by patrons in the same time the connection between them such as trust will increase (Varheim, 2014a). Social trust between patron and library could be created from the library programs as highlighted by Varheim (2014b) which could also generate the social capital value. Not only on the purpose of library services promotion, strategic alliances and partnership between library and faculties can also be as solution in providing good library services for any type of libraries. In agreement with the statement, Ahmed and Edwards-Johnson (2013) did mention that the faculty member or graduate student will be looking for subject expertise, referring to the librarian, as a trusted person when they have research related questions. Activities involved in the Library 4 You programs could create a collaboration and connection impact between library, faculties' member and patron.

By providing this kind of outreach programmes, patrons will be more appreciative when the information provider can be reached and easily accessed by them. The innovative relationship between libraries and users throughout the program, could encouraged patrons especially students in pursuing and sharing their knowledge with others. Librarians could play an important role in the outreach program conducted. Whereby through good conversations, which are not only academically inclined but also socially focused with the patrons can result in a sense of the 'human touch' being incorporated within the terms of face-to-face and social interaction. This effort could enhance their enthusiasm and cultivates loyalty among them. When the patrons feels that the library is special to them like being noticed and greeted by their name, the library will be as a third place for them. This is why it is important for the library to evolve.

METHODS

The data for this study were collected through documents, personal experiences and observations from the program implementations. Each year since 2015, Library 4 You program were conducted by Research and Information Management Services Division, PSAS and being recorded as yearly program. Apart from the raw data available on each year's division reports and program folders, various documents were consulted for preparing this paper including: PSAS Bulletin (MyLib), PSAS Research Information Hub, posters, emails; data were collected and recorded to make them meaningful. The study also focussed on the arrangements and activities provided throughout the programmes.

Pictures of the programmes were included in this paper to show the actual activities conducted.

LIBRARY 4 YOU PROGRAM

This present paper shared the experience by UPM Library in a collaboration program between the library and faculty members by introducing the Library 4 You Program. UPM Library had been conducted their 4th Library 4 You Program on 8th November 2018 at the Faculty of Computers Science and Information Technology (FCSIT), UPM. The program was officiated by Associate Professor Dr. Masrah Azrifah Azmi Murad, Deputy Dean of Research & Postgraduate Studies, FCSIT, UPM. Previously, the program had been held at the Faculty of Modern Language and Communication in 2015, Faculty of Biotechnology and Biomolecule Science in 2016 and Faculty of Economics and Management in 2017 in UPM. The program had been organized throughout the years by Research and Information Services Division, PSAS. This paper provides a brief explanation and details on specific tasks during the duration of the programme. Also shared are several images taken during the program for clear views and better understanding.

Planning

During the first department meeting, the Faculty of Computer Science & Information Technology (FCSIT) has been selected as 2018 Library 4 You Program venue. Automatically, the liaison librarian in charged for the faculty will be assigned as the Program Director, which is Puan Rusniah Sayuti. Following that, the Library 4 You Program committee members were appointed and formed between 16th March to 9th April of 2018, which involved 20 staff mostly from the Research and Information Services Division, and other related divisions. The approval for the program was made by the Dean of FCSIT on 27th of March 2018 through official letter and follow up calls. However, due to the late announcement of the Malaysian 14th General Election which had fallen on 9th May 2018, the program that had been suggested to be held on 8th May 2018 had to be postponed to 8th November 2018. The new date had been agreed upon between FCSIT and the library through second proposal.

Several committee meetings had been carried out and minute to make sure all the planning and ideas will be achieved. Involving the selections of IEEE Online Database, Emerald Student Ambassador and Publishing Workshop speakers as the main events of the programme. The only budgeting required for the program was the speaker's emolument of around RM300.00. The cost was provided by PSAS management as an appreciation to the speakers. While other costs for the activity such as gifts and souvenirs were being sponsored by individuals and PSAS staff. The venue preparation of the programme started a day before for the layout and placement of all equipments needed. Overall, the planning and the preparations (committee meetings, promotions, video montage, gifts & souvenirs, and venue setting-up) took about three months.

Promotion and activities

Programme promotion conducted through several mediums and activities such as through email circulations among faculty members, library websites announcement, library Facebooks and WhatsApp groups. Posters also being hung around the faculty and library. The promotion were carried out by Liaison Librarians and programme committee members.

The Library 4 You program activities were as follows:

- Opening Ceremony (remarks by the PSAS Chief Librarian)
- Library Seminar on Publication (Publication in High-Impact Journals)
- IEEE Xplore (Online Database Training)
- Emerald Insight (Online Database Training) (Figure 1)
- Library Exhibition (services & facilities @ PSAS, liaison librarian, research services @ PSAS, online databases & research tools, UPM Publications performance, do & don’t, library on social media, library team) (Figure 2)
- Reference desk
- Book donations
- Games (Fear factor, win in 60 seconds, whisper, 10 seconds shelving skills, jigsaw puzzle, congkak) (Figure 3)
- Publisher booth (Springer Nature, Emerald Student Ambassadors)
- Sales booth (Book2UKarangkraf, preloved bundle, cakes & cookies, Malaysian Ice-cream)

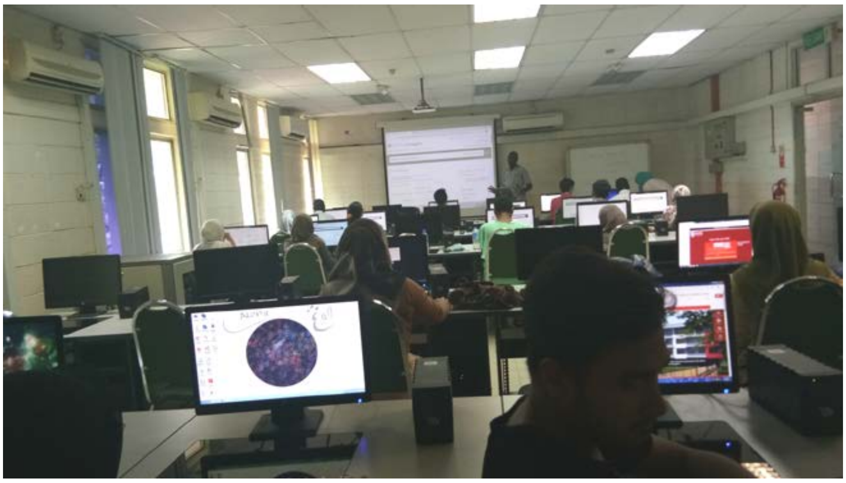

Figure 1: Emerald Insight (Online Database Training)

Figure 2: Library Exhibition

Figure 3: Indoor Games

Participations

The program had attracted interest and closer ties with the UPM community, especially from the FCSIT patrons. A total of 338 people participated in various activities within the programme. All participants (students/ lecturers/ staffs) really enjoyed joining all the activities provided (Figure 4). Generally the response given was encouraging and shows that the programme is still relevant to be continued in the future. This programme is in line with the implementation of the UPM Read@Uni campaign.

Figure 4: Overview of the Library For You Program@ FCSIT, UPM

DISCUSSION

Library involvement in this programme is able to provide a positive impact to the UPM community as well as the library itself. The collaboration between the library and the faculty in organizing the Library 4 You programmes will not only be contributing positively in building educational links and dissemination of knowledge but creating informal relationship between students and educators in the faculty with the librarians involved. This initiative done by PSAS not only revitalize the library roles and functions but also shaping and revitalizing the relationships between patron and library.

This kind of outreach program encourage students to be more interested in participating and organized activities as well as facilitating the librarians involved, in getting to know the students more closely and cordially. This informal relationship will be allow the students to be more comfortable in obtaining information especially involving their learning and research process. Educators however, can equally help the library to improve the quality of the library collection. Despite facing financial setbacks in maintaining library collections, educators and the library can work together to find better approaches and alternatives to ensure the library's collections and materials are supportive to the teaching and learning requirements of the faculty.

Furthermore, this programme can be used as a way to expose and disseminate library facilities and services especially on the role of the Faculty Liaison Librarians. The programme can be one of the ways to highlight the skills of the Faculty Liaison Librarian as a research, learning and reference information representative. Indirectly, students and educators can identify with their Faculty Liaison Librarian and know with whom they can acquire aid and assistance if there is a problem that arises in finding any information needed. Face to face interaction makes it easier for information to be obtained and understood, more open in discussions and information received, more reliable and valid.

In addition, the programme also encourages students to participate in activities that not only involve academic excellence but also to have a bit of excitement in their spare time at the faculty. Students can use their creativity and intelligent in finding answers for library quizzes or participating in traditional or modern games such as guessing games that are more exhilarating and adventurous. The built-in relationship will not cease as the program ends but will continue as long as the student is still studying at the university and educators will continue to cooperate with the library to improve the standard of education and raising the university’s name. Library 4 You provides a win-win situation between the UPM communities and the library as these programmes can be a platform for patrons to fulfil their needs and requirements and for the library to get an excellent source of information to enhance and improve their facilities and services in satisfying all the users.

CONCLUSION AND RECOMMENDATIONS

This program handled by PSAS is hopefully could be as an example and best practices to other academic library in shaping good relationship between library and patron. Libraries from other universities are encouraged to hold similar programmes to spend time with students and their educators. The library have to create a culture of mobility and get out of from their comfort zone (library building) to attract more users and demonstrate that the library is still relevant as the place of depository, preservation and dissemination of information and knowledge for the university community and its surroundings. This is where such "Library 4 You Program" help libraries shaping and revitalizing the relationships between patron and library.

This programme can be expanded by adding appropriate university activities and contents to increase the participation of interested students. Collaboration with the Student Affairs Division and other university departments can make the program more attractive and will increase the number of student engagement to participate in the organized events. Interested students however, may engage in business activities or open a booth for association membership participations. It is easier to disseminate useful information and knowledge to students and educators by conducting programs at each faculty within the university.

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Partnership of University Museums and Academic Libraries for Improvement of Islamic Studies Access Quality

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ABSTRACT
In almost all world-class reputable universities even in Indonesia not only libraries but also university museums play significant role in forming academic culture both for teaching and learning and research activities. Unfortunately only one state Islamic university is equipped with a university museum while the others do not have a museum. However, some lecturers, such as in some departments of Islamic history and civilization, utilize collections of museum objects as sources of information to support their teaching and research activities. For such reason as mentioned before in the background then this study was aimed to find out academicians perspective of state Islamic university based on their experiences about the importance of university museum and partnership between library and university museum for meeting information access purposes in teaching and learning and research particularly pertaining to Islamic studies. This study was conducted at four state Islamic universities. The study used qualitative method with phenomenon approach. The findings of the study revealed there are several lecturers particularly at the Islamic History and Civilization Departments of state Islamic universities utilize museum objects for their learning and research activities although their universities are not provided with museum. The partnership between academic library and university museum is believed by informants will make many opportunities for both lecturers and students to find more information access to meet their academic needs. This study is expected to open the horizons of the policy makers of Islamic universities in the importance of the university museum as a library partner.

Keywords: State Islamic Universities; Library; University Museum; Partnership.

INTRODUCTION

University museums in almost all reputable universities such as Harvard University and Oxford University and the others are important units besides libraries. Harvard University for example has 14 university museums that can be used for educational and research purposes. The 14 university museums at Harvard University are divided into two categories, namely the category of museums that are related to cultural issues, which consist of 5 museums and the other category is related to the discipline of sciences developed the university, they are 9 museums (Harvard University 2018).

University of Oxford has an impressive university museum which is well known as Oxford University Museum of Natural History. This university was founded in 1860, such university museum offer various lively programs of research, teaching and even public events. The museum holds an internationally-significant collection of natural history specimens and archives (Oxford University 2018).

In several Asia universities there are many university museums such as Malaya University Museum of Asia Art, University museum of National University Singapore and Istanbul University Museum and many others.

The reputable Malaya University there is a museum which is so called as Museum of Asian Art Malaya University. In the beginning the university library was used to display the artifacts. Then to anticipate the increasing acquisition in June 1980 the new building was built in between the Faculty of Economic and the Law Faculty (currently occupied by the Business and accounting Faculty). Through this university museum people could be facilitated to study three representative civilizations namely the Indian, the Chinese and the Islamic (Malay culture) (Malaya University 2017).

The other regional Southeast Asia reputable National University Singapore has university museum. The National University museum of Singapore holds around 8000 artifacts. All museum collections currently are online, open-access database and comprehensive. The museum collection consist of South and Southeast Asia collections represent civilizations such as India, China and Malay (National University Museum 2018).

University of Istanbul has Medical History Museum that founded by Prof Nil Sari in 1986. The objectives of this university museum are to prevent and save old historical materials from being lost and preserve them for facilitating the generation to meet their education and research needs (Sari 2018).

The existence of university museums are not only in other reputable universities abroad but also in almost Indonesia leading universities such as Universitas Gajah Mada (UGM), Universitas Indonesia (UI), Universitas Airlangga (Unair). The existence of university museums in all world-class universities indicate the university museums have significant contribution for facilitating academics to meet educational and research purposes.

In Indonesia there are two ministries that responsible in administrating educational system. They are the ministry of research, technology and higher education and the ministry of religion affairs. Several universities such as Universitas Indonesia, Universitas Gajah Mada, Universitas Airlangga and others are under the administration of the ministry of research, technology and higher education. Meanwhile universities that affiliated to religion education they are under the ministry of religion affairs such as state Islamic universities and state Islamic institutes and the others.

Pertaining to university museum, there are gaps between the universities under the ministry of research, technology and higher education and the ministry of religion affairs. Under the administration of the ministry of research, technology and higher education almost all universities are equipped with university museums. Such university museums will provide added value and many opportunities for students and lecturers to access not only information in the library, but also information contained in museum collection in the forms of manuscripts, inscriptions, objects, replicas and so on. But on the contrary most universities under the ministry of religion affairs cannot provide alternative information of museum collection because there is only one state Islamic university is equipped with university museum namely Ar-Raniry state Islamic university Banda Aceh. However, for the purposes of learning and research activities that lecturers and students use museum collections as their basic references.

Therefore based on such pervious explained background then author believed the issue of partnership university museum and library is very interesting to discuss for improving the quality access of Islamic study resources.

LITERATURE REVIEW

Museum as one of the centers of cultural information resources, in fact the existence of a university museum and also a library is very necessary for academicians (Bell 2003). Museums whose the potential to provide opportunities for the community to be able to learn about ourselves, the world around us and everything about our past have a very significant role in inspiring us to make the future better by helping us remember and understand the past (Dupont 2007). The existence of the museum is also a support and principle of lifelong learning for the community to form a society that is democratic, equitable, professional, openness, accountable and partnership (Pasco Hernando Community College 2002).

A university museum is a tremendous resource center for higher education institutions to optimize positive impacts of various teaching and research activities (Kelly, Melanie, Ed. 2001, 5). As a powerful resource center, university museum through its collection objects is unique in bridging its role to spread knowledge and understanding of science, and also as a guardian of the preservation of various values in the fields of science and knowledge. As a cultural institution and source of information, museums in educational institutions such as universities logically should have functions and roles that are similar and parallel to the functions and roles of libraries. At higher education that university museum is a unit or institution that supports the mission of the university concerned directly related to the problem of education, research and community service activities.

The presence of museums in educational institutions, especially in universities, implicitly according to Higgins (2011) like libraries and archive institutions, as a center of information resources that can increase joint activities of gaps in terms of providing resources and creating the latest information services for the existence of the academic community and to meet the needs of potential users whose main purpose is for education (teaching and learning) and their research.

Weidenhammer (2013) revealed that a collection of university museums can be likened to a currency that has prestige value, because through the object of the museum the interpretation can reveal something that indicates about natural products and as a work of human culture that shows wealth and commitment community towards their self-development.

The Islamic perspective in interpreting museum is an institution whose function for preservation of human cultural heritage to be used as a means of education and research. This has been empirically proven that Muslims in the history of its development from the very beginning were very tolerant of the cultural heritage of other nation or religions that existed before.

Muslims treat the cultural heritage of other national civilizations while respecting and nurturing the cultural heritage and works of art of previous civilizations. Beginning with the entry of Muslims for the first time to Egypt under the leadership of 'Amr Al'As (642 AD), at that time Muslims found many relatively large temples, towering statues, and a wealth of antiquities which referring to ancient Egyptian, Greek, and Christian civilizations. There is no one (among Muslims) who did the destruction of all the objects of the previous civilization of the nations (Al-Ansari 2001).

Muslim Arabs who previously had relatively no high and well-established academic culture and civilization, then after they decided to open up and interact with various inheritance civilizations of nations that had developed both in the East and in the West such as Greece, Rome, India China, Egypt and Persia, then they became a nation that even advanced and developed in developing science (Yahyaei and Fakhteh Mahini 2012).

Opportunity of Muslims to interact with various sources of scientific heritage and civilization of these nations is a gift of Allah SWT that benefits them. So that with perseverance in developing science, they (Muslims) have succeeded in gaining glory in terms of building science, culture and human civilization that is recognized throughout the ages (Tierra 2017).

The university museum can contribute to extraordinary lifelong learning not only for students but also for alumni, local residents of all ages. The University has continuously operated a museum for the benefit of its students in applying object-based learning styles. The diverse collection of university museums with various exhibitions offered can attract many visitors every year. Therefore many people consider the university museum as their 'museum'. The idea of contributing both to campus life and community is a necessity for most university museums, but many struggle with the audience's puzzles as they work to allocate funds and human resources appropriately for collections, exhibitions and programs.

The function of a university museum in a university is the same as the existence of a library function which is at least able to function to support university missions as mandated in the national education system, that universities have the obligation not only as a function of education but also to carry out their role as a function of research and community service (Indonesia 2003).

Some interesting museum objects containing Islamic studies usually are a replica of the tombstone of Muslim sultans, various works of ceramics, porcelain wares with Arabic inscription, textiles, manuscripts (Kamada n.d.), glass, metalwork, photographs and others (Museum of Islamic Art 2016). All the museum collections mentioned before can facilitate people of different gender, age and educational backgrounds to carry out learning and research and recreation activities.

For example museum collections such as replicas in the form of tombstones of Muslim royal sultans that contain inscriptions of Quranic verses and names of the earliest sultans of the Muslim kingdom in the Indonesian archipelago as well as other museum collections can be meaningful sources as references to Islamic studies.

RESEARCH DESIGN

This research was conducted in four places, namely Syarif Hidayatullah State Islamic University (Jakarta), Sunan Ampel (Surabaya) State Islamic University, Maulana Malik Ibrahim (Malang) State Islamic University and Sunan Kali Jaga State Islamic University (Yogyakarta).

This research is using qualitative research methods with a phenomenological approach. The phenomenology approach is an approach that describes the general meaning of each informant about a particular concept or phenomenon according to their experience (Creswell, 2014, p. 105).

The rationale for selecting qualitative design with the phenomenology approach because the author want to emphasize the urgent to understand informants' experience in utilizing museum collection for their purposes of teaching and learning and research activities pertaining to Islamic studies particularly Islamic history and civilization in Indonesia context. Because of that the researcher will more be depend on narrative expressions from informants through depth-interview.

In term of informants for information data collection in this research then the author (s) used snowball sampling technique. The reason of this technique was used because the author (s) do not know the appropriate person to be interviewed therefore the author (s) consult each of head department of Islamic history and civilization at four different state Islamic universities. Then each head department of Islamic history and civilization recommended us some names of appropriate lecturers and are considered more understand than others in this topic. It is also possible the other informants recommend other appropriate persons as informants as well.

To obtain reliable information from the interview results in depth, the researcher really must ensure competency and authoritative or authority from the people who will be as informants. At least based on these two criteria, it can be ascertained that data collection through in-depth interviews can obtain reliable and accurate information.

There are three ways to get rid of personal influence in conducting this research using the phenomenology approach. First set aside personal bias to minimize the impact on the results of research. Second one is bracketing all information considered important for the analysis. Then regard all information in the same or equal position to be evaluated further, after that makes delimitations in order to find out themes or groups of topics. Then the researchers express the findings descriptively. The third one the researchers make critical reflection and judgment on the description of the previous findings (Pendit 2003, 291)

RESULTS

There are two meaning of university museums. The first one is that the meaning of university museum is museum reflects everything about the university or about historical development of the university. The other ones is museum about sciences and technology that developed by the faculties or study programs for support educational and research activities of academics.

In Indonesia universities both types of university museum are available. Although only one state Islamic university is equipped with university museum. However, this does not mean there is no effort to implement object-based learning models. The object-based learning model that is usually done in museums is also done using laboratories by many study programs in several faculties.

In this section the discussion of the findings of this study consists of two outlines, the first being a discussion of the meaning of the university museum and the second about the importance of partnerships between libraries and university museums.

The meaning of university museum from academics perspective

In state Islamic universities there are some study programs such as the department of Islamic history and civilization, the departments of medicine, the department of biology really need laboratories. The role of laboratories which is similar to museums can support the argument that the museum is needed for learning and research activities for academics. AH (informant) shows several benefits of museum in state Islamic university of Ar-raniry that well known “Museum and Center for Area Studies”. Such Museum and Center for Area Studies has been able to stimulate the growth of scholarly studies of Islam and civilization especially in the surrounding Southeast Asia.

BS (informant) argues about the importance of museums for academics because there are many object that contain Islamic values. They can be studied to support their educational and research activities. Objects containing Islamic values can consist of various artifacts and replicas. Some objects that can be considered into museum or laboratory collections are artifacts, replicas, and porcelain items with Arabic inscriptions as well as many more in the form of ceramics, inscriptions and manuscripts.

Partnership of museum and library

On the basis of the informants opinion (lecturers and librarians) this study revealed that the existence of the museum would not be an overlapping function with the library. On the contrary it would be reinforcement in supporting education, teaching and also research. Therefore there must be conducive efforts to which would later be able to work together as partnership between academic library and university museum.

The informants have similar opinions with one another that the university museum has a very important role and function for academics especially at Islamic State Universities. With the existence of a university museum, it will add to the wealth of sources for research and teaching, the library in this case as a provider of information resources within the university.

The informants expressed that the university museum is necessary and must be the priority to realize but university museum of the state Islamic universities must be related to the theme in the field of Islamic values as distinction to other non-Islamic universities at education institutions under the Ministry of Religion specifically Islam. The efforts to develop university will be able to provide variety collections for both lecturers and student access to meet their academic needs in reaching the state Islamic university mission of Islamic knowledge integration.

In addition, the informants also emphasize that the most important factor for building university museum and its collections is there must be a good will among university support units.

Therefore informants also believe that the society has strong trust of state Islamic universities then all local government, individuals or donators, funding institutions, museum association and so on will support for the objectives of such building university museums.

CONCLUSION

The presence of university museum should not be considered a waste but it should be an important requirement that must be met by educational institutions like a university. The urgency of the university museum as a center of information resource must be positioned as a partner for the library. The existence of a university museum will add to the wealth of sources of research and teaching. The libraries in this case as a provider of information resources within the university will be equipped with a university

The existence of the museum would not be overlapping function with the library, on the contrary it would be an important factor in supporting education, teaching and research within the state Islamic universities scope which would later be able to work together one another.

The university museums at the state Islamic universities must be partner of academic libraries to provide information access quality for university community. Therefore this research is expected to be able to raise awareness of decision makers and others also at the university so that they provide real support for the establishment of museums at each university.

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Preservation of Indigenous Knowledge Activities: A Case Study on "*Jamu Gendong*" Kiringan Village,Yogyakarta, Indonesia

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ABSTRACT
Indigenous Knowledge (IK) is tacit and embedded knowledge in practice and experiences that emerge later and disseminated to various communities through oral communication and demonstrations to be used again. This study motivated that Kiringan Village is the largest number of the traditional herbal village. Almost 130 mothers in Kiringan village work as makers and sellers of traditional herb. Kiringan village traditional herb so famous with taste, unique served and sales model. This study aims to investigate the activities of the Kiringan Village community in the indigenous exchange knowledge of making and marketing traditional herbs. The study applied qualitative research. The data collected through observation, documentation, and interviews. The finding of the study revealed that the process of transferring tacit knowledge of the making of traditional herb in Kiringan Village to the community through oral tradition and demonstration from generation to generation with Javanese culture. Knowledge preservation was carried out in the activities of mothers who members of the Seruni Putih Cooperative and the activities of the Jamu Gendong Kiringan Tourism Village. Dissemination activities are related to information technology shown by blogs and social media managed by Karang Taruna Kiringan Village and government websites that made the Jamu Gendong Kiringan icon as a treasure of local culture.

Keywords: indigenous knowledge; traditional knowledge; traditional herb; *jamu*; java cultural

INTRODUCTION
Traditional knowledge is defined as knowledge possessed or mastered and used by a particular community, community or ethnicity that is inherited and continued to develop in accordance with environmental changes. The term traditional knowledge in the perspective of WIPO contains a broader understanding including wider knowledge and folklore (Sardjono 2006, 1). Indigenous Knowledge (herein after abbreviated as IK) is predominantly tacit and embedded in practices and experiences and exchanged within

the community through oral communication and demonstration. Recording and disseminating it across the communities is not easy.

Indigenous Knowledge is described from various disciplines, including environmental conservation, traditional education systems, health practices and prevention, medical technology, sustainable agricultural practices, local industry and technology, and other areas. Similarly, Indonesia has a variety of IK, one of which is traditional herbal medicine. Herbal medicine is a cultural heritage of Indonesia's ancestors that must be preserved and protected. Herbal medicine is a blend of ingredients from nature that used for health care, disease prevention, disease treatment, health, fitness and beauty recovery. Raw materials for herbal medicine are obtained from nature, namely plants, herbs, tubers, roots, and certain ingredients.

Along with the development of science and technology, the existence of traditional herbal medicine began to shift with the emergence of various kinds of modern pharmacology. However, there is still one village on the southern tip of Yogyakarta that still maintains the cultural heritage of making traditional herbal medicine, named Kampung Jamu Gendong Kiringan. It began in the 1950s when there was a traditional birth attendant named Simbah Joyo Karyo who made jamu for mothers have births, and then he changed his profession from a traditional healer to a herbalist. Initially, the profession as a seller of herbal medicine was only carried out by himself, then passed on to his two daughters, and then to his four grandchildren. Finally, the profession was imitated by the community so that it developed into a village. At present, almost 130 mothers in Kiringan village work as makers and sellers of traditional medicine.

Asian countries and even the world generally have herbs, but they cannot be equated with each other. The traditional herb in Indonesia, specifically the Kiringan traditional herb village has interested, the ingredients, the method of concocting, the method of presentation, and the sales model with cultural traditions. Kampung Kiringan is increasingly well-known through various exhibitions, herbal festivals, herbal concoctions and cultural icons by the government. Promotional media also supported by the government through the website. Preservation of the traditional herb in Kiringan Village is important because 1) knowledge of the manufacture of traditional medicine includes ancient knowledge of the ancestral heritage of the Indonesian ancestors, which is currently only known by certain communities or the community of observers of traditional herb; 2) Utilization of traditional herb knowledge provide economic benefits for the community; 3) Traditional herb in Kiringan have many unique characteristic. One way to preserve traditional knowledge is to disseminate this knowledge to be known by the general public through the exchange of indigenous knowledge. This activity can help provide an understanding of the community of existing traditional knowledge. The study aimed to examine how the activities of the Kiringan village communities in the area of exchange indigenous knowledge?

LITERATURE REVIEW

Traditional Herb

The term "traditional herb" has been noted to the literature (Mudjiono et al. 2014, 39) comes from the Old Javanese language "*jampi*" or "*usodo*" which means healing using medicinal herbs or prayers. The term traditional herb was introduced by traditional healers or traditional medicine doctors. The original traditional herb was introduced in the palace environment. In Surakarta Palace, information on traditional herb is found in ancient manuscripts *Serat Kawruh* chapter *Jampi*. Traditional herb is an original natural herb used for health care, disease prevention, disease treatment, health, fitness and beauty recovery. The raw material of traditional herb is obtained from nature by combining plants, herbs, roots and certain ingredients.

Jamu is a traditional Indonesian herbal medicine that has been used for centuries by Indonesian people for health care and to treat diseases. Although chemical drugs have emerged, herbal medicines are still very popular in rural and urban areas. Now, traditional herbal medicine is being developed into a form of rational therapy, with herbal approval and in the form of phytopharmaceuticals (Elfahmi, Herman, Oliver 2014, 51)

Preservation of indigenous knowledge

Indigenous Knowledge (IK) is tacit and embedded knowledge in practice and experiences that emerge later and disseminated to various communities through oral communication and demonstrations to be used again. World Bank (World Bank 1998) created the process of exchanging IK involves the following six steps (Anwar 2010, 6) :

1. Recognition and identification is something that is not easy and may be carried out social and technical analysis;
2. Validation, namely relevance, handled, function, compatibility, and transferability;
3. Recording and documenting, using information technology in the form of audio-visuals, narratives taken, images, or other forms that can be codified;
4. Storage, for example, categorizing activities, indexing, connecting it with other information, easily accessed, preserving and maintaining it in the form of a repository so that it can be used later;
5. Transferring, make knowledge available to potential users
6. Dissemination, sharing knowledge using the right communication channels

The exchange of IK is the ideal outcome of a successful knowledge transfer. Preservation of indigenous knowledge become important because is compatibility with the preservation of the local environment and sustainable development of communities concern. In technology and communication era, indigenous knowledge will eventually at risk. Therefore, well-conceived and continuous effort must be done to save it.

Arnon Bar-On 2014 identified IK as the knowledge that arises without the help of an external system, and then is transferred orally or by imitating and developing independently. IK is dominated by undocumented knowledge. IK is usually shared so that other people or the general public can find out, although some people may have more than others because of the socio-economic division of labor (Arnon 2014, 781).

International Atomic Energy Agency or IAEA (International Atomic Energy Agency 2011, 6) report that preservation knowledge as the processes required to capture, understand, archive, retrieve and protect explicit and tacit knowledge and to maintain accessibility and readability of it, as technology evolves for as long as the knowledge remains useful. Preservation knowledge is a process of maintaining an organizational system of knowledge and capabilities that preserves and stores perceptions, actions, and experiences over time and secures the possibility of a recall for the future.

Singh Nijhar (Singh Nijhar 2004, 163) shared that the lifestyle of indigenous peoples is closely linked to their customs and tradition. For thousands of years, the history, culture, and religion of indigenous people have been passed down from older to younger generations via oral tradition because the most indigenous knowledge have not been transcribed in written form. The indigenous knowledge in traditional medicine is identifying the material and medicinal plants, preparation method, practices, belief, experiences and observation which have been handed down from generation to generation.

The Knowledge Process

Nonaka and Takeuchi (Nonaka & Takeuchi 1995) report that knowledge creation always begins with an individual that translated knowledge into valuable, public organizational knowledge. There are four modes of knowledge conversion:

1. Socialization (tacit-to-tacit) consists of sharing knowledge in face to face, natural and typically social interactions. For example, the sharing of mental models, brainstorming, apprenticeship and mentoring interaction.
2. Externalization (tacit-to-explicit) gives visible form to tacit knowledge and converts it to explicit knowledge taking the shapes of metaphors, analogies, concepts, hypotheses, or models
3. The combination, the process of recombining discrete pieces of explicit knowledge into a new form. For example a review report, a trend analysis, a brief executive summary or a new database.
4. Internalization (explicit-to-tacit), strongly linked to learning by doing. Internalization integrated individual experiences and knowledge into individual mental models (Dalkir 2012, p.16)

Kiringan Village

Kiringan Village is located in Canden Village, Jetis District, Bantul Regency, Special Province of Yogyakarta, about 16 km south of Ngayogyakarta Hadiningrat Palace. Kiringan village is divided into an area of 13.966 Ha and an area of agricultural land of 10.785 Ha. The agricultural land is very fertile to grow various kinds of plants for herbal raw materials.

On January 7, 2007, the seller of traditional herb joined the Seruni Putih Cooperative under the guidance of the Bantul Regency Office of Cooperatives, SMEs, and Industry.

Cooperative activities include discussing, training, managing the area of traditional herb sales, regulating the price of herbs per cup, savings and loan capital. The Seruni Putih Cooperative also developed the instant traditional herb business that is produced in groups by residents.

RESEARCH DESIGN

This research is a case study with a qualitative approach. This research aimed to describe the process of preservation knowledge of traditional herb in Kiringan village, Bantul Regency, Yogyakarta Special Region. Indonesia. This data research taken through observation and interviews. Structured interviews were conducted which adhered to the list of questions that had been developed previously. In addition to interviews, data collection is also conducted by observation. Observation has done in the Kiringan village to find out social conditions, how to make herbs and other activities. Observations are also carried out in the sales area to know how seller serves their customers

Informants research

This study uses a purposive sampling technique to decide the criteria of the informant to be chosen. Total informants used in this study is ten informants, the details are 1) the young generation of Kiringan Village with two informants 2) the chair of the Seruni Putih Cooperative with one informant 3) Mother maker traditional herb with two informants and 4) customers with five informants. The young generation was chosen because they are the next generation and now participating in dissemination information about *Jamu Gendong Kiringan.* The chair of Seruni Putih Cooperative was chosen to know the activities of this organization. Mother makers were chosen to know the process of making and selling traditional herb. Customers were chosen to know their opinion about services and impact of the traditional herb.

Data analysis

The steps of data analysis in this study is organized and prepare the data for analysis, read or look at all the data, start coding all of the data to generate a description, represented data in qualitative narrative, and the last is making a conclusion and an interpretation.

RESULTS

The activity of making herbal medicine starts in the evening, which is boiling ingredients such as white turmeric, pace, Javanese chili, cinnamon, and some other spices. Furthermore, the ingredients are pounded at 3:00 a.m. with traditional equipment, named *Alu* and *Pipisan*. After finishing the herbal ingredients are put into the pan, while the herbs are poured into the available bottles. Around 7 o'clock, the mothers in Kiringan village are ready to go to sell herbal medicine. At first, they peddled herbal medicine on foot carrying "*tenggok*" so that this village was known as the “*Kampung*

Jamu Gendong." However, along with the development of transportation and the distant sales locations are so far, today many are using bicycles.

Figure 1: The mothers go to sell traditional herbs

The herbs that are sold are at least 10 types, from galingale rice, turmeric tamarind, swingset excavation, puyang chili, jiri sirih, purwoce to uyub-uyub. The presentation of herbal medicine is quite unique, which is served in a cup made from coconut shell, or called '*cawik*' or '*bathok*'. Coconut shells are believed to increase the medicinal properties because they contain carbon which is useful for body health. There are two types of herbal medicine, the finished form and the mixture in place. The finished form, for example, kencur rice and turmeric, which have been packaged in bottles and stay poured if someone buys. Mix in place, which is a mixture of herbs that have not been diluted or mixed with water, the herbs will be formulated in front of customers, so that customers can find out directly what ingredients are mixed, and can choose herbal remedies according to their own desires. This direct concoction is tastier.

Kiringan traditional herbal medicine customers come from various backgrounds, from small children, adults, parents, housewives, to nursing mothers. The best seller herbal medicine is *uyup-uyup* for breastfeeding mothers who are efficacious to facilitate breastmilk. There are customers who use this traditional herbal medicine as an alternative treatment for their disease. This traditional herbal medicine is used to increase stamina or maintain a healthy body. For the village sale area, the Seruni Putih Cooperative has been arranged so that it does not overlap.

In addition, the nature of the Yogyakarta people who appreciate "*tepo seliro*" from each other also helps maintain the market area.

This year, there are still 130 mothers in Kiringan village working as makers and sellers of traditional herb. Throughout the literature searches, it is the largest number of herbal sellers village in Indonesia. In other areas, it only ranges between 50-100 people per village. Based on the results of interviews, to the concept of preserving cultural heritage as the main goal. Moreover, the development of this profession is also motivated by economic motives and socialization. The barely to get an income of their husband already motivated them to continue to be persistent in helping the family's economy. The motive of socialization, by peddling their herbs, they were so happy to interacting and to sharing in several subscription areas, and even create close relationships. They regarded customers like family. If their customers sick or hit by a disaster, they visit them. They believe that if they work sincerely, fortune will be launched. Therefore, the seller of Kampung Kiringan is famous for its hospitality in serving buyers, delicious herbal taste and the uniqueness of its presentation. Kampung Kiringan is increasingly well-known through various exhibitions, herbal festivals, herbal concoctions and cultural icons by the government. Promotional media are also supported by the government through the website.

1. Recognition and Identification Activities

The knowledge process begins with a mother having the knowledge of concocting herbs then teaching her child. Neighbors know that in their environment there are those who have the knowledge, and then the owner of the knowledge explains how to mix herbs with oral traditions and demonstrations. Then, the neighbor teaches his child, his sister, brother with the same method. Finally, this knowledge can move from generation to generation. This identification is in accordance with the theory of Indigenous Knowledge (IK) which is transferring tacit knowledge to the community through oral traditions and demonstrations.

Recognition from the government can contribute to the importance of indigenous knowledge to be developed and protected. Jamu Gendong Kiringan has received recognition from the local government to the level of the Special Province of Yogyakarta. The government pays attention to this cultural heritage through the Cooperatives, Small and Medium Enterprises (SMEs) and Industry Department to mentoring cooperative activities including traditional herb training, assistance in selling traditional herb, and business capital. Even in exhibition activities, in the city and outside the city, Jamu Kiringan always gets a free boot. The Government through the Tourism Department has also inaugurated the Jamu Gendong Kiringan Village to become a Tourism Village on June 6, 2016. The potential for traditional herb in Kiringan will be taken seriously by the government and will be promoted to hotels, so can be a tourist product. *Jamu Gendong* Kiringan Village is a traditional herb icon of Yogyakarta Special Province. The recognition of the traditional herb icon carried out in every government activity helps the process of preservation of traditional knowledge.

2. Validation Activities

Validation in indigenous knowledge is the assessment knowledge traditional medicine of Kiringan, referring to relevance, reliability, functionality, effectiveness, and transferability of the source so it can be said as the local knowledge. The relevance seen from the transfer of knowledge of Kiringan traditional herb making is the Javanese perspective of inculcating human to human, not individualistic. Someone has certain knowledge or abilities, he will not monopolize for his own sake, even though it brings economic benefits. They try to disseminate this knowledge so that other people can use it. They assume that knowledge is shared property. From the concept of Islamic religion (majority religion of the population), they follow Allah's command that the knowledge obtained cannot be hidden (QS Al-Imron: 187) and spreading knowledge is a charity. In the community life, people at village Kiringan cohesive to cooperation, for example to build houses for the residents, built village facilities and clean up the village together.

The functionality of Kiringan traditional herb from the side of tradition can be seen from the early history which was only used in the Yogyakarta Palace to maintain health and beauty of the Princess in the Palace, then began to explore the local community. Reliability can be seen from the customers of Kiringan Traditional Herbs who are still loyal so that they still exist in the Yogyakarta community. The development of the profession of making and selling traditional herb in one village from generation to next generation is proof that the effectiveness and transfer of knowledge in traditional herb have been successful.

3. Record and document activities

Recording and documenting is one step to converting tacit knowledge into explicit knowledge by changing that knowledge into other forms of media in accordance with technological developments. This recording activity can be done using multimedia tools, like audio, visual and audiovisual. The activity of recording the knowledge of making traditional herb initially came from tacit to tacit knowledge and then passed on to the next generation orally and practically based on the experience of the daily activities of the community. For decades there have been no recordings or written documents about the process of making traditional herb or recipe for the concoction. After the community began to know the technology around 2000th, there were photos of the process of making traditional herb and activity of selling, but only for local family collections. Only in the last ten years has the knowledge of traditional herb been published in the form of photos, pictures, and videos. Recording and documenting activity was carried out by collaboration between young generation, Seruni Putih cooperation, and village heads.

4. Storage Activities

The storage activity in indigenous knowledge is storing the knowledge that has been recorded and documented in the repository. This activity requires a library to classify and index knowledge that will be stored, either in record or print so that it can be reused. This role is in line with the mandate of Indonesian law, *UU Nomor 43 Tahun 2007* about Library, at 8 clauses which states that the regional government is obliged to organize and develop regional public libraries based on regional peculiarities as research centers and references on regional cultural wealth in its territory. In the knowledge storage activities, the Kiringan Village community keeps it in a filing cabinet at the Children Center Kampong Kiringan hall, not included in the repository. Digital library or another website, not yet special i-repository regarding Jamu Gendong Kampung Kiringan.

5. Transfer Activities

The transfer of knowledge about the making of Kiringan traditional herb is done orally, both individually and in groups. Conversion of knowledge transfer is done by 1) Socialization, that is, the knowledge owner transfers his knowledge to the community through verbal and demonstration and visitor; 2) Externalization, at this stage the knowledge of the traditional herb Kiringan Village that was still in memory has been converted into an explicit form into a video recording and a complete profile of Kampung Jamu Gendong Kiringan 3) Internalization, departing from the training provided by the UKM and Regency Industry Bantul regarding herbal innovation, Kiringan village community adopts the knowledge gained by applying it in instant herbs, candy, syrup and other ingredients. The manufacture of the instant traditional herb is managed by the White Seruni cooperative. This activity is relevant to the SECI Model knowledge conversion introduced by Ikujiro Nonaka 1995 (Dalkir, 2012, p.54)

6. Dissemination Activities

Activities to disseminate knowledge obtained from the results of recordings and documentation that have been obtained previously. This activity is the final step in the activities of exchange of indigenous knowledge. Kiringan villagers spread knowledge in various ways. Initially, the knowledge was disseminated in the activities of the Seruni Putih cooperative, which is providing training or workshops to new members regarding the manufacture of traditional herb. Now, they gave training to the making of traditional herb to guests who came systematically with a guidebook to form a village for tourism of Kampung Kiringan. Through this tourism village activity, tourists go around the village, explained the process of making traditional herb and see first-hand the mothers concocting herbs. Tourists will also be invited to see the garden planted with spices and herbal ingredients. Tourists are designed to feel live in as a herbalist. There have also been many guests from outside the region who conducted comparative studies to Kiringan Village to learn how to make traditional herb. This activity is a knowledge conversion in combination (based on the SECI model) which is conveying documented knowledge to be developed or used to become new information that is systematically delivered to groups.

The Yogyakarta government often holds exhibitions or expos or herbal drink festivals. Through the Kiringan Tourism Village exhibition activities they always participate in disseminating the manufacture of traditional herb and their herbal products. Through the festival, traditional herb makers not only distribute free thousands of glasses of traditional herb to visitors but also share the process of making traditional herb, recipes, and benefits. Kampung Kiringan also often participates in competitions to concoct herbs and get championships. Kiringan Village has also created blogs, not yet websites, available at www.sentrajamukiringan.wordpress.com. The fan page Facebook is available at https://web.facebook.com/Kiringan4ever/ and Instagram available at @wisatakiringan_id. Social media managed by Kampung Kiringan youth to disseminate activities in Kiringan Village. The local government, such as the sub-district and district, has also shown the icon of Kampung Jamu Gendong Kiringan on the website. This method strongly supports the dissemination of knowledge about Kampung Jamu Gendong Kiringan.

DISCUSSION

Indigenous knowledge activities can succeed in the transfer of knowledge. Preservation of indigenous knowledge is very beneficial for the next generation and supports sustainable development, both across communities, local communities, and the general public. Indigenous knowledge in this research is traditional medicine Jamu Gendong Kiringan. The author does not highlight the process of making herbal medicine, but how the activities of the Kiringan Village community can succeed to transfer knowledge by adjusting local culture. The knowledge identification process begins with a mother who has the skills in making and concocting herbs, then transferring her tacit knowledge to individuals and communities (a group of Kiringan residents) through oral traditions and demonstrations (the practice of concocting traditional medicine). This knowledge then gained recognition from the community and the provincial government of the Special Region of Yogyakarta, as evidenced by the inauguration of a tourist village in 2016. Validation of knowledge can be seen from the opinions of Jamu Gendong Kiringan customers who are still loyal so that they still survive. Hospitality and social spirit in serving using cultural values strongly support this validation. The development of the profession of makers and sellers of herbal medicine into one village shows that this transfer of knowledge has succeeded.

Recording the knowledge of making traditional kiringan herbal medicine was initially not documented, and only in the last 10 years has it been made explicit in the form of photos, images, and videos. The people of Kampung Kiringan keep it in a file cabinet at the Children Center hall in Kampung Kiringan, but it has not yet been included in the local government library's repository. Traditional herbal medicine knowledge transfer is carried out orally, both individually and in groups according to NECI's theory, including socialization, externalization, internalization and combination processes. Knowledge dissemination is carried out in various ways, namely training, workshops, competitions for concocting herbs, exhibition activities or expos, festivals for drinking herbal medicine. In addition, the Kiringan Village Youth Organization has also created a blog, Instagram and Twitter and Facebook.

CONCLUSION

From the results and discus of the above research, it can be concluded that the process of transferring knowledge of tacit making traditional herb to Kiringan Village to the community through oral tradition and demonstration from generation to generation with Javanese culture. Knowledge preservation is carried out in the activities of mothers who are members of the Seruni Putih Cooperative in the form of sharing knowledge, training, and seminars. The inauguration of this cultural heritage was shown by the government with the legal entity Koperasi Seruni Putih and the inauguration became the tourism village of jamu carrying. Tourism Village Activities Kiringan Village is designed so that tourists feel live in as a herbalist. Dissemination activities related to information technology are shown by blogs and social media which are managed by Karang Taruna village Kiringan and government websites that make the Jamu Gendong Kiringan icon as a treasure of local culture.

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Preservation of Indigenous Knowledge in the Production of Natural Batik Colours in Sidoarjo, Indonesia

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ABSTRACT

Indigenous knowledge is a unique local knowledge of the community that needs to be preserve for next generation as a traditional knowledge, explicitly kept as part of the collection heritage for the library in Indonesia today. One of the indigenous knowledge that has been registered as one of the memory of the world is batik material, or kain batik. In spite of the already well-known batik material, knowledge concerning production of natural batik colours is beginning to be abandoned by the community. There are few people who know about production of this natural batik colours. The community nowadays turned to batik production using synthetic dyes that were easier to process. This study aims to investigate the preservation knowledge of natural colours of batik production in Sidoarjo, Indonesia. This case study research applied qualitative approach in analysing group of batik craftsmen by six stages of indigenous knowledge preservation theory, through identification, validation, documentation, storage, transfer and dissemination. The data were collected through observation and interviews to batik craftsmen using natural colours and analysed using thematic categorization. The findings of the study revealed that the transfer of knowledge using the SECI model analysis does not reach the stage of internalization in younger generation. It was further revealed that younger generation plays a role in the dissemination knowledge in the production of natural batik colours through videos and training to other communities. The study demonstrated that preservation of indigenous knowledge in the production of natural batik colours cannot be said to be successful in the stage of knowledge transfer to young generation.

Keywords: Preservation, Indigenous Knowledge, Natural Batik Colours, Indonesia

INTRODUCTION

Preservation of indigenous knowledge is a part of knowledge management in library and information center nowadays. It is an effort so that indigenous knowledge can be used for next generation. In general, it is known that indigenous knowledge is inherited downwards through an oral culture. The development of technology and culture makes the preservation of indigenous knowledge abandoned. Indigenous knowledge must be managed because it plays a crucial role in the sustainable development of society (Ngulube, 2002). One of the indigenous knowledge is regional craft.

Batik is one of Indonesian's indigenous knowledge. Although other countries like Malaysia and Thailand do also have their own batik. Almost every region in Indonesia has the craft batik with diverse motif and pattern. One of them is in Sidoarjo Regency, East Java Province. The development of Batik Sidoarjo has been starting since 1675 in Jetis, Lemahputro, Sidoarjo (Dispersip Prov. Jatim, 2016). In the meantime, there have been around 335 batik craftsmen in Sidoarjo. The development of technology by time does not erode the existence of Batik Sidoarjo. In 2008 by the Regent of Sidoarjo City, batik craftsmanship area was confirmed as Kampoeng Batik Jetis Sidoarjo. That as a form of preservation of regional indigenous knowledge. At that time by researcher observation, the number of batik craftsmen in Kampoeng Batik Jetis reached 44 craftsmen and made batik as the main source of livelihood. Based on data from Sidoarjo Batik Tulis Cooperative, in 2018 there were only around 23 craftsmen who still exist.

Natural batik colours is one of the forms of batik handicrafts that have been "famous" before the 1900s. When synthetic dyes had not been use. Batik synthesis dyes production brings negative impacts environmentally mainly of resulting in water scarcity due to pollution and inefficient use of water (Handayani, Kristijanto, & Hunga, 2018). The natural batik colours is made without using chemicals in its production, utilizing plants that are found in our environment. The process is quite different from batik in general and takes longer. At present, the number of employees or local people who are able to make natural batik colours is running low. Batik craftsmen prefer to use synthetic dyes because they are easier to use. Based on observations, Sidoarjo batik craftsmen assume that production natural batik is not a business value. Because besides to production it old and expensive, natural batik colours is not much in demand. No youth knows and is able to do batik in Sidoarjo Regency.

Slowly, the knowledge of production natural batik colours began to disappear from the local community. Batik craftsmen natural dyes batik crafts only have three craftsmen left. This is due to the length of natural batik dyes work with special competencies. A local wisdom that has been declining hundreds of years is threatened by sustainability. The importance of discussion and learning for the preservation of batik crafts is expected to preserve indigenous knowledge. This study aims to investigate how the preservation of production natural batik colours in Sidoarjo, Indonesia. Through the transfer of knowledge about the making of natural colors batik from craftsman to the next generation and how knowledge is disseminated to other communities. The knowledge that is part of the cultural heritage that must be preserve, so that it can continue to be used later for future generation.

LITERATURE REVIEW

Previous Research

Puji Rahayu research in 2014 entitled "*Eksistensi Kerajinan Batik Tulis Dengan Pewarna Alam*" reviewed how Natural batik colours was make and still produced in Klaten Regency. This reserach aims to find out how the development of Natural batik colours in

Klaten Regency. How it exists and how it affects the social and economic life of the local community. This research focuses to why Natural batik colours is still produced in this area. The motives, materials, manufacturing techniques and the coordination with relevant stakeholders. The results of this study was explain that Natural batik colours in Klaten Regency runs since 2007. The marketing of its products can reach out of cities such as Semarang and Yogyakarta. Production natural batik colours is the main income for craftsmen and culture that is inherent in the local community.

Batik as Indigenous Knowledge

Indigenous knowledge is different from other regions and has their own values. "Indigenous knowledge is the sum total of knowledge and skills possessed by people belonging to a particular geographic area, which enables them to benefit from their natural environment" (Abioye, 2017). Indigenous knowledge must also play a role as the economic income of the community. "…indigenous knowledge is an integral part of the development process of local communities" (World Bank, 1998). Indigenous knowledge is a wealth of knowledge that is vulnerable to being lost because it is only limited in distribution. "Indigenous knowledge, which has generally been passed from generation to generation by word of mouth, is in danger of being lost unless it is formally documented and preserved" (Ngulube, 2002). So it is important to be conserved through knowledge management for the benefit of the next generation.

Indonesia is famous for its many local and cultural wisdom, one of which is batik. Batik is not only produced by the dyeing resisting process. Batik also has some create philosophical meaning, meaning, message and hope (YKI, 2007). The development of batik in Indonesia has started in 1613 and was confirmed by UNESCO on October 2, 2009 (YKI, 2007). That date was later known as National Batik Day. Batik is a timeless cultural heritage. Batik in its appearance is the representation of material cultural heritage and design based goods can be articulated in chains of creative creation of value with innovative experiences (Shaari, 2015). In present, batik is still following the times. The motif, style and color are more flexible so that it has its own place in the heart of its enthusiasts.

Figure 1: Batik Synthetic Dyes and Batik Natural Dyes (Source: Author, 2018)

Many factors have stimulated the popularity of batik such as the used of materials; the more colorful appearance and the creation of batik as functional products (Shaari, 2015). The grouping of batik areas in Indonesian is divided into two major groups: vorstenlanden batik and coastal batik. Vorstenlanden batik has various motifs about Hindu-Javanese culture with sogan, indigo and black colours. Then, coastal batik with more naturalistic motifs based on various cultures and more varied colours (Djoemena, 1986). The batik colouring method is divided into two: use of synthetic dyes which began to bloom in 1990 and the use of natural colours from plants (Yudhoyono, 2010).

The use of synthetics dyes in the batik production processes is still more popular than natural dyes because of the colour lasting, easy to get, and practical in use (Izzah, Marwoto, & Iswari, 2018). Similarly, the craftsman can make it. While the use of chemical dyes has an impact on the pollution of river water ecosystems and clean air. The liquid waste of batik causes river water to change colour to pitch black and cause unpleasant odours when the dry season arrives (Rahayu, 2014).

Preservation of Indigenous Knowledge

Indigenous knowledge is unique to a particular culture and society which basis for local decision-production in any activities (World Bank, 1998). Indigenous knowledge is only understood by some people, is important to be preserved. By preserving indigenous knowledge is one way to store and maintain cultural values. "Storage and documentation of indigenous knowledge could assist on the safeguarding of practices and cultural heritage for the future coming generations, which can be considered as a positive part of their identity and promote social cohesion" The Department of Arts and Culture Republic of South Africa (2009: 31).

The disruption of indigenous knowledge throughout history, the need for its preservation and transmission to future generations, and its protection from further erosion (IFLA, 2004). It is important that indigenous knowledge should be preserved and integrated into the existing knowledge management systems for the next generation. According to the World Bank, (1988) "IK systems are currently at risk of extinction because of rapidly changing natural environments and economic, political, and cultural changes on a global scale". Changing of technology and culture can eliminate indigenous knowledge if not preserved. Younger generations underestimate the utility of indigenous knowledge systems because of the influence of modern technology and education (Ulluwishewa, 1993: 11–12). The local indigenous knowledge that has been declining for hundreds of years is threatened by sustainability. The younger generations must be known and preserved the indigenous knowledge.

Indigenous knowledge is predominantly tacit and embedded in practices and experiences and exchanged within the community through oral communication and demonstration (Anwar, 2010). Preservation of indigenous knowledge is the ideal outcome of a successful transfer and dissemination. Exchange of indigenous knowledge seen based on six activities: recognition and identification, validation, recording and documentation, storage, transfer and dissemination (World Bank, 1998).

In the steps of transfer knowledge which a part of creating knowledge. Creating a knowledge always begins with the individual and consists of a social process. That is not simply a unidirectional process but it is interactive and spiral. There are four models of knowledge conversion from Nonaka and Takeuchi (1995): 1). Socialization: tacit knowledge to tacit knowledge. 2). Externalization: tacit knowledge to explicit knowledge. 3). Combination: explicit knowledge to explicit knowledge. 4). Internalization: explicit knowledge to tacit knowledge.

RESEARCH DESIGN

This study uses a case study with a qualitative approach. "Case study's findings in a new case setting require good documentation of qualitative procedures" (Yin, 2003). So that they are consider appropriate for this study. This study aims to determine the preservation of natural batik colour in Sidoarjo Regency. Data collecting methods through semi structured observations, interviews, documents, and recording information (Creswell, 2014). In conducting interviews, researchers interact directly with natural batik colours craftsmen. Interviews this study to 3 craftsmen informan research are Jolawe (48 years), Jati (35 years) and Mahoni (53 years). Jolawe and Jati live in the same area and often meet for the needs of the batik industry. Meanwhile, Mahoni is in a different area but still makes Natural batik colours if there is demand. They are still holds the indigenous knowledge of production natural batik colours. As well as observations regarding the process of transfer of knowledge in the Sidoarjo batik industry as well as efforts to preserve it. Data analysis was conducted by qualitative data analysis through data collection, data reduction, data presentation and conclusion drawing (Miles, Huberman and Saldana, 2014). Research data collected, then sorted according to themes and theories. The data is then presented with an analysis based on the appropriate theory, then conclusions are taken. Data validity used in this study is spend prolonged time in the field (Creswell, 2014). Researchers were born and raised in the Sidoarjo batik craftsmanship industry, so researchers understand how problems occur and interact directly with the craftsmen. But, the duration of collecting data is from September-November, 2018.

RESULTS

Natural batik colours handicrafts in Sidoarjo are not much traded on the market. The manufacture of natural batik is only based on customer demand. This is also what makes the lack of people who are able to make handicrafts in Natural batik colours. In 2018, the number of craftsmen who were able to make batik in natural colour was only three people. According to the World Bank (1988), preservation of indigenous knowledge can be see based on six activities:

Identification and Recognition aims to knowledge as expressed in a technology or a problem solving strategy (World Bank, 1988). The use of natural colours in Sidoarjo batik has been around since the 1600s. When batik first appeared in Sidoarjo Regency. Since the 1990s, when the colour of synthesis entered the Sidoarjo batik industry. The use of natural colours is no longer used. Even in the late 1990s, batik craftsmen in Sidoarjo

Regency no longer produced natural batik colours. So the local knowledge was lost. The three craftsmen have to find sources of information from outside the area to maintain this indigenous knowledge.

> "*Pengetahuan tentang pembuatan batik warna alam didapatkan dari pelatihan yang difasilitasi Dinas Koperasi dan Perdagangan Kabupaten Sidoarjo. Sebenarnya, batik warna alam sendiri bukan hal baru di Sidoarjo, tetapi sudah lama tidak ada yang membuat*". (Knowledge of production natural batik colours was obtained from training facilitated by the Sidoarjo Regency Cooperative and Trade Office. Actually, natural batik colours itself is not new in Sidoarjo, but for a long time no one has made it). Interview with Jolawe, October 2018.

Although this knowledge is get through outside the area. The craftsmen of natural batik colour readjust to the values and cultural elements in Sidoarjo Regency. They gather information from other craftsmen about Natural batik colours. The pieces of information they then internalization.

Validation is terms of its significance and relevance, reliability, functionality, effectiveness and transferability (World Bank, 1998). The use of natural dyes is easier to get and available in the surrounding environment. So, the price of batik production becomes cheaper. Besides, the use of natural colours is also friendly. Its use is also more durable. The use of synthetic colours is prone to environmental pollution, especially rivers around batik handicrafts. The types of plants that can be use for batik natural dyes are not difficult to find. In general, natural colours of plants produce colours such as brown, grey and green. Some plants have the same colour results.

Table 1: Types of Plants for Natural batik colours

Plants	**Colours**	**Plants**	**Colours**
Avocado	Brown, grey, brownish green	Jackfruit	Yellow
Pomegranate	Yellow	Rice	Grey
Gambir	Brown	Areca nut	Red
Teak	Brown, brownish red	Rosela	Purplish red
Jolawe	Yellow, brown, black	Secang	Red
Ketapang	Yellow, grey, brown	Tanjung	Brown
Turmeric	Yellow, orange	Tarum	Blue
Mahogany	Brown, brownish red	Headland	Beige, orange, brown
Mango	Brown, green	Tingi	Red, purple
Noni	Beige, orange		

Source: Sa'adah, 2018

Recording and documentation is the process of communicating and realizing the tacit knowledge. The craftsmen communicate the tacit knowledge they have through direct training and assessment. Recording and docummentation is largely determined by the intended use of the information (World Bank, 1998). Few people are interest in Natural batik colours. Usually are students, students and academics for learning purposes. The rest, there are no other batik craftsmen who want to explore Natural batik colours crafts.

> "*Mungkin karena batik warna alam ini prosesnya lebih rumit, meski bahannya lebih mudah didapatkan serta harga jualnya yang mahal*". (Maybe because this natural batik colours process is more complicated, even though the material is easier to obtain and the selling price is expensive). Interview with Jolawe, October 2018

Production Natural batik colours crafts is only done when there is a request. Both requests for training and the results of the fabric.

Figure 2: Dying Natural Batik Colours. (Source: Author, 2018)

The following are the stages of production natural batik colours: 1). Cutting and boiling mori cloth using starch, usually 1.5x2m cloth. 2). *Nyoret*, is the stage of production batik patterns on cloth with a pencil. 3). Batik, the process of sticking the night or wax with a stamp (*batik cap*) or canting (*batik tulis*). 4). *Nembok*, which is the second stage of waxing to make the closed colours firm. 5). Selection of plants that will be use as natural dyes. 6). Boil natural colouring plants. The number of plants used determines the strength of the colour produced. For example to produce yellow with jolawe plants, how many plants are needed. Similarly, if you want to produce black. This process is not owned by many people. 7). *Ngelorod* or the process of dropping the wax on the cloth by boiling it with hard water. 8). Furthermore, batik cloth is dry and ready for sale.

Storage is the stage of storing indigenous knowledge. This stage is not limited to storage in the form of text documents. But can be done by using electronic media such as, tape, film, and video recording as well as storytelling. Storing the knowledge of production natural batik is only by photographs and students reports. On several occasions, the photos were taken by the craftsmen actually disappeared. Because they were not stored and the student reports were only accessible to certain circles.

> "*Iya, dulu pernah di foto. Tapi fotonya hilang di HP. Trus pernah ada mahasiswa yang tanya-tanya, tapi ya gitu hasil laporannya gatau dimana*". (Yes, once in a photo. But the photo is missing on the cellphone. Then there were students who were asking questions, but so were the results of the report or where). Interview with Jolawe, October 2018.

One of the craftsmen plans to make a video version. It to help stage the colour batik tacit knowledge storage in Sidoarjo.

Transfer knowledge is a fundamental process of civilization and that is central to learning which in turn is critical to development (Paulin, 2012). The process of transferring knowledge can be view from the four knowledge conversion models according to Nonaka and Takeuchi in (Dalkir, 2005), Socialization, Externalization, Combination and Internalization, or known as the SECI concept.

Socialization is a process of sharing and creating tacit knowledge to tacit knowledge. This activity is carry out through interaction and direct experience. This process took place between senior craftsmen and junior craftsmen. Natural batik colours craftsmen have also previously obtained information on production natural batik colours from their parents. Through discussion and shadowing between parents and children. It's just that, before the transfer of knowledge is internalized by the child, his parents have died. Then, craftsmen get the opportunity to take part in the form of training in production Natural batik colors facilitated by the Sidoarjo Regency Cooperatives and Trade Office in collaboration with the Yogyakarta batik training institute.

> "...*karena sudah lama di Sidoarjo gaada yang produksi, ada pelatihan dari pemerintah, Saya ikut, ngobrol sama yang ngelatih, dan akhirnya produksi*…." (... because for a long time in Sidoarjo there was no production, there was training from the government, I joined, chatting with the trainers, and finally the production ...). Interview with Jati, October 2018

Externalization is the process of articulating tacit knowledge into explicit knowledge through a process of dialogue and reflection. This process takes place when there are students or students doing research on production Natural batik colours.

> "*Kalo ada mahasiswa penelitian atau magang, biasanya dia ngerekam, ngefoto gitu sama hasil laporannya*". (If there are research students or internships, he usually records, takes photos of the same report). Interview with Jolawe, October 2018.

Tacit knowledge from natural batik craftsmen is convert into explicit forms such as documents, photos, recordings and videos. After becoming explicit, this knowledge will be the basis for new knowledge.

Combination is the application of explicit knowledge to explicit knowledge. Combination the process of recombining discrete pieces of explicit knowledge into a new form (Dalkir, 2005). This was done by one of the Natural batik colours craftsmen. He plans to change the documentation of Natural batik colours processing by students into video form. So, the wider community can find out.

> "*Baru mau dibikin video sama anak Saya. Kan, sempat hilang foto-fotonya kemarin. Jadi, nanti kalo ada yang tanya-tanya lagi gampang*". (Just want to make a video with my child. But, had lost his photos yesterday. So, if someone asks questions again it's easy). Interview with Jolawe, October 2018.

In addition, the other forms of combination stage are the conversion of knowledge from the form of photos and documents to training materials of the production natural batik colours for students.

Internalization is a process of learning and knowledge acquisition to be distribution throughout the organization through learning by doing so that it becomes tacit knowledge. Natural batik colours craftsmen do this stage by production Natural batik colours. Through continuous training and discussion with fellow craftsmen.

> "*Kalo Saya sih ya langsung praktek gitu. Kadang kalo ada pesanan, kadang kalo lagi pengen, kadang kalo ada yang minta diajarin*". (If I do, then I practice right away. Sometimes if there are orders, sometimes if you want to, sometimes if you ask for something). Interview with Jolawe, October 2018.

But, other batik craftsmen and younger generation seemed not interested in developing Natural batik colours. Likewise with the next generation of craftsmen. So, the knowledge of production Natural batik colours only stopped at three craftsmen.

Based on the analysis of the conversion stage of knowledge through the SECI model approach can be seen the process of knowledge conversion that occurs from these four stages, the process of internalization that has not occurred in the next generation to preserve indigenous knowledge about the production of natural batik colours.

Dissemination of the wider community adds the developmental dimension to the exchange of knowledge and can impact on knowledge transfer (World Bank, 1998). Indeed, the absence of methods and strategies from craftsmen and local governments to spread indigenous knowledge to a wider community. Batik exhibitions and festivals are hold every year to commemorate Sidoarjo Regency's Anniversary. Although it is not specific to Natural batik colours, it still exhibits limited colour batik crafts. If there is an interested person will be direct to the craftsman. The number of craftsmen also affects to disseminating knowledge on production natural batik colours. The craftsman actually assumes another:

> "*Harganya mahal, jadi sepi peminat*". (The price is expensive, so it's quiet). Interview with Jati, October 2018.

The selling price of a piece of natural batik cloth can reach twice the price of synthetic batik cloth. According to the informant, this is the trigger factor for the incomplete stage of Natural batik colours preservation in Sidoarjo Regency. Comparing with fabric crafts in other regions, the price is even more expensive, the more difficult the manufacturing process is, the more sought after and the interest of the public.

On several occasions, craftsmen provided training and direction about the manufacture of Natural batik colours for students and students outside Sidoarjo Regency. This training usually involves the local youth.

> "*Pelatihan biasanya sendiri, kadang sama anak Saya bantu bikin materi, videonya buat dikasi ke peserta*" (The training is usually alone, sometimes with children. I help to make material, the video is made available to participants). Interview with Jolawe, October 2018.

The training aims to complement local content subjects at the relevant school institutions and run only one to three meetings. This activity can be assume as an effort to disseminate indigenous knowledge of production Natural batik colours outside the local community.

The preservation of indigenous knowledge is a part of knowledge management in library and information center nowadays. Preservation of indigenous knowledge aims to transfer knowledge to the next generation and dissemination knowledge to others community. Indigenous knowledge can be one of the library collections to maintain the local cultural heritage of the region. This was carried out by the Sidoarjo Regency Public Library on batik heritage in Sidoarjo Regency. Public libraries participate in the preservation of regional local wisdom through batik competitions and also provide resources about Batik Sidoarjo. This activity is indeed not specific to the colouring of batik, only making motives. But it is quite a concrete effort of the public library to preserve the local wisdom as a national identity.

CONCLUSION

Preservation of indigenous knowledge in the production of natural batik colours in Sidoarjo, Indonesia is carrying out in six stages. Identification of production natural batik colours as indigenous knowledge of the local area. Confirm the values of people's lives in production natural batik colours. Documentation of the knowledge of tacit craftsmen is an explicit form. Storage from both explicit and tacit knowledge of production natural batik colours. Transfer of knowledge from the older generation to the younger generation in production of natural batik colours. And dissemination of knowledge so that it can share with other communities. But, the preservation of this indigenous manufacturing knowledge cannot be said to be successful. This is because the young generation in Sidoarjo, Indonesia has not occurred.

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Preservation of Indigenous Knowledge of Pencak Silat in Indonesia

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ABSTRACT
This study investigates the practice and challenges of transfer and dissemination of pencak silat knowledge. The study was motivated by the fact that the preservation of knowledge in pencak silat according to the stages of indigenous knowledge exchange was in the process of transfer and dissemination of knowledge whose implementation was not comprehensive. The study applied qualitative approach in analyzing with the data which were collected through observations, interviews, literature reviews and interpretations of researchers. The findings of the study revealed that the transfer and dissemination of pencak silat knowledge had only been carried out by Perguruan without similar sustainable development which resulted in losing bounding power. The government has not become a part of the education development and lack of management support to add with the pencak silat museum and library as a center for historical information and the journey of pencak silat.

Keywords: Pencak Silat Indonesia; Indigenous Knowledge; Preservation; Knowledge Transfer; Knowledge Dissemination.

INTRODUCTION

God created humans as beings who are gifted with reason. With that mind, humans can produce the ability to use signs and symbols, and then develop them in fulfilling their needs. One important life necessity is security, which is caused by the appearance of interference from nature, animals and other humans. This is what drives people to defend themselves physically and emotionally, which can then be referred to as martial arts, which is an effort of a person or group of people to defend themselves from interference or danger (Maria & Herliswanny, 1996). Martial arts live and develop in the family of Malay society, especially in the communities of Indonesia, Malaysia, Singapore, Brunei Darussalam, and Philippines, the martial arts are known as Pencak Silat (Maryono, 1999: 38-39). These countries are the source of the development of pencak silat and Indonesia has become a country that has a large role in its development. Along with the development process of pencak silat in Indonesia which is in line with the times, making pencak silat able to be cultured, which has a major impact on the number of pencak silat and perguruan pencak silat in Indonesia. With the passage of time, the development of culture which received many acculturation influences from many aspects made many advances in perguruan but there were also perguruan which lost their echo because they were considered unattractive and the management system of perguruan that was not managed well was made worse by poor education and finally apparent death.

The problem arises because preservation of local knowledge of pencak silat which has so far arrived at the process of information transfer and dissemination is deemed not comprehensive. The spread of pencak silat in Indonesia to the international world is carried out by pesilat, perguruan, and organizations in this case, namely IPSI and PERSILAT. Every perguruan has a way to develop and maintain its own existence, perguruan that has pesilat who participates in such a performance experience in the championship is an attraction to promote perguruan that is in the eyes of the public, especially students at the school level. In addition, experienced guru who both train pencak silat athletes and often attend seminars on the development of knowledge competencies in the field of pencak silat are possessed of special values because of their ability to exceed guru in other perguruan with quality and achievement. As with perguruan that do not have these advantages, they must be able to survive to continue to spread the knowledge of pencak silat. If this continues, this kind of perguruan will gradually close and disappear because it does not have a scientific heir. Seeing this phenomenon, the object of this research is the development and dissemination of pencak silat which runs on its own without similarity and comprehensive guidance for perguruan, so that perguruan that do not have financial capacity and management will be eliminated. added with the development and dissemination of pencak silat that enters the educational institution not through the name of Pencak silat as the martial arts but through the name of perguruan, so it needs to be discussed how pencak silat as an indigenous knowledge of the archipelago especially in Indonesia does preservation which is expected to be a bridge, media and enlightenment pencak silat in the future.

LITERATURE REVIEW

Term of Pencak Silat

The term Pencak Silat is used as a general term. The term "pencak" is a martial arts attack in the form of a rhythmic dance with rules and can be performed while the term "silat" is the essence of pencak to defend itself, by fighting and not being performed. Pencak Silat can be interpreted as martial arts that move the limbs and are usually carried out by pesilat (fighter) to defend themselves according to the needs in dealing with natural, animal or human threats (Maria & Herliswanny, 1996). Pencak Silat according to the Large Indonesian Language Dictionary (KBBI), (Tim Pustaka Phoenix, 2010) is clever infighting, as a typical Malay self who is capable and agile to defend himself and attack in competing or fighting. At first, perguruan only uses the term pencak or vice versa, as in Bali which uses the term pencak or in Balinese, it is called *encak* which means to be beaten or in Sumatra, where the community uses the term *silek* or silat which can be interpreted as real martial arts using foot attacks and strong and fast hands and dodges. At the time of the establishment of the pencak silat organization in Indonesia, namely the Ikatan Pencak Silat Indonesia, hereinafter referred to as IPSI, in 1948, it wished to combine the terms pencak and silat, this was realized in 1973, and officially pencak silat became a national term. Nevertheless, there are still perguruan that use the original term, because of historical and habitual considerations (Maryono, 1999: 38-39).

Aspect and Element of Pencak Silat

Pencak Silat has many aspects such as breathing, mental exercise, art, and togetherness, then combined in 4 (four) elements, namely elements of art, elements of self-defense, elements of sports, and mental-spiritual elements (Marwan, 2014). These elements are depicted in the IPSI symbol in the form of a trident weapon, the three ends of which represent the elements of art, martial arts and elements of sports and trident handle as mental-spiritual elements (Facal, 2016). Pencak silat as an art is a form of culture in the form of movement and rhythm which leads to harmony, balance, and harmony between wiraga (consisting of diversity of techniques, tidiness, and similarity of motion), wirama (including the accuracy of motion with rhythm, variation, and harmony with rhythm), and wirasa (includes inspiration, expression, courtesy, and harmony with clothes and equipment). This can be seen through Pencak silat moves that are accompanied by music that is distinctive in performances such as parties, weddings and other events (Wilson, 2009). In the element of self-defense, Pencak silat strengthens humans in the presence of threats that come so that pesilat needs to prioritize effective techniques and tactics to protect the physical (Widiastuti, 2014). As an element of sports, pesilat needs to practice to improved strength, fitness, dexterity, agility, and achievement in matches. Whereas for mental-spiritual elements or mentality, Pencak Silat is focused on the attitude and personal character of the martial arts in accordance with noble character (Mulyana, 2017), this is a reflection that Malay martial arts do not only prioritize mastery of gestures but can also practice values customs that are closely related to manners (Maryono, 2008: 7-9).

Development of Pencak Silat in Indonesia

Pencak silat grows within Indonesian society intending to unite groups of people in various associations or perguruan or pencak silat schools, by putting forward the principle of "bhineka tunggal ika" even though they are still one and the same family. Pencak Silat teaches technical knowledge that contains elements of sports, art, self-defense, and mental-spiritual with a variety of schools that are accommodated in perguruan yet nationally (Permadi, 2013).

Regions in Indonesia that effect the Development of Pencak Silat

The face of pencak silat Indonesia was formed by numbers of influential regions, namely Sumatra, Java, and Bali (Nawi, 2016). The characteristics of pencak silat techniques in each region become a distinctiveness and this is an attraction to be enjoyed by the pesilat himself or the community outside of Pencak Silat (Maryono, 2008: 12). However, this is still a matter of pleasure in the perguruan just not yet out of perguruan. Malay nationals have known martial arts since prehistoric times, but written documentation related to this is very little available and information obtained is based on the knowledge of Guru (the teacher) who conveyed it less thoroughly. During the prehistoric period, the Malay nation lived a ferocious wildlife by carrying out martial arts movements without using weapons. The martial arts movement is the development of self-defense with patterned form, with a simple method, one of which is by adopting the movement of wild animals during a fight (Theeboom & Knop, 1999) by paying attention and imitating so as to create the pencak silat movement, for example from animals such as snakes, monkeys, tigers, eagles, scorpions, and so on (Maryono, 1999: 39). The development of pencak silat in Indonesia is inseparable from the various influences and acculturation processes of various local martial arts movements with different names and movements. Along with the increase and spread of the human population followed by the development of human knowledge, so that humans find weapons as a tool to defend themselves in addition to hunting

Pencak Silat in The History of Indonesian Society

Comprehensive information about pencak silat martial arts related to the history of development began in prehistoric times as the beginning of the creation of pencak silat, the royal period, the colonial period up to now and information about perguruan, organizations took part (Maryono, 2008).

The shift in the use of pencak silat which was originally a defense against nature and animals was then used as a human tool to get a position in social life through warfare against groups, tribes which later developed into inter-kingdom warfare. The emergence of the kingdoms in the archipelago brought progress by connecting via land and sea, this made the interaction with the outside bring cultural influences as well as an impact on science which of course came in direct contact with the influence of various martial arts that existed at that time (Maryono, 2000: 40-41).

Pesilat teach a variety of martial arts knowledge that is tailored to the tradition, namely martial arts knowledge and spiritual knowledge. This is a way for pesilat to preserve humanist values. Over time, pencak silat began to be institutionalized in the traditional education system known as Perguruan (pencak silat school) and Guru as a pencak silat teacher gave gradually the knowledge and skills of pencak silat according to students' abilities. (Maryono, 2001: 37-39). However, Guru does not convey his entire knowledge to students because of concerns that one day the student will oppose his own guru. Because Pencak silat guru keep their pencak silat techniques a secret, Pencak silat begins to disappear on the surface but develops in perguruan. There are young Pencak Silat Guru who go to other areas to teach and improve the ability of martial arts, this creates different cultural interactions and impacts the emergence of new Pencak Silat colleges with new characters.

Pencak Silat in the Organization

The Executive Board of the Indonesian Pencak Silat Association, hereinafter abbreviated as PB IPSI (Pengurus Besar Ikatan Pencak Silat Indonesia), was formed on May 18, 1948, in Surakarta, Central Java. IPSI is the embodiment of a national pencak silat organization that houses Pencak silat Perguruan chaired by Mr. Wongosonegoro (1948-1973), Tjokopranolo (1973-1978) and Eddie Marzuki Nalapraya (1978-2003) and Prabowo Subianto (2003-present). In the era of Eddie Marzuki Nalapraya, gave the title to 10 (ten) perguruan namely, Persaudaraan Setia Hati, Persaudaraan Setia Hati Terate, Keluarga Silat Nasional Indonesia Perisai Diri, Perguruan Silat Nasional Perisai Putih, Perguruan Seni Beladiri Indonesia Tapak Suci Putera Muhammadiyah, Phashadja Mataram, Perguruan Pencak Indonesia Harimurti, Persatuan Pencak Silat Indonesia, Persatuan Pencak Silat Putra Betawi, Keluarga Pencak Silat Nusantara. These perguruan are historical institutions with the consideration that 10 (ten) of them contribute ideas as an influence on the history and development of IPSI from 1948-1973 and support the entry of IPSI as a member of the Indonesian National Sports Committee or KONI and pencak silat as a sports branch. competed at National Sports Week which is abbreviated as PON and over time began to have competed at the international level (Lutan, 2005).

Padepokan Pencak silat was built as a container for preservation, development, correctional and information center and all Pencak silat activities in Indonesia and the world. Padepokan Pencak Silat is located in the Beautiful Indonesia Miniature Park (TMII) complex which was inaugurated on April 20, 1997 by the second President of the Republic of Indonesia, M. Soeharto, built on 5.2 hectares of land consisting of the Pendopo Utama, Pondok Gedeh, IPSI Secretariat, Pondok Pustaka and Museum, Pondok Serbaguna dan Pondok Penginapan.

PERSILAT is the gateway to Pencak Silat towards the international world. The Alliance of Pencak Silat Antarbangsa or hereinafter referred to as PERSILAT is the International Pencak Silat Federation which was formed jointly with Pencak silat countries namely Indonesia, Malaysia, Singapore, and Brunei Darussalam on March 11, 1980. Starting from the expansion of pencak silat nationally which continued internationally in 1975, by continuing the performance of Tjokopranolo (Chair of PB IPSI in office from 1973-1978) who introduced pencak silat as a sport to neighboring countries. In the hands of Eddie Marzuki Nalapraya (Chair of IPSI in 1978-2003) pencak silat was introduced to the international community and he was also elected as President of PERSILAT (Hadimadja, 2011) because as the initiator of the establishment of the national organization and its actions so that pencak silat was known throughout the world. PERSILAT aims to coordinate efforts, direct and as a conservation activity and the development of the spread of pencak silat as a family-friendly and peaceful international interface with the first congress in 1983 in Kuala Lumpur. In 1994, PERSILAT had members of 21 countries (Maryono, 2005: 46) until mid-2018, pencak silat had spread in 53 countries and was part of the silat organization.

For the first time the pencak silat championship involving pesilat from Indonesia, Malaysia, and Singapore was held in Jakarta in 1982 After that the world Pencak silat championship was held in Winna Austria in 1986, Malaysia in 1987, Singapore in 1988, 1990 in Den Haag the Netherlands and 1992 in Indonesia. Pencak silat began competing in the 1987 Sea Games to the 2018 Asian Games class.

From this description, Pencak silat began to exist since this martial art was created from the human mind to survive, then developed as a means of defense against the enemy in a small and large group in prehistoric times, the kingdom, the nation's defense period to confront invaders (Soo, Woods, Arjunan, Aziz, & Ihsan, 2018), and then develop and acculturate culture so that it is attached to the next generation as successors. This can be seen from the formation of perguruan with the influence of the pencak silat flow, with a large number and spread throughout the archipelago. Perguruan form a national organization, namely IPSI, as a unifying forum for diversity in the flow of pencak silat institutions whose tangible evidence is in the form of championships between perguruan, regions and national level supported by the availability of Padepokan Pencak Silat. It did not stop there, pencak silat was introduced to the international world through an independent institution called PERSILAT, which conducted a gathering between Pencak silat organizations in the world, one of its activities by holding a world-level championship. Many things have been done in the development of pencak silat, all of which have become very necessary to be maintained and continued with elements of developing technical knowledge and cultural knowledge in the archipelago, especially in Indonesia as one of the countries that have contributed to the extension of pencak silat figures. This is appropriate, that preservation of knowledge as a maintenance, storage process, which includes perceptions, behaviors, experiences from time to time, good regulation and knowledge security as a reminder in the future (IAEA, 2011).

Knowledge Preservation

Defense process to prevent loss of content that includes historical information and developments by maintaining, storing, using and securing the continuity of current and future knowledge (IAEA, 2011)

Transfer and Dissemination in the Exchange of Indigenous Knowledge

According to (World Bank, 1998), in the exchange of indigenous knowledge, there are 6 (six) stages of the Indigenous Knowledge exchange process, namely (1) the process of identification, (2) the validation process, (3) the process of recording and documenting, (4) the process of storage, (5) the transfer process and (6) dissemination process. In research related to the knowledge of pencak silat, it highlights the transfer process and the dissemination process. Pencak Silat is delivered through the transfer process from the giver to the recipient of both individuals, groups, the wider community, and other parties. The transfer process is not only focused on how guru teaches the techniques and philosophies of pencak silat to students in perguruan but also needs great support from the pencak silat organization as a bridge that is a bridge. The process of transferring Pencak silat that occurs only occurs in communities or perguruan because the transfer process is carried out directly through practice, for demonstrations to the public, not all do it only in special events such as wedding ceremonies, traditional ceremonies or reception of important guests, which are not necessarily done because now people prefer simple ones. Not all perguruan participate in the pencak silat championship, only those with well-managed management, starting from the many students, well-managed finance and the motivation given by guru. Guru play a big role because guru who have experience following the championship both as champions and selected train champions of participants have great value for students who join perguruan and the community of pencak silat lovers. Dissemination is an advanced process of knowledge transfer by carrying out absorption or adaptation that is applied to larger groups, such as seminars, workshops, publications and making programs that bring more widespread influence to the development of knowledge that is generally accepted.

RESEARCH DESIGN

This study uses a qualitative approach, by understanding the problems of the transfer and dissemination of martial arts knowledge in Indonesia by using data collection methods through observation, interviews, literature reviews and interpretations of researchers. The method of collecting data by observation, where the researchers observe pencak silat training activities in several perguruan held in padepokan pencak silat, TMII. Pencak silat exercises that are regularly held on Saturdays and Sundays and by chance, can watch regional level championship training for pesilat in DKI Jakarta. In addition, researchers conducted open interviews with 6 (six) participants consisting of pesilat, guru, manager of Pondok Pustaka Museum, IPSI management and Indonesian pencak silat figures conducted at the Padepokan Pencak Silat and Knowledge-Based Industry. Pencak Silat Seminar: Pesilat, Hebat, Sehat at the University of Indonesia Library. The researcher also included literature studies and interpretations of the researchers themselves (Creswell, 2009).

RESULTS

The results are presented based on observations by observing Pencak silat exercises that are held every Saturday and Sunday and the training of the DKI Jakarta contingent to face regional championships. Based on observations, it is known that preservation of knowledge has been carried out continuously, namely by maintaining the process of knowledge transfer and the dissemination of knowledge as evidenced by the existence of children and adults as perguruan students. Each perguruan has a varied number of students, this depends on the popularity, promotion, and achievements achieved by Guru and pesilat as a student from perguruan itself, which forms the image of perguruan in front of the community to obtain members of perguruan as a generation that will continue pencak silat tradition in the future.

The results of interviews conducted on 6 (six) participants consisting of pesilat, guru, manager of Pondok Museum Library, IPSI management and Indonesian Pencak Silat figures, found that each perguruan manages and develops itself without the same and comprehensive guidance, and only involves IPSI so that perguruan that have the ability will be able to progress independently by promoting and participating in championship events. In addition, the existence of the pencak silat museum and pondok pustaka (library) in Padepokan Pencak Silat TMII are still managed in a limited manner. Government assistance is needed to support the sustainability of pencak silat, its activities, funding, coaching, and incentive for Guru.

DISCUSSION

The development of pencak silat in Indonesia is in the hands of perguruan where perguruan conducts the transfer and the dissemination of martial arts pencak silat adapts to idealism in this case perguruan has distinctive characteristics inflow, technique, activities, financial, management capabilities of perguruan and training support for guru to be competent. Submitting fully to perguruan, making perguruan run on its own without comprehensive and equal guidance. The participating colleges will survive, while those who will not be eliminated and die.

"*Every perguruan has its own characteristics, with basic training materials and practice rituals and training stages…"* (HD, Guru and Pesilat KPS Nusantara, 12 October 2018)
"*IPSI has held workshops held per field for guru, referees, for example, whose purpose is for matches or performances, there are also for achievements. For workshops outside the country depending on which pesilat from perguruan that presents. For the spread of pencak silat, perguruan reports to the provincial government and subsequently reports to IPSI. The problem of knowledge depends on perguruan how to find the masses to continue. Perguruan that know how many students they have, there are also perguruan that don't have students.* "(TN, IPSI Management, 12 October 2018)

"To take part in the championship, guru will see passion pesilat in the direction of art or fighting, which of course pesilat will participate in athlete selection according to the championship level, the championship has been organized, this is a real form that has been implemented" (KT, Guru, and Pesilat KPS Nusantara, October 12, 2018)

IPSI as a container for martial arts in organizing has not been able to touch thoroughly the existing Pencak silat institutions. Perguruan are required to actively communicate with IPSI as well as a tool to promote pencak silat in the community. This is evidenced by Pencak silat being able to participate as a sports branch at the national to international level because it advanced independently to introduce itself and become a host in the international world.

"*Perguruan is not directly fostered by the government, especially those handling the field of Education. So far, IPSI has been running itself by conducting workshops whose results have not reached perguruan in remote areas. Pencak silat was introduced to foreign countries, with capital funds from their own pocket, as well as pencak silat which could participate in an educational Asian Games which perguruan. Poor perguruan, poor guru, if there are contributions, students will not return to training. Pencak silat goes to schools but through perguruan, which should not be like that. The government should make the pencak silat program enter elementary, middle and high school education institutions* "(EMN, Indonesian Pencak Silat Leader, 26 October 2018)

Padepokan Pencak Silat, located in TMII, has complete facilities with the availability of the Pedopo Utama, Pondok Gedeh, IPSI Secretariat, Pondok Pustaka and Museum, Pondok Serbaguna dan Pondok Penginapan. Regularly, perguruan in Jakarta conduct training in the hermitage in accordance with the schedule of each perguruan. In addition, as a place to hold a championship and place for training workshops and inter-university hospitality. Padepokan Pencak silat becomes a means of transfer and dissemination of knowledge so that it becomes the center of learning and development of pencak silat. This is felt not to run entirely because the pencak silat museum and pondok pustaka that are supporters of learning lack support for good management so that its existence is considered to be one eye. Though the pencak silat museum and pondok pustaka are real written witnesses to tell the story of pencak silat travel in Indonesia.

"Pondok Pustaka and Pencak Silat Museum as proof of history and development of pencak silat in the archipelago, by storing a collection of replica weapons, traditional accompaniment instruments, clothes and equipment, pencak silat images were created in the past, even though the figures of pencak silat characters and activities now it needs to be revitalized because it looks not current. But revitalization is still waiting for funds to be realized. Likewises with pondok pustaka, even though it keeps special documentation related to popular Pencak silat writings or pondok pustaka's own publications, now it doesn't have a manager to be neglected, it needs librarians who manage it " (MTY, Guru, Pencak Silat Museum Manager, 10 October 2018)

The process of transfer and dissemination of knowledge carried out by each perguruan, one of them by introducing and carrying out activities in educational institutions raises the nature of selfishness of perguruan and loses bounding power so that the character of pencak silat known as kinship is eroded.

"*Bounding power that is still weak against foreign cultures. Budgeting is not in the development of training, so Pencak silat lives in its own world. If perguruan is weak in funding, it will die. The character of Pencak Silat is family, so it still cultivates pride in the community with family. What needs to be done is that pencak silat will continue to be sustainable with Pencak silat officially as a course, official martial arts in the field of defense and military, Kemenpora also participates in fostering perguruan in organizations, where organizations are still traditionally nurtured at the national level. The guidance carried out by IPSI did not dig far, it was not touched by all so that the college would walk alone. A sense of high self-esteem that needs to be enlightened, important cultural values need to be bridged through bounding power*" (YW, Pesilat Bhayu Manunggal, 26 October 2018)

The transfer and dissemination of knowledge of pencak silat in the context of preserving indigenous knowledge needs to carry out the overall development of perguruan, not only involving perguruan and IPSI, but also directly intervening with the government to facilitate the funding of pencak silat activities, coaching and intensive so that guru can be professional develop themselves to be competent and train pesilat to become quality athletes, and include pencak silat as a sports subject in educational institutions and make Pencak Silat the national security defense in the military world.

CONCLUSION AND RECOMMENDATION

Pencak Silat has a special meaning for the Indonesian people because Pencak Silat is a typical archipelago martial art. It is a cultural result so that its existence and sustainability are considered very important as a nation's characteristics. The transfer and dissemination of knowledge of pencak silat which has been carried out by perguruan must be returned accordingly, no longer running individually but together and uniformly. Therefore, perguruan coaching is a good way to change it, by involving all relevant stakeholders such as perguruan, organizations, government, and related parties. Coaching includes training, funding, and management to make perguruan financially and structurally strong.

Pencak Silat is expected to be included as a subject in school curriculum. This is a way to create bounding power that binds early on to children. In addition, the national defense security system is the front guard, with Pencak silat being the official defense of national defense and security. In this context, the military world not only inheriting cultural results but also feeling ownership of pencak silat as a homeland and hosting in their own country.

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Preservation of indigenous knowledge transfer in oral tradition of Seloko Adat Jambi

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ABSTRACT
Indigenous knowledge is a unique local knowledge of local community that needs to be preserved for the next generation as traditional knowledge and must be kept explicitly as an Indonesia library heritage collection. One of the traditional knowledge that needs to be preserved is the oral tradition of "Seloko Adat Jambi". Seloko Adat Jambi is the delivery of messages or testimonies through speech in the form of pantun, advice and carried out from generation to generation. "Seloko Adat Jambi" is transmitted in the form of rhyme that has not been widely understood by the younger generation because the lack of knowledge transfers between generations even though this pantun has very important and historic values. The objective of this study is to identify how indigenous knowledge (IK) is being transferred and preserved by the community. This study uses a qualitative methodology by collecting data through observation, interviews and documentation. The findings of the study revealed that the knowledge transfer using SECI model was not reached the stage of internalization to the young generation. It was further revealed that younger generation plays a role in the dissemination knowledge in the Seloko Adat Jambi through videos and sharing to other communities. *The study demonstrated that preservation of indigenous knowledge in Seloko Adat Jambi cannot be said to be successful in the stage of knowledge transfer to the younger generation.*

Keywords: Indigenous knowledge; Oral tradition; Seloko Adat Jambi

INTRODUCTION

Indigenous knowledge preservation is used to maintain the authenticity of knowledge so that it can be used and preserved in the long-term. Maintaining knowledge is an effort to keep the accumulated knowledge still remains in an organization. Preserving the organization's memory is expected to reduce information loss so that indigenous peoples are able to maintain the capacity to take an effective action (IAEA 2016). Traditions cannot be separated from every line of Indonesian society life. Tradition is a hereditary habit (from ancestors) that is still carried out in the society (Indonesia 2018). While oral is the words that are spoken (Indonesia 2018). Therefore, the meaning of oral tradition is the delivery of messages or testimonies through speech in the form of pantun and advice that carried out from generation to generation. Oral traditions, by definition are recollections and living memories of the past that have been orally transmitted, recounted and shared throughout culture. Oral traditions include not only oral history but also poems, myths, riddles, songs, stories, proverbs and legends. These are engraved in the minds and hearts of the old people who are moving archival repositories. They are libraries without shelves. Oral traditions are unwritten and their preservation depends entirely on the powers of memory of successive human generations (Kargbo 2008).

One of the oral traditions that are still used in Indonesia especially in Jambi Province is Seloko Adat Jambi. In Indonesia, it is called as se-lo-ka, which means the type of poem that contains teachings (satire and so on), usually consists of 4 rhythms which contain rhythms and contents; while ber-se-lo-ka have the meaning to compose or to say seloka (Indonesia 2018). Seloko Adat Jambi contains advice that is of ethical and moral value, as a means of social control - community, even politics and maintaining the harmony with nature and also as a way of life (Noor 2013). This oral tradition also contains rules of conduct and rules of law for daily life that must be obeyed and respected by the community. In addition, Seloko Adat Jambi also contains local wisdom, value systems, traditional knowledge, history, law and customs (DIKTI 2013) which are identical to the rules that have been written in the Qur'an. Seloko Adat Jambi is divided into the form of pantun, proverb and petatah-petitih (advice) such as: *Adat Bersendi Syarak* which means the foundation of Malay syar'i tradition or Islamic religion. *Syarak Bersendi Kitabullah* which states that our religion refers to the Quran as a basic rule*. Syarak Mengato Adat Uses* traditional values that must be carried out related to the sharia (Islamic law) without any conflict.

Seloko Adat Jambi is not used in daily conversation. People can only hear Seloko in certain occasions such as in traditional ceremonies and meetings, especially in marriages tradition. Seloko Adat Jambi is used throughout the Jambi Province, but there are some differences in the words choice and pronunciation according to the region. Seloko Adat Jambi is only used by a certain group, for example the Jambi traditional leaders or the members of Seloko Adat Jambi community. This tradition is rarely used by the community because it contains an expression and supposition which is difficult to grasp. In addition, the selection of diction also tends to use comparison or parable (Mislan 2012). To be able to learn this tradition, it is necessary to study Malay culture too, communicate with the teachers or parents who are knowledgeable in the field of Malay religion and customs, and attending traditional ceremonies or other traditional meetings regularly.

Seloko Adat Jambi is very important in its existence for the Malay people’s life because it has noble values from our ancestors. Its existence until now indicates that Jambi culture is still maintained by the community. Therefore, preservation is needed in order to keep the identity of the local community. With the limited knowledge possessed by Jambi City's youngereration related to the history of oral tradition, and the are no knowledge transfer available, it make them only able to listen to the seloko speakers without understand the meaning even though the values in it are very important . Therefore, this study aims to determine the process of transferring the information and internalizing the knowledge to the young generation.

LITERATURE REVIEW

Previous Research

Evawarni's research in 2015 entitled "Seloko as the Living Guidance of the Malay Community of Jambi" examines how to interpret the values of seloko adat jambi and make it as way of life. This study aims to know how is Seloko Adat Jambi provides an advice and rules for the realization of a harmony in society. It also find out how the traditional customs of Jambi teaches the relationship to God. This research focuses on moral values that are useful for Jambi Malay society. The results of this study are explained that Seloko Adat Jambi not only regulates the relationship between human with human but also explains the relationship between human and their God. If these moral values were remain obeyed and carried out by the community, then a peaceful of and peaceful life will be created. Seloko Adat Jambi is a tradition that is very attached to the community and is a main feature of Jambi Malay community.

Knowledge preservation

Basically knowledge preservation includes two main activities, namely capturing and storing knowledge to the tendon of the knowledge (knowledge repository) so that it remains a part or memory of a society (Stevans 2008). Knowledge capture is the process in obtaining knowledge and converting knowledge from tacit knowledge into explicit or from tacit knowledge into tacit knowledge but now the important of indigenous knowledge is no longer exist especially in the young generation perspective because of their the lack of understanding and consciousness to know their own culture better (Nicolas 2000).

SECI and Knowledge Creation

There are four models of knowledge conversion from Nonaka, which are: socialization, externalization, conversion, and internalization. First, socialization involves the conversion of tacit knowledge into new forms of tacit knowledge. Second is externalization, which involves the conversion of tacit knowledge into explicit knowledge. The third conversion process, labelled combination, involved the integration of different forms of explicit knowledge to create new forms of explicit knowledge. Finally, internalization involves the conversion of explicit knowledge into tacit knowledge (Ikojiro 2012)

Strategy to preserve oral tradition

Oral traditions, by definition, are recollections and living memories of the past that have been orally transmitted, recounted and shared throughout culture. Oral traditions include not only oral history but also poems, myths, riddles, songs, stories, proverbs and legends to name but a few. These are engraved in the minds and hearts of the old people who are moving archival repositories. They are libraries without shelves. Oral traditions are unwritten and their preservation depends entirely on the powers of memory of successive human generations (Kargbo 2008). Oral tradition has three special characteristics. First,oral tradition is not the same as oral language. Oral tradition is broader than oral communication that is known in linguistics. However, if it is viewed in the terms of linguistics, the notion of oral tradition is "said and heard". Secondly, the research on oral tradition is carried out based on oral communication, but it can be recorded through written and electronic recording device. Data written is also obtained from old manuscripts that previously recorded in oral communication. Thirdly, oral tradition texts may have a similar background to the written texts (MPSS 2015). The Seloko Adat Jambi oral tradition is still dominated by the elderly people. This condition is a sign to the lack of interest of young generation to promote the oral tradition of Seloko Adat Jambi. They have been exposed to the foreign technology and culture. If they did not care, they will lose their identity. Therefore, the preservation of their indigenous knowledge through knowledge transfer is needed to maintain the originality of their local knowledge.

Oneway to preserve IK as expressed by Hart (1995) “An oral traditional is the passing of knowledge from one generation to the next generation orally”. Although in its application IK looks very easy to share but requires the right strategy in preserving the oral traditions of Seloko Adat Jambi as explained in (Bank 1998) such as:

- Recognition and identification, determination is not easy in the situation and may involved social and technical analysis
- Validation includes the terms of relevance, reliability, function, effectiveness and redirection.
- Record keeping and documentation, in view/view of usability expected from the use of information technology, audiovisual recording narration, description or other of forms
- Storage, involves categorization, indexing which links to other information, make it accessible and used can then be used as a repository in the form or search and maintenance
- Transfering, how transferring make it available to potential user as testing in new environments
- Dissemination, to the wider community a appropriate communication channels

Oral tradititon of seloko adat jambi

Seloko Adat Jambi oral tradition is an original oral tradition from the Malay community, which is contain traditional knowledge that is obtained from generation to generation, passed down from grandfather to father, father to children, or others. It can be stopped or disguised because they are rarely heard or rarely expressed in public spaces and in the family environment (Noor 2013). This tradition is influenced by Islamic literature and culture because it was born and developed during the Malay Sultanate of Jambi which was one of the Islamic kingdoms. Seloko Adat Jambi belongs to an active poetry or teaching poem that teaches human about the concept of Hablumminallah (relationship between human and God) and Hablumminannas (relationship between human and human. Seloko Adat Jambi has a classification depending on the problem presented which focuses on the message to the reality of human life. In the past, tribal functionaries were done the seloko in impromto way (directly) without any notes or text. It is because seloko is daily communication for the Jambi community. Therefore, they have to memorize the phrases that are suitable and appropriate to be used in every occasion. In contrast to the present, the seloko speaker must know when and what events they will attend in order to have the preparation to deliver the seloko that relevant to the event. This preparation can be a training which is done every week if the speakers have joined in the seloko community. It can facilitate the speaker to become more fluent in pronouncing the seloko sentences. Jambi Seloko tribal speakers are called Datuk (designation for men) and Datin (designation for women), Datuk and Datin's abilities can be obtained from several ways, including: natural talent, handed down from parents, studying at datuk and reading seloko books. Knowledge transfer between Datuk and Datin can be a creative ways to another speakers to produce new proverbs and proverbs that are suitable to the present.

RESEARCH DESIGN

This study uses a case study with a qualitatif approach. Data were collected through interviews, observation and documentation. Semi structured interview were conducted with open ended questions and recording it. Interview were done to know the History, the rules for the use, the process for the knowledge transfer, and the difficulties for transferring and disseminating of Seloko Adat Jambi. Observation also conducted by seeing directly the knowledge transfer as well as watching the videos related to Jambi Seloko Adat. Documentation was conducted in the form of recordings and field notes. The informants were those who expert in the Seloko Adat Jambi tradition. The first informant is Drs. H. Hasan Basri (the leader of Seloko Adat Jambi communities "Depati Setio Adat Clump"). The Second informant is Reza Pahlefi (the member of Seloko Adat Jambi communities "Depati Setio Adat Clump"). Data analysis was conducted by qualitative data analysis through data collection, data reduction, data presentation and conclusion drawing (Miles, Huberman and J. 2014). Research data collected, then sorted according to themes and theories. The data is then presented with an analysis based on the appropriate theory, and then conclusions are taken. Data validity used in this study is spend prolonged time in the field (Creswell 2014). The author was born and raised in the Jambi city, so she can understand better how was the problems occur and also can interact directly with the informants. The duration of collecting data is from Oktober-Desember, 2018.

RESULTS

According to the World Bank (1988), indigenous knowledge preservation is based on the six activities, among others:

Validation

The original knowledge is the assessment of knowledge in the Seloko Adat Jambi referring to the relevance, functionality, and originality of the source so that it can be said as a local knowledge. The culture and customs that inherent in Jambi City's community make them to form a group of community that aims to preserve the seloko oral tradition . Seloko Adat Jambi is the original oral tradition from Jambi Province. It is proven by the stipulation decision of the Government through the Ministry of Culture and Education that Seloko Adat Jambi as intangible culture of the Indonesian heritage. Datuk Hasan Basri also said that the Seloko Adat Jambi may not be changed as the original text because it is an ancestral heritage (Basri 2018). Traditional values contained in seloko adat jambi such as;

> *"Bulat aek dek pembuluh, bulat kato dek mupakat"*

This seloko means discussion.

> *"Tudung menudung bak daun sirih, taup menaup bak benak ketam, sokong menyokong bak aur dengan tebing"*

This seloko means respecting older people.

Seloko also has the value of simplicity, and politeness as the contents of the Traditional Pillars, which are appropriate, appropriate, reasonable, and polite. This value is still believed and implemented in the Jambi City community as expressed by Datuk Drs. H. Hasan Basri (Basri 2018).

There are traditional values that must be preserved, among others, preserving oral culture, preserving the ability to remember seloko sentences, preserving seloko communication skills, and preserving local wisdom. This tradition also contains the value of modesty, obedience, decency, in accordance with customary pillars. The oral tradition of Seloko Adat Jambi is a traditional heritage and its existence is maintained and preserved for the continuation of the seloko adat jambi oral tradition. This oral tradition was born from the ancestors of the Jambi Sultanate, which was later applied in the life of Jambi community. Seloko Adat Jambi is the most polite way in communication and has been used by parents since ancient times. Seloko consist of allusions, expressions, and advices that can be used to resolve problems. Seloko is also used in wedding processions, ranging from introductions to solemnization of a marriage. By the presence of Law No. 5 of 1979 concerning Village officials that eliminated the election of "Rio" (village head) based on the local wisdom rule that "Rio" should have the ability in the seloka tradition. Since then, the knowledge and capabilities of the community in the seloka have begun to decrease, because the leader is someone who does not understand the tradition and seloka. Those then make the function of Seloko as an important communication and preservation of the regional heritage is being eroded. So the function of Seloko as a medium of communication and preservation of regional heritage eroded by increasingly advanced electronic information flow. This situation led to the concern of Datuk Hasan Basri towards the loss of datin regeneration (people who is fluent in seloko). Therefore, since 2008 Datuk Hasan Basri began making Customary Learning Studio which was later called as Depati Setio Traditional Tribe in 2012 to this day.

Recording and documentation

Knowledge transfer of Seloko Adat Jambi from tacit knowledge to explicit has been made in a form of new media such as multimedia and audiovisual in order to keep up with the technological developments. Knowledge transfer of Seloko Adat Jambi from tacit knowledge to explicit has been made in a form of new media such as multimedia and audiovisual in order to keep up with the technological developments. This activity can maintain the originality of seloko adat jambi without changing its contain and meaning. Datuk Hasan Basri also revealed that (Basri 2018) the book that has been used as a guidebook to learn seloko in Jambi City is the only books that he compiled with his team and until now have not been professionally published to the wider community. The book is only printed and reproduced for the Jambi community. Seeing this reality, regional libraries have an important role in mapping the local knowledge to meet the community need for regional information. In addition, Jambi city community can give their contribution to the library by storing their knowledge that they have in any form. This knowledge can be converted into printed and electronic books so that it can be used by many people.

Storage

Preserving local knowledge that has been recorded and documented requires the role of the library in managing the dissemination in order to be used and retrieved by other people who need it. The government can also take the initiative to promote the tradition such as organize festival and carnival events to celebrate the anniversary of Jambi city. The government also set the rules in goverment regulation No.4th 2014 as a strategy in preserving local knowledge.

Perlindungan dan upaya pelestarian

This effort was carried out by the Depati Setio traditional tribe as a learning place pioneered by the elders (Datuk) so that will develop the new young seloka speakers (Datin) as their jargon "lapuk li - beganti li" which means regeneration, as well as their vision "sebuek, duo pakai, tigo wariskan" which means to make, to use and to transmit (Basri 2018). The second effort is to create an integrated technology to improve the dissemination of the information by utilizing the government facilities such as the official web owned by the jambi city government. Seloko Adat Jambi needs to be added as a new feature on the web and also provide the audiovisual recordings that can show the process of the seloko adat jambi oral tradition. Books, videos, and other documentation related to the seloko activities also need to be made.

Transfer knowledge

Knowledge transfer is a concept of information sharing which is discussed in the field of social science. Knowledge transfer is the learning process of a community based on their experience. Knowledge transfer at the individual level has the meaning as a process of duplicating knowledge from the source of knowledge to the recipient (Wikipedia 2018).

The formation of new knowledge is an ongoing process that requires interaction between tacit and explicit knowledge. This interaction is called the *Four Modes of Knowledge Conversion* process. Conversion is a social process among people, not born from a person. The four knowledge conversion processes are socalization, externalization, combination and internalization (SECI) which formed a knowledge spiral (Ikojiro 2012).

1. *Socialization*: Datuk Hasan Basri and his colleagues shared their experiences about Seloko Adat Jambi by telling directly to the young generation as the member of the Depati Setio traditional tribe and invited them to practice directly. The apprentices learned this tradition not by spoken words or written textbooks but by observing, imitating and practicing the works of their master."

2. *Externalization*: Datuk Hasan Basri provided all materials related to Jambi Seloko Adat from the history to the rules. In addition, he also translated the materials to the sentences so that the members can easily understand. Externalization is supported by two key factors. First, the articulation of tacit knowledge that involve techniques that enable people to express his or her own ideas or images both through deductive/inductive analysis and through abduction with figurative language. The second factor involves translating the tacit knowledge of customers or experts into readily understandable.

3. *Combination*: Datuk Hasan Basri and his team have made a guidebook which is more concise and easy to understand for the people who have just learned about Jambi Seloko Adat. In practice, combination relies on three processes. First, explicit knowledge is collected from inside or outside the organization and then combined it. Secondly, the new explicit knowledge is disseminated among the organization members through presentation or meetings. Thirdly, the explicit knowledge is edited or processed in the organization to make it more usable.

4. *Internalization*: One of the methods which are applied by the setio indigenous tribe is learn to memorize in pairs. Then the memorizing results will be presented in front of their mentor. If their mentor said that they have successfully memorized and recited the seloka very well, then they can practice it in traditional event. Using this method, the younger generation in the community will absorb the information faster. Consequently, the internalization process will run successfully. In practice, internalization relies on two dimensions. First, explicit knowledge has to be embodied in action and practice. Secondly, explicit knowledge can be embodied through simulations or experiments to tringger learning by doing.

Dissemination

Dissemination of the wider community adds the developmental dimension to the exchange of knowledge and can impact on knowledge transfer (Bank 1998). At present Seloko speakers always document every event that they have been attended in the form of videos which are then uploaded to the video sharing and social media account they have. There has been no assistance from the government to make an official account that can accommodate the documentation. But the government has always facilitated to introduce Jambi Traditional Seloko through cultural festivals at the regional and international levels. Based on the information provided by Datuk Hasan Basri, the Jambi Seloko Adat will get official recognition by the Indonesian Ministry of culture as the Jambi City Cultural Icon.

CONCLUSION

The oral tradition of Seloko Adat Jambi is a traditional knowledge that deserves to be preserved. It is because this tradition is very related to the local wisdom and ancestral heritage. The oral tradition of Seloko Adat Jambi has a long process to be transferred so that the young generation still knows until now. This tradition also has noble values which are obedience, politeness, communication skills, and religious values that should be preserved and studied by the young generation. An important stage in the preservation of oral traditions is to maintain the authenticity in order to keep its original meaning. Although it has not covered all the stages that exist in the Worldbank theory, there are fears that communities that use this oral tradition will be threatened with extinction. It is because the process of internalization in the younger generation is not going well. The author found some surprising things that Seloko Adat Jambi will get an official recognition by the Ministry of Indonesian culture as a cultural icon of jambi city. This is proving that the Seloko Adat Jambi tradition is still preserved for generations and the process of dissemination by younger generation can be considered successful. The author recommends that relevant parties such as the government through the regional library can save Seloko Adat Jambi in audiovisual form, written documents and books. The author also hopes that Seloko Adat Jambi can become one of the local content subjects for schools.

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Preserving Knowledge of Reading Ambassador for the Sustainability Enhancement of Reading Habit in Indonesia

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ABSTRACT
The development of reading habits in Indonesia is carried out through a variety of ways, one of which is the Indonesian Reading Ambassador activities by the National Library of Indonesia as sustainability enhancement for reading habits in Indonesia. As the Indonesia Reading Ambassador, Najwa Shihab, has knowledge that needs to be preserved for the sake of enhancing reading habits at this time and in the future. This research is done as a qualitative description and data collection techniques are based on literature studies aimed at describing the ability of Indonesian Reading Ambassador for the period 2016 - 2020 in carrying out various efforts to develop reading habits in Indonesia. Preserving Knowledge of an Indonesian Reading Ambassador prefers to theory of organizational knowledge creation developed by Nonaka centering on the SECI (Socialization, Externalization, Combination, Internalization) modes. The results show that The Indonesia Reading Ambassador has knowledge that can be used to direct the efforts in developing reading habits in Indonesia by both Reading Ambassadors at various levels: schools, universities, institutions, regional governments at various levels, including provinces, districts / cities and existing communities.

Keywords: Indonesian Reading Ambassador; knowledge preservation; SECI, reading habits; Najwa Shihab

INTRODUCTION

For increasing interest in reading and socializing the culture of reading, the Indonesian public needs to be intensified and streamlined through a synergistic movement of various inspirational components and patterns from a motivator who is became a role model and able to boost the reading interest of the Indonesian people. Indonesian Reading Ambassador and The National Library of Indonesia share a national mission in promoting the culture of reading interest through library utilization and various other potential promotional media.

The cultivation of Reading Interest have done in various ways. The National Library of Indonesia based on Indonesia Law No. 43 of 2007 concerning the Library, especially articles 48 - 51 concerning the acculturation of reading interest, is responsible for developing literacy through various strategies.

The National Library of Indonesia conducted a campaign or socialization of the culture of reading hobbies Indonesian people through individual participation by displaying figures or idols called An Indonesian Reading Ambassador *(Duta Baca Indonesia)*.

Based on cultural considerations, the reading interest of Indonesian people still needs to be improved and developed evenly and sustainably. The developing interest in reading and socializing culture of reading of Indonesian public needs to be intensified and streamlined through a synergistic movement of various inspirational components and patterns from a motivator who is became a role model and able to boost the reading interest of the Indonesian people. An Indonesian Reading Ambassador with The National Library of Indonesia have a national mission in promoting the culture of reading interest through library utilization and various other potential promotional media.

The Indonesian Reading Ambassador campaigning for The National Reading Enthusiastic Movement in various circles of the Indonesian community. Indonesian Reading Ambassador influences State leaders and national figures to care more about libraries and reading culture. An Indonesian Reading Ambassador made itself a role model of cultural cultivation of reading habits in Indonesia. It plays an active role in the success of the national program to develop a passion for reading to Indonesian people.

The Indonesian Reading Ambassador and National Library of Indonesia along with regional libraries throughout Indonesia conducted reading favorite socialization activities in various regions in Indonesia. Indonesian Reading Ambassadors make visits to regions all over Indonesia. The Indonesian Reading Ambassador along with The National Library of Indonesia compiled and agreed upon the used of materials and design that related to promotional tools. The Indonesian Reading Ambassador became a model in the promotional media in the form of billboards, posters and stickers "Reading Favorite Penitentiary" with materials and designs agreed with The National Library of Indonesia. Indonesian Reading Ambassador become a speaker or resource person in various promotional meeting activities in the form of seminars, discussions and workshops related to developing public reading interest held by The National Library of Indonesia in various regions in Indonesia, The Indonesian Reading Ambassador making communication with fans through social media related to increasing reading interest. Indonesian Reading Ambassador fans conferences in various activities related to increasing reading interest; and Indonesia opens the network of cooperation with cross-sectors in civilizing reading interest.

Indonesian Reading Ambassador is a representation of the vision and mission of The National Library of Indonesia in an effort to advance the reading interest of the Indonesian people. It has served for five years. The size of the time is considered sufficient to provide a broad scope for an Indonesian Reading Ambassador to spread the spirit of reading to the wider community.

This model has been developed and implemented by The National Library of Indonesia for three periods. The first period of 2006 - 2010 featured the Indonesian Reading

Ambassador, Tantowi Yahya, a presenter, politician and artist. As a first period Indonesian Reading Ambassador, Tantowi Yahya was considered successful in providing a strong foundation in the development of increased reading activities in Indonesia.

In the second period of 2011 - 2015, a new Indonesian Reading Ambassador was chosen, namely Andy F Noya, a journalist, Media Group editor, and a Kick Andy performer on Metro TV. The selection of the new Indonesian Reading Ambassador gave a new spirit of efforts to increase reading interest in Indonesia. Andy F. Noya was considered to be able to reinforce the purpose of the development of the National Reading Habits Movement. In the next period of 2016-2020, Indonesian Reading Ambassador faces even more complex and dynamic challenges. The current appointed Ambassador is Najwa Shihab, a television presenter who is successful in the field of content creator with *Narasi*, a company that runs in content creation in Indonesia.

This research includes knowledge that is known by Najwa Shihab as An Indonesian Reading Ambassador for the period of 2016 - 2020 to be able to preserve the knowledge and ability of Najwa Shihab in promoting the acculturation of reading Indonesian society so far.

The replacement of an Indonesian Reading Ambassador every period is important to refresh the spirit of an Indonesian Reading Ambassador and to provide new ideas in the preparation of a development program for strategies to improve reading habits in Indonesia.

The periodic change of an Indonesian Reading Ambassador also provides a problem, namely the absence of good knowledge management at the turn of the Indonesian Reading Ambassador. Finally, a number of good steps taken by Indonesian Reading Ambassador were not well cared for, by the next Indonesian Ambassador Reading.

In addition, at this time The National Library of Indonesia is also developing a Regional Reading Ambassador program that is implemented in all provinces in Indonesia. It is necessary to disseminate the knowledge of an Indonesian Reading Ambassador to be used by other Reading Ambassadors at this time and in the future.

LITERATURE REVIEW

This research is expected to be able to provide knowledge about the effort to develop reading habits through the Indonesian Reading Ambassador program represented by Najwa Shihab. Knowledge about the effort to develop reading habits done by Najwa Shihab as Indonesian Reading Ambassador will become general knowledge that can be mastered by next successors of Indonesian Reading Ambassador.

At this time there is no effort to preserve the knowledge possessed by Najwa Shihab as Indonesian Reading Ambassador so that there is a risk of losing of the knowledge. The current implementation of the Indonesian Reading Ambassadors is also an inspiration in the implementation of the Regional Reading Ambassador activities held in all provinces in Indonesia. The knowledge of a Najwa Shihab as an Indonesian Reading Ambassador on promoting reading interest in Indonesia is also expected to provide the knowledge base of the Regional Reading Ambassadors in each province. This will provide important knowledge for each Regional Reading Ambassador.

Knowledge Management and Transfer Method. Knowledge creation always begins with the individual. Knowledge Management process is important in preserving tacit knowledge. There are four different modes of knowledge conversion:

- **Socialization (tacit to tacit) :** Conversion of tacit knowledge to tacit knowledge consists of sharing knowledge in face–to–face interaction, imitation and practice. By sharing experience, observation, apprenticeship or mentoring individuals learn and gain a sense of competence.
  - **Externalization (tacit to explicit) :** It is the conversion process that gives a visible form to tacit knowledge. In this mode, individual are able to articulate the knowledge (know–how, know-why, care-why). Tacit knowledge can then be written down recorded, drawn or made tangible or concrete in some manner.
  - **Combination (explicit to explicit) :** This conversion of explicit knowledge to explicit knowledge recombines discrete pieces of explicit knowledge into new form, such as synthesis in the form of review report, trend analysis and brief executive summary
  - **Internalization (explicit to tacit) :** Conversion of explicit knowledge to tacit knowledge which occurs though the diffusion and embedding of newly acquired behavior and newly understood or revised models. This process integrates shared or individual knowledge into individual mental modes.

Knowledge, experience, best practice, lessons learned and so on go through the conversion processes of Socialization, Externalization, Combination, Internalization. After Internalization the process continues at a new ‘level', hence the metaphor of a “spiral” of knowledge creation often referred to as the SECI model.

Capturing Tacit Knowledge: Capturing knowledge is an activity to gather information and knowledge to create new knowledge. Capturing tacit knowledge can be defined as a process of capturing the experience and expertise of individual within an organization and make it available to anyone who needs it (Dalkir and Liebowitz, 2011). Those types of knowledge explain difficulty level conversion from tacit to explicit. In general, all the tacit knowledge can be made explicitly by using the codes or marks agreed between the parties that want to take advantage of the tacit knowledge.

RESEARCH METHODOLOGY

Knowledge is the capacity for effective action; obtain, understand and interpret information about Indonesian Reading Ambassadors. This research approach is a case study with a qualitative approach to the knowledge of promoting reading interest by Najwa Shihab as Indonesian Reading Ambassador for the period 2016-2020.

The objective of this study is to describe knowledge as the ability to understand and utilize data, information, and records available to Najwa Shihab as Indonesian Reading Ambassadors. The purpose of this study is to identify the knowledge and abilities of a Najwa Shihab as the Indonesian Reading Ambassador in developing reading habits in Indonesia with The National Library of Indonesia from 2016 to the present.

Knowledge Management is used to preserve the knowledge of Indonesian Reading Ambassadors to be continued by the next Indonesian Reading Ambassador and Regional Reading Ambassadors in the provinces in Indonesia as sustainability enhancement reading interest in Indonesia. This research is also expected to be an example of a method that can be used to carry out improvement activities in countries with poor reading habits.

The research method used in this writing is a qualitative research method that is a method by explaining writing systematically, based on data from reference sources. The data collection technique of writing is done by collecting data based on problems in writing, then identifying data and making comparisons of the data that has been obtained. Or broadly can be formulated, among others: data collection techniques, data processing techniques, and data analysis techniques. The following is the presentation of the three techniques.

Data collection techniques are based on literature studies that come from reference books, journals, articles, and e-books and other data from the internet through official sites related to the data needed. After getting the writing data described above, the author identifies, and compares the data to be used as important points related to the problems that will be discussed in this journal. After getting the writing data and processing it, the author analyzes the data based on the researchers' theories that have been obtained related to the problems that will be discussed in this journal.

RESULT AND DISCUSSION

Najwa Shihab as Indonesian Reading Ambassador is responsible for improving the knowledge of the Indonesian people. Najwa Shihab, who is fondly called Nana, was born in Makassar on September 16, 1977. At the age of 41, she was a former news anchor on the television station Metro TV. She has been the anchor for the Metro Today's prime time news program, "*Suara Anda*" and "*Mata Najwa*" talk show program. Najwa is the second daughter of Quraish Shihab, Minister of Religion in the era of the VII Development Cabinet in Indonesia.

Najwa Shihab studied in University of Indonesia, Faculty of Law alumni in 2000. During high school she was selected to join the AFS program **AFS Intercultural Programs** (or **AFS**, originally the **American Field Service**) is an international youth exchange organization, which in Indonesia the program was implemented by the Intercultural Development Foundation, for one year in the United States. Starting his career on RCTI, in 2001 she joined Metro TV because the TV station was considered to be more answerable to his big interest in the journalistic. In 2018, after being a journalist for 17 years, Najwa Shihab founded Narasi, a news and media company that creates and manages several types of online content.

Based on educational background and experience in the field of journalism, Najwa Shihab has several strategies that are used to be able to increase public attention to the effort to develop reading habits in Indonesia. Efforts to increase the development of promoting reading in Indonesia are also carried out through the development of digital approaches and social media. The use of digital and social media approaches along with the strategies undertaken by Indonesia's national library at this time is the digital and social media development efforts. However, Najwa Shihab also has several strategies which is used to develop the penchant for reading Indonesian people today:

Najwa Shihab's personal abilities as a Journalist and Indonesian Reading Ambassador. Najwa Shihab as a journalist requires her to be knowledgeable and fond of reading. Her habit of reading became the main capital in the promotion of reading habits in Indonesia. Najwa Shihab's experiences in the world of journalism and the entertainment world have always been associated with the promotion of civilizing reading interest. Reading interest is the initial capital of a Najwa Shihab to become a public figure at this time. Being able to become a celebrity in Indonesia, Najwa Shihab started with a reading passion.

In carrying out journalistic activities, Najwa Shihab prepared everything very well, another characteristic of Najwa Shihab's strategy was Najwa Shihab's keen gaze on his speakers when conducting interviews in talk shows or other interviews. This is what became the basis for the Mata Najwa event that was identical to Najwa Shihab's gaze when interviewing the speakers.

Najwa Shihab and Mata Najwa Program have won achievements by Elle Magazine, she was awarded the Influential Woman of the Year in 2016. Meanwhile, in 2015, Forbes Magazine announced her as the Most Progressive Figure. In 2011, this mother of one child was awarded the Young Global Leader by the World Economic Forum. Still in the same year, Najwa also won Highly Commended in the Best Current Affairs Presenter category at the Asian TV Awards.

Previously, in 2007 and 2009, Najwa also won Highly Commended in the Best Current Affairs Presenter category in a similar event and the most recent was the Indonesian Choice Award for TV Programs of the Year for 3 consecutive years 2016, 2017 and 2018, an acknowledgment of the ability of a Najwa Shihab.

***Catatan Najwa* as Najwa Shihab's Branding Strategy use for The Indonesian Reading Ambassador.** *Catatan Najwa* is all about the summary at the end of each Mata Najwa program on television. However, in the activities of the Indonesian Reading Ambassador, Najwa Shihab also used the *Catatan Najwa* strategy to motivate the community to love reading. In writing the *Catatan Najwa*, there are various stories about Najwa Shihab's views on the problem of reading public interest by using a poetic language approach and prioritizing aesthetic aspects without leaving the meaning to be conveyed to the public. Writing *Catatan Najwa* looks at the aesthetic side by paying attention to the rhymes of the *Catatan Najwa* that you want to give. In submitting *Catatan Najwa,* as the Indonesian Reading Ambassador, Najwa Shihab always used it in various occasions in activities in all regions in Indonesia. In different occasions, the reading of the *Catatan Najwa* was a highly awaited matter in various activities on the Indonesian Reading Ambassador carried out by The National Library of Indonesia.

The reading of the *Catatan Najwa* in the Indonesian Reading Ambassador activities was often used as a conclusion from a series of talk show about increasing reading interest held in various regions in Indonesia with The Indonesian Reading Ambassador. The participants of the activities carried out usually give full attention to the reading of *Catatan Najwa*. In reading *Catatan Najwa*, The Indonesian Reading Ambassador was calm but still convincing, gave the right intonation and gave the right tone to every word in the *Catatan Najwa.*

In addition, the appearance of Najwa Shihab in reading *Catatan Najwa* also supports all of these appearances. By giving an appearance that remains beautiful, does not overdo it, wear proper and often use certain special clothing from several regions in Indonesia. This appearance is very supportive of all the efforts to inculcation reading interest in Indonesia.

The reading of *Catatan Najwa* in the cultivation of reading interest in Indonesia through the activities of the Indonesian Reading Ambassador gave a special impression on the implementation of the Indonesian Reading Ambassador activities. The use of Catatan Najwa strategy as one of the civilizing strategies for reading interest is very effective to be used as a civilizing strategy for reading interest in Indonesia.

The description of the life background of The Indonesian Reading Ambassador as a journalist dan the approach to giving *Catatan Najwa* is a form of **socialization** (tacit to tacit), a form of knowledge conversion. A shared space where people develop shared knowledge, ideas and practices through communicating and working collaboratively.

The Indonesian Reading Ambassador, Najwa Shihab, Connectivity Utilization as a Journalist as an Effort to Develop Reading Habits in Indonesia. As a senior journalist, The Indonesian Reading Ambassador, Najwa Shihab, has the experiences and relationships to various parties related to the development of reading acculturation. Starting from the President of the Republic of Indonesia, Joko Widodo, Minister of Finance of the Republic of Indonesia, Minister of Law and Human Rights of the Republic of Indonesia, Indonesian National Police, Indonesia's Corruption Eradication Commission (*Indonesian: Komisi Pemberantasan Korupsi*), and many other parties who finally provided support for the effort to inculcation reading interest in Indonesia.

President of Indonesia, Joko Widodo, on May 17, 2017, at the commemoration of Indonesian National Education Day, held storytelling activities at the state palace. Najwa Shihab as the Indonesian Reading Ambassador attended and enlivened the storytelling with the President of the Republic of Indonesia, Joko Widodo. Najwa Shihab as the Indonesian Reading Ambassador also showed skill to tell stories to children in the state palace in Jakarta (https://news.detik.com/berita/3503846/Jokowi-storytelling-for-students-at-the-palace-president ial). In addition, in many other activities, the Indonesian Reading Ambassador also supports the activities of civilizing reading in various institutions in Indonesia.

This is a form of Knowledge Conversion : **externalization** *(tacit to explicit)* by share to groups of people can articulate experience to each others via metaphors and concept journalist in the effort of reading culture in Indonesia.

Utilization of Social Media as an effort to motivate the Reading Society of Indonesia. At present the use of social media really has a big role in various digital promotion efforts. This certainly will have an influence on the promotion of civilizing the reading interest itself. The approach to social media is one of the effective strategies, especially in the current millennial generation. There is a shift in the use of media from the use of television, radio, and newspaper media to social media; Facebook, Twitter, Instagram and You tube. This will also have an effect on the effort to development of reading habits and the approach that needs to be done.

There are several activities that can be carried out in the effort to development of reading habits through social media, such as using flyers, making videos, writing of Qoute, and various other things. This approach can also be seen from the large number of subscriptions in all Najwa Shihab social media accounts. A large and massive influence will be felt if promotion through social media is done with a good and continuous strategy.

The use of social media is also closely related to real life in everyday life. The Indonesian Reading Ambassador in every promotion activity of developing reading interest carried out in all regions in Indonesia always link to the use of social media. The use of social media is carried out as a media for promoting activities, reporting live activities, and conducting social activities that can be done digitally. Social media is then used to provide opportunities for people who have read giving posts to read readings by providing a link to the Indonesian Reading Ambassador account.

This Digital Activity can increase the use of social media for positive activities through various ways that can be done. These digital activity businesses also provide promotions to The National Library of Indonesia as an institution that houses the Indonesian Reading Ambassador with the use of hashtag or various other activities. This is form of Knowledge Conversion Modes : **Combination** (explicit – explicit) a virtual space within explicit knowledge can be combined within digital activity (IT), system or documents.

Supports Social Movement. Indonesian Mobile Library (*Pustaka Bergerak Indonesia*) is a form of movement to increase civilization throughout Indonesia. Indonesian Mobile Library is the liaison between literacy drivers throughout Indonesia. Through Social Media, Indonesian Moving Library provides networking to various efforts to civilize reading interest by the public. Indonesian Mobile Library is one of the community's social movements towards the low reading interest in Indonesia. The idea that was initiated was to bring books as reading material to some remote areas that were rarely accessible to library services or geographically remote to gain access to books as one of the public's information. The target of this activity is to children or remote communities in all regions in Indonesia. Form a network through social media, to provide information to each other on activities that have been carried out and to encourage the implementation of this community-based library.

The Indonesian Reading Ambassador strongly supports the activities carried out by the Indonesian Mobile Library community, even Najwa Shihab was also appointed as the Indonesia Mobile Library Ambassador. On each trip, the Indonesian Reading Ambassador always took the time to interact and support the implementation of the

Indonesian Mobile Library in all regions. This support was also promoted through social media to further emphasize the role of Indonesian reading ambassadors in an effort to increase the culture of reading interest in Indonesia.

Together with the Indonesian Mobile Library, the Indonesian Reading Ambassador initiated the Free Cargo Literacy program in collaboration with PT. Indonesian Post. This program began to take place on May 20, 2017. This program is a form of government support through the release of the cost of sending books throughout Indonesia through the Indonesian Moving Library network. The activity of Free Cargo Literacy is carried out every month with a variety that is aimed at leveling Indonesian people's access to quality books. Najwa Shihab as the Indonesian Reading Ambassador continues to provide support for the implementation of civilizing activities in reading through the Free Cargo Literacy program by delivering books and promoting through various existing social media. This is form of Knowledge Conversion Modes : **Internalization** (explicit – tacit) a context which allows people to develop refine and familiarizes themselves with and utilize explicit knowledge.

CONCLUSION

As the third Indonesian Reading Ambassador, Najwa Shihab has been successful in improving reading habits in Indonesia. This can be seen from the various positive improvements received by the National Library of Indonesia, especially on promotion through social media. Najwa Shihab as an Indonesian Reading Ambassador gave direction to the development of a enhancing reading interest in Indonesia to be more interesting.

The background of Najwa Shihab's knowledge as a journalist provides many advantages in the efforts to improve reading interest that have been carried out by the National Library of Indonesia. Indonesian Reading Ambassadors provide a real strategy for rebranding of The National Library of Indonesia strategically through various technical matters.

Najwa Shihab's figure as Indonesia's Reading Ambassador also inspired an increase in understanding of gender equality in Indonesia. Knowledge Conversion Mode: SECI *(Socialization, Externalization, Combination, Internalization)* provides an approach on how the knowledge possessed by an Indonesian Reading Ambassador can be done to various forms of ambassadors in regions in Indonesia. At this time have more support and reduplication of Indonesian Reading Ambassador form of civilizing reading habits in Indonesia is running. Management knowledge held by Najwa Shihab as Indonesian Reading Ambassador needs to be carried out and disseminated using the existing information dissemination approach which is primarily the development of the reading culture of the Indonesian people.

At present the direction of the development of the world is leading to a 4.0 industrial revolution which forces libraries to develop themselves in the utilization of artificial intelligence and internet networks. Promotion and networking have become a direction for library development policies in the present.

The development of the digital world of libraries needs to also be developed in stages with the promotion carried out by the current library, especially the national library. Najwa Shihab and *Narasi* as a content creator company that fully understand the current development of content has become the direction of development that librarians will certainly do as the main resource of the library.

Najwa Shihab as Indonesian Reading Ambassador through a social media approach is expected to be able to inspire librarians in library services to be an ongoing basis at all levels of Indonesian society in an endeavor to cultivate reading indolence in Indonesia on an ongoing basis.

RECOMMENDATION

In connection with the importance of the role and knowledge of an Indonesian Reading Ambassador to improve reading interest in Indonesia, it is necessary to recommend the standardization of Indonesian Reading Ambassadors' knowledge in dealing with the cultural problems in the digital era. The standard of knowledge of a Najwa Shihab can be used as a minimum standard for the preparation of knowledge of next Indonesian Reading Ambassadors.

National Library of Indonesia can adopt a strategy to enhancement reading interest by increasing interpersonal connectivity and institutions to increase the reading interest of the Indonesian people.

Preparation of the Reading Ambassadors program at various levels: schools, universities, institutions, local governments need to be implemented so that the effort to cultivate reading hobby in a sustainable manner can be carried out. Furthermore, there are no rules that prevent a Najwa Shihab from being re-elected as an Indonesian Reading Ambassador because of the various programs and knowledge she already has.

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Preserving Library Binding Knowledge in National Library of Indonesia

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ABSTRACT
Knowledge loss because of employee retirement is a disadvantage for the institution. The reduction and displacement of staff in the National Library Binding Technical Subdivision has the potential to lose the knowledge of the institution because that knowledge is still a tacit knowledge. This study investigated efforts that will and have been made to maintain knowledge that belongs to the institution and can be used for the benefit of the institution. This research is a preliminary study with interview methods and analysis it with related document. The results of this study indicate loss of knowledge due to knowledge is only owned by senior employees and the process of transferring knowledge between employees is not optimal. The preservation of knowledge potentially loss is conduct by capturing, writing and disseminating the knowledge. The findings of the study show influential leadership plays roles in giving respect and trust to create a positive work culture.

Keywords: Knowledge loss; Knowledge management; Library binding knowledge; National Library of Indonesia; Retirement.

INTRODUCTION

In the business world, it is now starting to develop from providing as much information as possible to choosing and sorting information that is important and useful for the sustainability of the organization. Companies or organizations have made knowledge of both members knowledge and organizational an asset. The benefits of knowledge management are reducing costs because of reducing errors, creating innovations to increase competitiveness with competitor products, formulating the best processes in production to improve quality and efficiency.

Knowledge management contributes to preserving organizational knowledge, a strategy in transforming individual knowledge into community knowledge to become organizational knowledge that shapes attitudes and culture within the organization. The involvement of individuals, community of practice and organizations is an important component to the success of Knowledge Management.

The scarcity of human resources and skills in rebinding rare and ancient library materials is a matter that needs to be studied and formulated solutions to this for the sustainability of the organization. Human resources in the binding technical subdivision amounted to eight people with the division of tasks is binding five people, supervising the quality of one person and graphic design of one person. The closest threat to the organization is the reduction or loss of bookbinder staff in the next four years because of retirement age. In addition to loss of energy, the other thing is the loss of personal knowledge entering retirement age. Organizations have very little control when faced with the potential for loss of knowledge due to aging and the retirement of workers resulting in enormous losses to the organization (Egeland, 2017). Martins and Meyer (2012) agree that many organizations are faced with the challenge of losing organizational knowledge and competitive advantage because of employee layoffs, retirements, staff turnover, organizational mergers and acquisitions, and competitive recruitments. There needs to be an organizational strategy to overcome this so bookbinding knowledge that is owned by an expert person can be inherited to other staff or become organizational knowledge. The first step before it can be shared is to preserve the knowledge of each employee, especially those who have long working hours in the unit.

Another thing that is an obstacle in the preservation of knowledge in the unit is the movement of employees in the last 2 years, thus reducing employees who can continue the bookbinding experience in the unit. Another problem is the increase in work volume every year but the number of employees tends to decrease. Even though there are additional employees, the work ability or knowledge cannot be compared with senior employees or those who are entering retirement age.

OBJECTIVE AND RESEARCH QUESTION

Objective of this study is to investigate efforts that will and have been made to maintain knowledge that belongs to the institution. The study is guided by the following research questions:

1. What knowledge has the potentially to be loss in the binding knowledge due to the retirement process in the binding technical subdivision?
2. To what extent the processing of knowledge transfer between members in the binding technical subdivision?

LITERATURE REVIEW

A. Knowledge Management

Before referring to the understanding of knowledge management it's good to review the differences in knowledge and information in advance. Knowledge is different from data and information. Information is data that has been processed and has meaning for the user. While knowledge is the individual's meaning of information received. Knowledge is more personal and different for each individual. Knowledge is divided into two, structured, unstructured, some are easy to convey and some are difficult to convey.

Knowledge that is easily shared is explicit knowledge. Whereas knowledge that is not easily shared, it is difficult to articulate tacit knowledge. This type of tacit knowledge is stored in one's mind and can be seen from his actions but is difficult to record (Jones and Leonard, 2009). Some of the nature of knowledge (Dalkir, 2011) are:

1. Using knowledge does not mean spending it.
2. Transfer of knowledge does not mean eliminating it.
3. Knowledge is abundant but the ability to use it is limited.
4. Most organizations realize the value of knowledge at the last moment.

Each employee has their own knowledge of the work they do because of experience or intuition. Employees who stop, leave, move jobs will bring the knowledge they have to the detriment of the organization. Knowledge that is shared between employees who are then developed and experienced modification so as to produce innovation is an organization's advantage. Now many business institutions see knowledge as part of company assets that can increase the value of the product or the value of the company itself in the eyes of the user. Turning individual knowledge into institutional knowledge and maintaining it is a necessity to compete and reduce production costs due to loss of knowledge.

According to Jones and Leonard (2009) knowledge management is the process of gaining knowledge from organizations and other sources and turning it into explicit information so that employees can use it and turn it into their knowledge which results in the creation and improvement of organizational knowledge. Another definition of knowledge management is a series of activities that are used by organizations to identify, create, explain and distribute knowledge to be reused, known and studied in organizations (Almah, 2013). According to Nonaka and Takeuchi knowledge management can also be interpreted as a process of systematic application approaches to capture, organize, manage and disseminate organizational knowledge to speed up work, reuse best practices and reduce the cost of re-employment of each project (Dalkir, 2011). In conclusion, knowledge management is the creation and improvement of knowledge to produce innovation with the aim of increasing work effectiveness, reducing costs and providing the best results for the organization.

Knowledge management is formed from tacit and explicit knowledge. Both of these knowledge are very different and appropriate strategies are needed to turn tacit into explicit so that it is beneficial to the organization. Both types of knowledge, according to Nonaka and Takeuchi in Dalkir (2011) can be converted through four types of conversion processes, namely: Socialization, Externalization, Combination and Internalization. The four types of conversion are called SECI Process (S: Socialization, E: Externalization, C: Combination, I: Internalization).

- Socialization is the process of sharing knowledge with face-to-face, social interactions and is natural. This form is the easiest step because it remains in the form of tacit knowledge, and remains in the mind of the source of knowledge.

- Externalization is the meaning of tacit knowledge into explicit knowledge through a process of dialogue and reflection. In this stage each individual can write, record, describe or make the tacit knowledge become real. The intermediary role is sometimes needed because of the difficulty of changing the type of knowledge into other types of knowledge, this intermediary is in charge of extracting, modeling and creating knowledge in other forms. If the first process is individual to individual then this process is individual to group, such as the results of meetings or meetings, agreement on procedures used and so on.

- Combination is the process of converting explicit knowledge into new explicit knowledge through systems and applications. Changing knowledge at this stage is group knowledge into organizational knowledge. The results are in the form of organizational documents such as manuals, technical manuals, Standard Operational Procedures (SOP).

- Internalization is the process of learning and taking explicit knowledge by members to become tacit knowledge.

B. Success Factors in Knowledge Management

Changing tacit knowledge to organizational knowledge is the most difficult process in the concept of knowledge management. According to Jones and Leonard (2009) organizational knowledge is a collection of knowledge contained in organizations, originating from current and past employees. The organization has knowledge if the organization can take and write it in various formats and ways to preserve that knowledge, even when the employee is no longer with the organization.

Many organizations implementing knowledge management are an indication this concept is successful in providing benefits to the organization. If an application of the concept of knowledge management it turns out fails, so it needs to be considered and reviewed again. The success of knowledge management in organizations is the character of the organization and the character of the initiative. Compatibility between the two is needed because just one of them is suitably caused to fail at the stage of implementation. Organizational characters include innovative and collaborative culture, while the characteristics of the initiative: support from top management, formal staff from Knowledge Management, incentives based on quality, communication to members about knowledge management.

a. Organizational character

Culture in organizations affects the application of knowledge management. These two factors in character can provide success and hinder the conversion process from tacit knowledge into organization knowledge.

- Culture of innovation

According to Fidler and Johnson in Jones and Leonard (2009) factors that can mediate the success of the application of knowledge management are organizational cultural norms of innovation. The culture of innovation supports new innovations and is open to new things to support the organization. Innovation culture supports the application of knowledge management in terms of knowledge sharing. If there is awareness of each member of the organization by sharing knowledge to help fellow members, the conversion from tacit knowledge to organizational knowledge will be easy and smooth.

- Collaborative Culture

It is important for an organization to communicate with its members regarding the needs of collaborative culture in the organization. Inadequate and ineffective communication will make it possible for members not to be involved or even involved but not wholeheartedly. Some of the problems that make it difficult to apply knowledge sharing are that people don't like to share their best ideas, there are some people who think they are more expert than others so they don't cooperate . The first condition occurs if they have a perception "knowledge is power", employees can only get a promotion if they have knowledge. So the role of the organization is to change the mindset. In the second condition occurs when members feel other members have nothing to offer. The solution offered is to build team work so that the awareness of each individual has weaknesses and by working together in a team it can solve any problem as easily and quickly as possible. The existence of a collaborative culture facilitates the process of sharing knowledge on the concept of knowledge management.

b. Initiative character

In addition to organizational culture, the character of initiative plays an important role in the successful conversion of tacit knowledge into organizational knowledge.

- Support from top management

Every change must be refused, so the support of the highest management plays a role in the change. With the support of the management, the members feel confident that they are involved and fully support the knowledge sharing process. Distrust of members causes employees or members to protect their knowledge and keep the knowledge hidden.

- Formal Knowledge Management Staff

Formal staff needed before implementation begins, to find and explain knowledge management before implementation. Knowledge Management staff are responsible for determining where the knowledge is, who and what knowledge they have. Formal employees also find out where the organization's ignorance lies and make plans to reduce ignorance.

- Quality based incentives

If incentives are given based on quantity, excess information will be produced, but not necessarily the organization. There needs to be a supervisory group to check the quality of submitting knowledge to the Knowledge Management system. The process by means of the information submitted has been assessed and is significant knowledge. Another problem is the simultaneous delivery process at the end, so it is necessary to arrange a delivery schedule and periodic inspection of information.

- Communication about Knowledge Management

Effective Communication strategy is needed to support the implementation of Knowledge Management initiatives. Each member must voluntarily participate in the process of converting tacit knowledge into organizational knowledge. It is also important that the organization says that Knowledge Management is a cycle so that with members sharing their knowledge they will gain new knowledge so that it can also improve the quality of each member. Seminars and workshops are one part of communication conveying the importance of Knowledge Management.

Obstacles in the process of disseminating knowledge

1. Lack of trust between members
2. Cultural differences, language and references.
3. There is no time and place to communicate.
4. Lack of appreciation for knowledge owners
5. There is a culture of competition between members
6. Lack of absorbing capacity from the recipient.
7. Believing knowledge is a privilege of certain groups.
8. Not tolerant of mistakes.

The spread of knowledge depends on the transmission and absorption by individuals and groups in the organization. It is hoped that the process of delivering knowledge and being absorbed will change culture and increase value for the organization.

C. Strategy for Maintaining knowledge

Social and cultural relationships play an important role in shaping knowledge as a source of unique competitive advantage. Using social relations is an easy and efficient way to share knowledge between individuals. The role of the division of human resources to help social relations among employees can improve the knowledge sharing process. Arguably the strategy of maintaining knowledge is a reactive effort.

According to Daghfous (2013) Strategies that need to be considered the level of management in maintaining and reducing the loss of knowledge are:

1. The strategy must be in harmony with the vision and culture of the organization
2. Design and implement a comprehensive strategy on all lines and networks for knowledge management. To facilitate strategy and coordination can make the position of director of Knowledge Management and also priority activities such as mapping, retention and dissemination of knowledge.
3. There needs to be strong commitment and support from management
4. Search for and maintain a source of critical knowledge and prioritize storage of knowledge.
5. Support strategies for disseminating knowledge to the management level.
6. The need for a combination of technology and other initiatives such as cross training, rotation and mobility.

D. A brief history of the Library Binding section in the National Library

Based on Law No.43 of 2007 concerning libraries in article 1 paragraph 5, it is said that the National Library is a non-departmental government institution (LPND) that carries out government tasks in the library that functions as a building library, reference library, deposit library, research library, library preservation, and the center of library networks, and is located in the national capital. The National Library of the Republic of Indonesia was established in 1989 based on Presidential Decree number 11 of 1989. This institution is a combination of the Library Development Center, the National Library of the Ministry of Education and Culture and the Regional Library in the Province.

The existence of a library binding unit coincides with the formation of the National Library of the Ministry of Education and Culture on May 17, 1980. The function of the organization in carrying out library binding is the responsibility of the field of reprography based on Minister of Education and Culture Regulation No. 0164/0/1980, described the functions of the reprographic field doing reprography, carrying out binding, preservation, collection conservation, publishing. The repro field consists of the reprographic section, the conservation and binding section, and the publishing section.

After Presidential Decree No. 11/1989 the National Library organization of the Ministry of Education and Culture became the National Library of Non-Departmental Government Institutions. The institutional structure has change, the conservation and library binding section changed its name to the binding section and the improvement of library materials under the Division of publishing and maintaining library materials. This Division is under the Deposit and Conservation Center.

After 1998 there was the development of the organization through the Presidential Decree 50/1997 with the establishment of preservation center. Binding unit as part of the conservation division was that year. Based on the search for documents, the library binding unit has been realized since the beginning of the formation of the National Library it could even be that the function of the unit had been carried out long before the merger of institutions into the National Library.

Knowledge and abilities about binding are brought from these original institutions. Based on information from *pustakawan utama* (highest level librarian in Indonesia) Supriyanto, binding knowledge was obtained from the original unit before merged, the National Archives of the Republic of Indonesia, and from education and training ever held in Malaysia with him as a participant.

Library binding knowledge is knowledge based on skills and experience. The longer someone is engaged in the job, the more proficient and skilled the person is. So senior workers have broader and more diverse knowledge, therefore, it is necessary for the institution to preserve it. Another thing is the collections are valuable and even rare, so there need to special handling and caution.

RESEARCH DESIGN

The study used a qualitative research approach through semi-structured interviews and content analysis in order to understand how the technical binding subdivision preserving the knowledge. The participants were two bookbinders were experienced in binding over twenty years we call it senior employees, three bookbinders were started work in

2015 we call new employees and Head of Binding Technical Subdivision. In addition to interviews, documents related with the organization also collected.

Furthermore, the interviews took place at the organization in November 2018 and Februari 2019, were recorded on the voice recorder and transcribed manually on Word document for analysis.

Data analysis: data analysis was conducted by examining and studying all of the data collected using stage from data reduction, coding and afterward summarized it into a conclusion and interpreting it as a finding.

RESULTS

Employees in binding technical subdivision amount to eight with five people as bookbinders. Two of them have more than twenty years of experienced working as bookbinders, while the three other have officially joined in 2015. About Two and three years before, there was a reduction in employees with the retirement of two and one workers moving to another unit. In 2018 there a reduced one employee with binding experienced at least ten years because of moving of work. Employees in the binding unit will enter retirement age around the next three to four years, leaving a worker who will retire eight years from now. With these conditions, it is interesting to see the readiness and plan of the organization in the future.

The possibility that occurred due to the departure of these bookbinders was the loss of all or part of the knowledge that was important to the organization. Interviews are conducted to identify what knowledge is threatened or potentially loss and the effort to maintain the knowledge.

Based on interviews with senior employees, they gained knowledge through education and training in the early years of work such as making hardcovers from the leather (hardcover leather and *pilung* see figure 1), making *pilung* (rounded back hardcovers), making protective boxes (see Figure 2). These skills are obtained from training and direct practice. These skills are not ordinary skills because making leather cover or making *pilung* is a work of art and for high-value collections. These jobs are rarely done and only two senior employees have the knowledge and the experience.

Interviews with employees who entered in 2015 were conducted to determine what knowledge has not been mastered so that the knowledge has the potential to be lost. When asked what jobs are difficult, it is answered "*Itu bikin kotak untuk lantai tiga*", in english "makes a box for the third floor", the third floor refers to the physical repair unit of the library collection that deals with damage to rare and high-value collections such as rare books, rare magazines and ancient manuscripts. It was further said by the employee "*saya motongnya belum bisa*" in English "I can't cut it yet ". "*ya kalau bikin* (*kotak*) *kita*, *yang motongnya ya …* (*melihat para pegawai senior*)", in english "so if we make a (box) that us, but for the cut… (see the senior employees)". Then later when asked about the reduction of employees due to retirement period, then the response given by the employee was , "*Ya, itu mas kalau pilung mas, saya belum menguasai*", in

English "for make *pilung, I have not mastered it* ". So this new worker does not or does not yet master the making of the *pilung* so that if the expert staff retires then no one can do the making of *pilung*. From the results of the interviews, the transfer of knowledge between workers is still not optimal, this can occur because the capacity of the recipient's capacity is limited based on the age of all workers over fifty years of age or due to lack of training and less of experience.

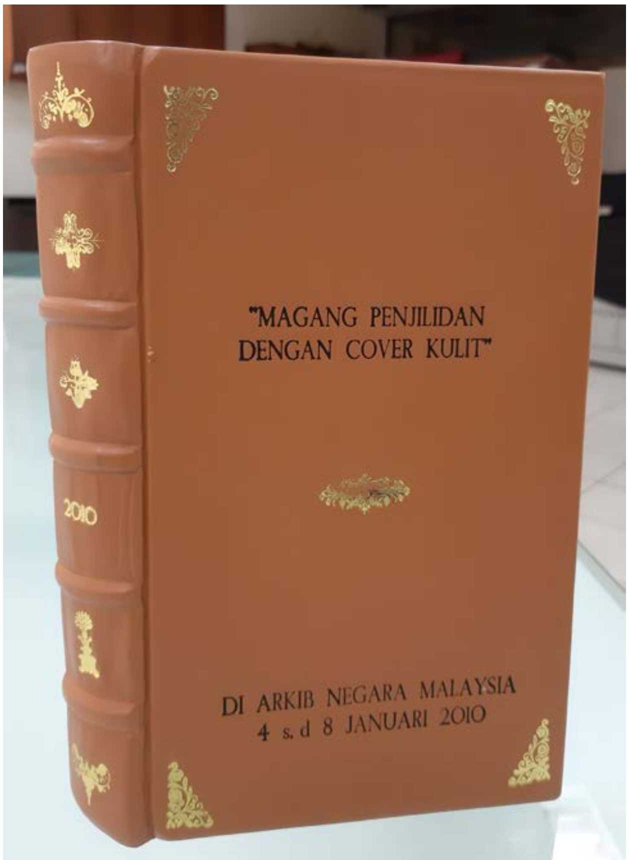

Figure 1: Examples of hardcover leather books with *pilung.*

Based on these interviews it can be identified knowledge gained from experience and the better their work because trained from experience and produce to intuition to do the work for example in cutting boards to make collection storage boxes. There is knowledge that is indeed difficult, such as making a leather cover and making *pilung*. Unfortunately, the making of *pilung* and making a leather cover is now no longer done or seldom, because small number of collections and inadequate devices. According to senior employees, what is done routinely is ordinary work or simple binding, whereas for high-value collections, it supposed to apply a special binding technique, the collection of leather covers is replaced by leather too and books with rounded backs are kept round.

Figure 2: Protective Box

It also found that in the process of transferring knowledge from experts to new members through asking and observing. For mentoring, then the senior worker answers, ”*untuk pendampingan terus ga juga, karena kita kerja juga. Masing-masing punya target*” in english "the mentoring is not routine, because we work too. Each has a target”. When asked to junior employees, they chose to learn directly by working, the answers given, “*Ya kalau saya pilih langsung kerja, malah lebih cepat gitu*”, in english "*Yes, I choose to learning by doing, it will be even faster*". Some jobs still "*contek* " (see and imitate directly what senior work does) such as making protective boxes for rare collections. based on interviews above the most effective method is to look directly and imitate experts in work.

Interviews with direct leaders at the binding subdivision are carried out. Based on interviews ideally binding technical subdivision consists of fifteen people, so there is imbalance of the number of workers required by the number of existing members. So it is reasonable to transfer knowledge between individuals is not optimal because according to the recognition of senior employees, each staff already has their respective job targets. For now, the fulfillment of the number of workers by means of transferring workers from other units, while the addition of new workers is possible next year. The fulfillment of these new personnel also encountered obstacles because the qualifications requested were not according to their needs. Knowledge in the binding unit is preserved through the creation of a guidebook based on the statement of the head of the binding unit as follows, “*Untuk melestarikan pengetahuannya dibikinlah buku pedoman, gitu caranya ga bakal hilang kan*” in english "To preserve the knowledge made by the guidebook, so the method will not disappear, right ". Based on analysis, the guidebook was titled *Pedoman Teknis Penjilidan Bahan Perpustakaan* year of 2013. But the disadvantages were none how to make hard covers from the leather, making pilung (round back), so that both of these knowledge are threatened with loss. In the next interview, he admitted that there were still deficiencies in the National Library publication guidebook, because the making of *pilung* and hard covers of leather was not listed there, then in the future the manual would be revised. There is a concern that some binding knowledge will be lost, but there will still be time for the next two or three years before the experience expert retires knowledge has been transmitted to the new generation, through guidebook making and training. The head of the binding technical unit also expressed the employees who had just joined the study binding by "*bertanya, melihat, mendengar, membaca*", in English "asking, seeing, listening, reading". The process is for new employees to be given one or two weeks to practice and see senior work and then given job targets under the supervision of senior workers. After three to six months of work then they are released to work alone. However, his acknowledgment of supervision was not carried out throughout the day, according to the recognition of senior workers, because they also had work targets. The level of difficulty of the work is also adjusted to the ability of each worker.

There are assessments from senior employees about new employees, because according to him "*cuma untuk yang baru-baru ini kurang peduli, kurang menjiwai*", in English "the new guys are less concerned, lacking inspiration". It indicates that there are organizational and professional values that are not embedded in the souls of new employees or can be assessed as less successful internalization process. Based on the results of interviews, it is also revealed the role of leaders who understand the work done by their subordinates produces a positive work culture such as caution, thoroughness, and respect from the staff.

CONCLUSION

There is a potential loss of binding knowledge such as making *pilung* and making leather cover in the National Library because there will be retirements employees for the next three years. The knowledge need to be preserved through the capturing, recording and writing of knowledge involves with senior employees so that knowledge remains within the organization. Transfer of knowledge between employees needs to be maximized such as mentoring, learning by imitating and then being released to be independent with a designated senior assessment. Organizations providing sufficient time for the new generation to study directly with experienced employees. The need to appoint seniors who are given the task of mentoring until new employees can do the most basic work with a relatively short time. There needs to be incentives for members who have superior knowledge so that knowledge sharing among members is carried out and facilitates the conversion of tacit knowledge into organizational knowledge. Organizations must fulfill the number of workers and the ideal workload so that they can maximize knowledge transfer and discussion between workers to overcome obstacles in the field.

Each leadership has its own policy in training new employees. In accordance with the narrative of senior employees, the leadership previously had a policy of new employees not being given risky jobs until the employee mastered the binding technique at least the basic one. Unlike now the short training was given a job target, even though this was actually done because it did not fulfill the ideal number of workers. There needs to be standard and standard regulations in training new employees.

In several studies that have been carried out, it is explained the importance of the role of the highest management and formal staff in knowledge management especially the work culture that supports knowledge sharing. Then the advice is, this study could be the beginning of the formation of a knowledge management team and the top leadership could play its role in supporting the team for the success of the institution.

National cultural heritage is a matter that is vital for national identity, so the products of national culture should be preserved as well as physical and information by the library as a guardian of knowledge for future generations, including preserving knowledge of conservation.

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Preserving Local Wisdom for Disaster Risk Reduction in West Sumatera: the Role of Library in Managing Indigenous Knowledge

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ABSTRACT
This study investigated the role of library in managing local wisdom about natural disasters among two tribes in West Sumatera, Indonesia. Natural disasters such as floods, landslides, earthquakes and even tsunamis often occur in West Sumatera due to its location on the equator and on the Sumatran Fault and Mentawai Fault lines. The region is inhabited by several tribes, two of the better-known ones being the Minangkabau and Mentawai tribes. These tribes have their local wisdom on the characteristics, hazards, and impact of the disasters, which can act as an early warning system, in disaster management, and even in post-disaster mitigation. The study was carried out using observations and analysis of documents to investigate some of the local wisdom among the Mentawai Tribe on their settlement policy practices and the Teteu Amusiat Loga song, as well as Minangkabau Tribe with its proverbs, earthquake resistant buildings (Rumah Gadang) and Rangkiang. Local wisdom has existed since ancient times, but it has begun to fade and may not be applied in everyday life. As such, Library as the institution that can facilitate lifelong learning to society hoped to be able to manage these knowledge.

Keywords: Local Wisdom; Disasters; Minangkabau tribe; Mentawai tribe; West Sumatera; Indonesia

INTRODUCTION

Indonesia is an archipelago that is vulnerable to various disasters. As one of the countries located in the ring of fire, Indonesia always threat earthquakes and tsunamis. The location of Indonesia, which is astronomically located in the equator line, makes Indonesia has a tropical climate. There are only two seasons, the rainy season and dry season. Indonesia often experiences floods due to high annual rainfall of around 200mm per year. Unlike the rainy season, drought will occur during the dry season due to high temperatures. Geographically, three large plates; the Indo-Australian plate, the Eurasian plate, and the Pacific plate flank Indonesia's location. Additionally, the location of Indonesia is also between the Mediterranean circum and the Pacific circum, which causes Indonesia has a high potential of tectonic and volcanic earthquakes.

One of the provinces in Indonesia that often faces disasters is West Sumatera. West Sumatera is at the zero point of the equator line. High rainfall intensity often causes flood in some areas. This province has around 28 volcanoes and some of them are active. This means, volcanic earthquakes can occur anytime. From the land area, West Sumatera is also confronted with earthquakes originating from a large fault called the Sumateran Fault System (SFS), Mentawai Fault System (MFS). From the sea area, the tectonic earthquakes are triggered by a collision between two world plates, namely the Indo-Australian oceanic plate and the Eurasia plate (located in Megathrust Mentawai)(BPBD, 2016). Database of the National Geophysical Data Center America noted that, a large earthquake has occurred in 1797, 1833, 1926, 2004, 2005, 2007, 2009, and 2010; some of them caused tsunamis (Zed, 2012).

Several tribes inhabit West Sumatera. The two biggest tribes are Minangkabau and Mentawai tribes. People in Aceh have the term "Smong" as a form of local wisdom created by ancestors, Smong serves as an early warning system for earthquake and tsunami disasters. These two tribes also have local wisdoms, which is unwittingly a form of early warning system, in disaster management, and even in post-disaster mitigation. The Mentawai tribe has a song called *Teteu Amusiat Loga* as warning to the earthquake while the Minangkabau tribe has *Pepatah* (proverbs), *Rumah Gadang*, and *Rangkiang*. *Pepatah* contains advice on how to deal with nature in order to avoid and reduce the risk of disasters. *Rumah Gadang* is a traditional house proven resistant to earthquake and *Rangkiang* is a building to keep post-disaster food sources.

Human cannot predict when and where disasters occur. Human can study natural signs scientifically and learn from experiences. Early warning of disasters is expected to reduce risk and the number of victims. Ancestors had experienced disasters and they created various local wisdoms. However, it is unfortunate that these local wisdoms are starting to fade in society due to some factors. The purpose of this paper is to explain how local wisdoms of the Mentawai and the Minangkabau tribe can be applied as advice, warnings, and anticipation of disasters that are predicted to keep continue in the future, and to suggest how library can have a role to manage this knowledge.

LITERATURE REVIEW

Indigenous Knowledge

The term of indigenous knowledge is also called traditional knowledge, local knowledge, indigenous skill, indigenous technical knowledge, folk knowledge, peoples' science, rural people's knowledge, ethno science, and cultural knowledge. IK concerns some feature; IK is local, based on experiences and historical, the owner of the knowledge often use it without understand the causes, it developed independently, transmitted orally or by imitation and it is shared (Chisenga, 2002). Indigenous refers to people or things or primary from certain places, while knowledge contain information, practice, technology, biological resources, material and tools (Bar-On, 2015). In line with Bar-on, Morris called Indigenous Knowledge as Folk Knowledge. It is the knowledge owned by people of their local environment or the knowledge which is around us, can be natural or cultural, as it is expressed by local community. It is shared among people in the community, based on experiences, and practical. It is informal knowledge transmitted orally and in an informal manner, may or may not involve a conservation ethic (Morris, 2010).

Indigenous Knowledge is an understanding, ability, and philosopher developed by the community with a long history that comes from interaction with the surrounding environment (UNESCO, n.d.). It covers all fields of science. (World Bank, 1998) said IK is basis for local decision making in agricultural, health, natural resource management and other activities. World Bank emphasized that five reasons why IK is worth, two of them are IK is an important part of global knowledge related to development issues, it can be used to improve their understanding of the local condition, sometimes helps to provide a productive context for some activities. By sharing IK helps to expand the cross-cultural understanding and raise the development of cultural dimension.

(IIRR, 1996) as cited in (Chisenga, 2002) determine that IK continue to develop. It is based on experience often tested over centuries of use, adapted to environment and local culture dynamic and changing. Some implementation of using IK as the sign of disaster:

- Smong owned by Aceh as the early warning system to earthquake and Tsunami (Suciani, Islami, Zainal, Sofiyan, & Bukhari, 2018)
- IK practices in disaster mitigation in Zimbabwe (Lunga & Musarurwa, 2016)
- The use of indigenous plants to overcome bank and gully erosion in Nigeria (Iloka, 2016)
- IK practice to minimize the effects of flood in Nepal (Dhungel, 2011)
- Local knowledge about warning sign to predict volcanic eruption in Mayon, Philipines (Cerdena, 2008)
- etc.

Cultural Heritage

Cultural heritage has historical value, science, and technology, containing art owned by the community that has been passed down from generation to generation in a tradition. Furthermore, cultural heritage can be form of tangible and intangible. Along with the times, these cultural heritages will be lost if does not preserved. According to the UNESCO Convention for the safeguarding of Intangible Cultural Heritage explains that Intangible Cultural Heritage is taught from generation to generation that includes practices, representations, expressions, knowledge, skills and instruments, objects, artifacts and cultural spaces associated with it. Community, group, or individual are part of the cultural heritage (UNESCO, 2005). Then from the explanation above, it can be assumed that traditional songs, rhymes, proverbs, and traditional houses are examples of cultural heritage that developed in each region. It has values that are beneficial to the community.

METHODOLOGY

This research used qualitative approach. The qualitative research in this study supports to see and identify how the preservation of indigenous knowledge about disasters exists in the communities.

This research used observation and simple document analysis. The type of observation, which was selected, is a non-participant observation. Non-participant observation is an observation in which the researcher just doing observe without interacting with all activities carried out by the research object (Williams, 2008). This non-participant observation was conducted in October 2018, where the researchers observe places or areas where how land was used in accordance or otherwise with the proverb.

The data that was obtained from documents was collected through reference material such as newspapers, book, previous studies, and from other documents on the internet. They were examined for information about local wisdom in the Minangkabau and Mentawai tribes. The data was taken from trusted online newspapers in Indonesia. The validity of the site was checked through the list of verified media through dewanpers.or.id. *Dewan Pers* or The Press Council is an independent institution in Indonesia that has legal force under Law No. 40 of 1999 (Undang-Undang No. 40 Tahun 1999).

The book were obtained from the collection of the National Library Of Indonesia and UI Library. The data from previous studies were taken from some publication. The previous studies were obtained from e-journal of Universities such as study about the local wisdom that integrated with the geography subject at school, and also a study taken from the seminar proceeding about disaster research TDMRC-Syiah Kuala University, Aceh, Indonesia. They also available online in the internet. The various documents were examines for information about local knowledge and disaster occurrence or management. Other site sources were sites managed officially by the government, and in cooperation with the government. All documented data and observations connected and support this research. Therefore these data is considered valid as sources.

DISCUSSION

The Mentawai Island is separated from the island of Sumatera by the Mentawai Strait. It is inhabited by a tribe called Mentawai Tribe. Its oral tradition appealed to the people to live in a high altitude, the watershed area, with livelihoods as cultivators. However, due to government policy in the old order era forced them to move to the shore (Suprapto, 2018). This policy must be followed that made many society live in the coastal area that automatically change their livelihood to be angler. It was noted that during the earthquakes and tsunami that occurred on October 25, 2010, swept more than 20 villages, with 448 bands and 100 people declared missing (Muhari, 2016). It is unfortunate that public aware with the value of this local wisdom after a disaster occurs.

From a research conducted after Tsunami 2010 in Mentawai, it was found that the rural spatial layout in one of villages in the Mentawai Islands, Sabeugunggung, located only 20 meters from the shoreline and far from the highland. At the time of the Tsunami, it was difficult to escape. This study also examined people's knowledge about tsunami. It was found that 40% know about Tsunami, 32.31% did not know until it happened, and 27.69% having heard about but did not understand (Syamsidik,et.al, 2011)

Mentawai also has a song titled "*Teteu Amusiat Loga*" This song is often sung by Mentawai children as a song accompanying game without knowing the meaning of this song, even the adults also did not understand the meaning of this song before it was explored (Viva, 2010). This song is actually an early warning system for the community, because there are signs of earthquakes.

Here are the *Teteu Amusiat Loga* lyrics;

> *Teteu* (Grandfather of the earthquake)
> *Teteu Amusiat Loga* (Grandfather of the Earthquake, the Screaming Squirrel)
> *Tetu Katinambu Leleu* (Grandfather of the Earthquake, roar coming from above the hills)
> *Teteu girisit nyau'nyau* (Grandfather of the Earthquake, there are landslides and destruction)
> *Amagolu 'teteu tai pelebuk* (grandfather of the earthquake, from the spirit of sea shells being angry)
> *Aratodeake baikona* (Because the tree has been cut down)
> *Pai-pai gou'gou shrine* (swaying chicken)
> *Lei-lei gou'gou* (chickens are running around)
> *Barasita teteu* (because there the earthquake has come over there)
> *Lalaklak paguru sailet* (people are running around)

Teteu or the ruler's grandfather, interpreted as an earthquake, the Mentawai local community believe that *Teteu* is a local ruler and if the ruler is angry, earthquake and tsunami will happen. It is also mention the signs of the earthquake from the behavior of squirrels and chickens. Not only as a sign of an earthquake, this song also intended as advise the community to maintain the balance of nature to avoid disasters (VIVA, 2010).

The Minangkabau Tribe - Minangkabau community has thousands of messages and advices called the *pepatah* (proverb). They hold a philosophy of life called "*Alam Takambang Jadi Guru* (the nature as its teacher)". This philosophy implies that nature and the environment around humans can be exploited as life lessons for the future. Ancestors read natural signs and implement them in life. This philosophy was developed into various forms of customs, culture, and traditions of local communities. The Minangkabau community believes that by studying nature and the environment well will provide good benefits for humans.

Not only earthquakes, other disasters such as floods and landslides are also the concerns, especially when the rainy season comes. The local wisdom of the Minangkabau ancestors is conveyed into the saying:

> *Nan lurah tanami bambu* (chasm planted with bamboo trees)
> *Nan lereang tanami tabu* (slope area planted with sugar cane)
> *Nan padek kaparumahan* (solid land for housing)

Nan gurun buek ka parak (dry / barren land for plantations)
Nan bancah dibuek sawah (watery soil for rice fields)
Nan munggu ka pakuburan (small hill for burial)
Nan gauang ka tabek ikan (clay ground for fishpond)
Nan padang kapaimpauan (large area for shepherds)
Nan Lambah kubangan kabau (valley for farm / buffalo puddle)
Nan rawang payo kaparanangan itiak (swamp area where ducks are raised)
Sources : (Aliman, 2017) and (Damsar and Indrayani, 2016)

Minangkabau ancestors have given messages about land management. This knowledge is transferred from generation to generation verbally through the proverb. The meaning of the proverbs implies that humans should not be greedy in using nature. One example *Nan lurah tanami bambu* (chasm planted with bamboo trees). Bamboo has strong and sturdy roots that can be a shield against landslides. *Nan padek kaparumahan* (solid land for housing), areas that have dense land will be very suitable for residential areas. The 2009 earthquake in West Sumatera caused many houses and buildings being destroyed. One reason is that the construction of housing on land that has an unstable, soft, and not dense soil structure (Aliman, 2017). Lots of land clearing for housing development was currently paying less attention to these natural aspects, so that many housing were built in swamp areas, rice fields, flood areas etc.

Rumah Gadang **and** ***Rangkiang*** **as Local Wisdom**

Rumah Gadang is not just a symbol or a large house. However, it is a reflection of the maternal system contains the values of togetherness, cooperation and democracy. It shows the identity of the people (Syafwan, 2016). *Rumah Gadang* is a tangible cultural heritage of the *Minangkabau* people that contains philosophical values. *Rumah Gadang* was built with through preparation from the start of planning, site selection, space arrangement, and selection of building materials. The existence has begun to be rarely found in West Sumatera. Modern society tends to build concrete houses with modern architecture. The cost for build a *Rumah Gadang*, the difficulty of the material sources, and the difficulty of workers who are able to build a proper *Rumah Gadang*, are the factors of the existence (bpcbsumbar, 2017). The rarer the existence of *Rumah Gadang*, the less knowledge and expertise to build this house.

Rumah Gadang was proven tough for the earthquake because the construction has a strong and solidity against earthquake up to 8 Richter scale. The design of the *Rumah Gadang* is made of wood resembling a boat with two platforms on the right and left. The pavilion is made without support poles, so that this makes the wooden frame get a load downward making the frame of this house stand firm. The *Rumah Gadang* does not use any nails as a binder, only pegs so that the pegs always adjust when earthquake occurs. The building's feet do not step on the earth, but uses stones on the base. The function is as a vibration wave damper from the ground. One proof of the resilience of *Rumah Gadang* to the earthquake is the Adityawarman Museum in Padang. This *Rumah Gadang* was built in 1974. Even if the earthquake had been rocked the area of West Sumatera, there was no damage to this building (Novio, 2012).

The existence of this *Rankiang* is in line with the existence of a *Rumah Gadang. Rangkiang* is a building located in the courtyard of the *Rumah Gadang*. In the past, *Rangkiang* was a symbol of the socio-economic status of the people who owned the building. The function is as a rice storage barn. *Rangkiang* has various forms and functions. There are 4 types of *Rangkiang*; The first is *Sitinjau Lauik*, which is a barn for buying household needs. Its slim shape stands on four pillars. Second is *Sibayau-bayau* that is a barn used for daily meals. The shape of this building is large. Third is *Sitenggang Lapa*, which is barn that will be used in the peak season times. Fourth is *Rangkiang Kaciak*, which is barn to store seeds and the cost of working on rice fields. The building shape is smaller and lower (Navis, 1984). Between the cages, it is allowed to build some additional *Rankiang* until the number of them become seven pieces (Soeroto, 2005). It is *Rangkiang Sitenggang Lapa* that has functions as a food source during the cyclic in the rainy and dry seasons or during disasters. The concept of *Rankiang Sitenggang Lapa* is similar for disaster mitigation (Adri, n.d.).

Nowadays, a similar building concept is also found in Svalbard Islands, Norway was named Svalbard Global Seed Vault in anticipation of the disaster. This dome has function as the seed dome (Adri, n.d.). In Indonesia, the concept of *Rangkiang* is similar to Community Food Barn (*LPM*). This government concept was successfully considered in realizing resilience to the community in the disaster suffer area. Since 2009, the development of the Community Food Barn in the Food Security Agency (*Badan Ketahanan Pangan*) has begun to be implemented and strengthened by Law number 18 of 2012 (*Undang-undang No 18 Tahun 2012*) concerning food. The Government establishes National Food Reserves *("Pengembangan Lumbung Pangan Masyarakat - Badan Ketahanan Pangan*," n.d.)

The Role of Library in Managing Indigenous Knowledge

Library as an institution that manages the information is hoped to be a strategic place to society in getting information. In Indonesia, every region has at least one public library. These libraries have local content collections that serve certain community. The Local collection contains local wisdom, local knowledge, and cultures. Library also needs to do documentation for capture local wisdom because some of them spread orally. Disseminating thus information to the society is the main target. Library could hold some community discussion by providing the local contents and making them practice that local wisdom.

Library has librarians as electors, organizers, and information disseminators. Local content, which is a cultural inheritance owned by a certain area, must have historical value and certain cultural values. Librarians should play an active role in documenting to disseminate it to be consumed and preserved by the community. This is a treasure trove of cultural information that can later be used as a story and lesson for the cultural region.

A Library manages the local content. This collection is socialized to the public without exception. The library can open cultural classes free of charge for the community. The library can hold traditional art and cultural performances. The communication process in the activities will influence everyone involved. Beside as entertainment, they have meanings. Art performances can be in the form of traditional dance, music performances, and theater performances of regional folklore come with the delivery of meanings from each art performances. The library can serve screenings of films or videos that contain local content regularly. Therefore, the function of library is needed in managing indigenous knowledge.

CONCLUSION

An understanding of the knowledge and appropriate practice must complement transfer of knowledge. This implies the knowledge is well applied and not just a mere talk. The ancestors have created a variety of valuable local wisdom that is able to prepare disaster resilient communities, long before science developed disaster mitigation practices. These two tribes in West Sumatera – The Minangkabau and the Mentawai – are evidence of it. Both have their own traditions and cultural practices. The Mentawai tribe has *Teteu Amusiat Loga* song, as earthquake warnings, and oral traditions about safe living areas whereas Minangkabau people also have proverbs about the management of land, houses and building as a form of disaster mitigation.

Cultural traditions that are considered unique and its characteristic of a community, implied messages from ancestors in safeguarding the next generation. It is unfortunate that the existence of that local wisdom is fading in society. Their ignorance of the meaning of the song *Teteu Amusiat Loga* that is often used as a daily song causes them to be unaware of earthquake. Communities also should not be greedy in using nature. Proper land management can avoid disaster risk. Learning from the local wisdom of both tribes can reduce the impact of the disaster and become a resilient community. In life nowadays, library can play a role in the acquisition, management and dissemination of this knowledge to society since it is the closest lifelong learning institution.

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Relational analysis of the usability features of the university library websites

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ABSTRACT
This study has examined a relational analysis of the usability features of university library Websites in Nigeria. Through a survey design, a sample of 187 undergraduate year LIS students enrolled in a course on Web Design and management participated in the study. The findings from the study revealed among others that usability of a university library website is premise on factors such as Navigation, Interface Design, Page Layout, Information Architecture, Graphics, Typography, Colour Attractiveness, and Interactivity. This study has demonstrated that the combination of the eight variables explain 52.3% of the variance in usability features of university library websites. These results show that navigation of library website contributed mostly to the prediction of LIS students' usability perception of university library website, followed by interface design, page layout, information architecture, graphics, typography, Colour attraction, and interactivity. Though the findings may not be applicable to other university library websites but this depend on the experience of the users. The results call for formidable efforts to improve the users experience on the web, because usability perception counts and it is considered to be key when talking about revitalizing the library through library Websites. Similarly, the designers of university library websites are encouraged to work more on the interface design, page layout and information architecture as all of them return lower correlation with the usability of library website.

Keywords: Website; Library Website; Usability feature; Usefulness; Relational analysis; University; Nigeria.

INTRODUCTION

A useful Website is the type that has a great number of hits on a daily basis. It is the type that users Visitation to such Website can never be compromised based on the perception of its usefulness by the users. Through the creation of a Website, universities libraries both in the developed and developing countries are putting up frantic efforts to make sure that they are visible and accessible to the world. University libraries as academic libraries are doing this to improve the general visibility of their parent organization and eventually improving their web ranking (Tella, 2019).Universities are expected to develop a well-organized, easily navigable, and aesthetically appealing Website to optimize user experience and keep its constituents well informed (Lau, 2015).

Through the library, the intellectual property of the university can be improved. This implies that university depends on the library collections for the provision of information materials for learning, teaching and research. The university Website is now being refers to method through which university communicate with various stakeholders such as students, lecturers, researchers, administrative staff and visitors. Universities also use their Websites as a way to shape their image in terms of improving their feasibility and web presence in line with global practice. It is on this note that Margolin et al. (2013) emphasized that websites can serve as a low-cost resource to provide accurate information that can enhance student's knowledge of college. Universities need to do everything within their purview to safeguard positive images with their various constituents, and one way to do this is to make use of the opportunities of Website presents (Mentes & Turan, 2012).

University library provides services such as charging and discharging of books, help desk, reference queries, placing books on hold for charging out at a specified time, reprography, reading room, computers and other information materials are also available in the library for patronage particularly by the undergraduate students. Due to the trend in the creation and development of Websites by universities, resources in the libraries are now accessible through the university library Website Therefore, library is very essential in the university system and likewise it is assumed that the perception of the usefulness of the of the Website of a university will lead to its patronage by intended users (Liu et al. 2017, 2018). Low patronage of university library is considered a waste of investment on resource provision and availability. There is a need to examine patronage in the university libraries as this will enable the determinant of how useful it is by the users. Agboola and Bamigboye (2011) reported that patronage is an important measure of output of services provided by libraries. Onuoha and Subair (2013) also reported that examining library patronage should be one of the major concerns in the libraries. They stated further that the purpose of evaluating library patronage is to gather information on how libraries are accomplishing their objectives, with a view to improving the delivery of library services and also for effective planning and management in the university libraries. The same is applicable to the Website of a university library. Incessant visit to Website can be related to the perception of the usefulness of such Website. Usability of a web site has assumed a great deal of importance in terms of satisfying web site users' needs and expectations.

As observed from the literature and as reflected above, the issue of usability of library Website is very vital. Usability has assumed a great importance in terms of meeting Website users' information needs and expectations (Jiang, 2016).Usability has been a popular theme that is extensively studied in the field of human-computer interaction (HCI) (Shneiderman, 1998). It is on this note that Aldwyn (2011) argues that usability is a requirement to survive in internet environment. Similarly, Nielsen (2000) argues that usability is an extremely important aspect of individual Website and overall website design. The author concludes that web design must directly face users' with the specific needs, and must make sure that users are pleasant to successfully complete tasks on the Web (Yan & Guo, 2010).

Another observation from the literature is the revelation that the number of studies on usability of university Websites is currently lacking or very limited in the context of creation and development of University Website or university library Website globally, in Africa generally and Nigeria specifically. There are some of the recent studies on usability of university Websites. For instance in Europe, Caglar and Mentes (2012) which reveals dissatisfaction and other usability problems of Website of the University of Lefke which is located at Northern Cyprus. Another similar study was conducted by Eksioglu et. al, (2011) which aims to assess the Website usability of Industrial Engineering Department of Bogazici University and reveals some design issues regarding the department's Website. The study by Sengel and Oncu (2010) which assessed the usability of Uludag University Website concluded that there are differences between the responses of males and females on the usability of the university Website. In Malaysia, Dominic and Jati (2010) studied the usability of Malaysian universities Websites and reported that most of Malaysian Universities are neglecting performance and quality criteria. Furthermore in Turkey, Mentes and Turan (2012) explored the usability level of Namık Kemal University (NKU) Website and provide guidance on the development of better and more usable Websites. Their results revealed that five factors positively and significantly affect the Website usability perceptions of NKU members; and those demographic factors such as gender and web experience, significantly impact on usability perceptions of individual users. In addition, Lau (2015) analysed the navigational efficiency, organizational content, and user satisfaction for UH Manoa's Office of the Registrar Website of the University of Hawaii Based on feedback from the respondents, the author reported that users favored aesthetically appealing Webpages that incorporated eye-catching pictures and graphics, simplified information, menu-bars, easily accessible links, and downloadable forms. Anecdotal feedback gained from frustrated customers also revealed the lack of information, difficulty navigating the Website, outdated aesthetic features, and more. In China, Joo, Lin and Lu (2011) developed a usability evaluation model and associated survey tool in the context of academic libraries. This study not only proposed a usability evaluation model but also a practical survey tool tailored to academic library websites. The results revealed eighteen measurement items to survey the three constructs of usability- effectiveness, efficiency, and learn ability, in academic library Websites. The evaluation tool was then validated with regard to data distribution, reliability, and validity. The empirical examination based on 147 actual user responses proved the survey evaluation tool is acceptable in assessing academic library Website usability.

Many efforts are now being put up by academic libraries to make it more usable and thereby revitalising the library. The creation and development of library website is vital and considered the most important effort on which other efforts of revitalizing the library are associated. Mention can also be made of the addition of some Web 2.0 features, social media presence such as on Facebook, Twitter, YouTUbe, Instagram, Linkdl, etc. Also inclusive is the addition of electronic databases where users can download information relating to their discipline including EBSCO-Host, Agora, Hinari, Google Scholar, ResearchGate, Medline, Agricola, etc. A redundant library website is not considered usable by the library patrons. Efforts to make library more usable make libraries the world over to think about the issue of revitalization. Libraries have realized the fact that their services and materials need revitalising because the world of information is both dynamic and changing. Libraries play a crucial role in information and education, as well as being a focal point in society. On this note, it is particularly important that the library is accessible and usable to all the different groups within the larger community.

The above synopses of related studies confirm that limited or no studies available from Africa and Nigeria in particular that focused on usability of university library Websites. Therefore, this study examined through a relational analysis of the usability features of university library features in Nigeria. The study would be of greater value based on its examination of the usability features such as navigation, interface designs, page layouts, information architecture, graphics, typography, color, interactivity and how all these relate to the goal of the university library websites which ought to be the provision of easy access to information. Relating these issues with the perception of usefulness among the users would be of great value to the libraries as they would get to appreciate how their Website designs and information architectures impact on the usefulness of their Websites. The study would then proceed to advise on appropriate designs and architecture based on the findings as well as by reviewing university library Websites that can be considered to be properly designed from a technical point of view.

OBJECTIVES

The main objective of the study was to examine a relational analysis of the usability features of university library features in Nigeria. The specific objectives of the study were to:

1. Determine the relationship between university Website usability and perception of it navigation.
2. Determine the relationship between university Website usability and perception of its interface design.
3. Establish the relationship between university Website usability and perception of the page layout.
4. Determine the relationship between university Website usability and perception of its information architecture.
5. Examine the relationship between university Website usability and perception of its graphics.
6. Investigate the relationship between university Website usability and perception of its typography.
7. Establish the relationship between university Website usability and perception of colour attraction.
8. Determine the relationship between university Website usability and perception of its interactivity.

STATEMENT OF HYPOTHESES

To achieve the objectives of this study, the following hypotheses were tested for significance at 0.05 alpha level.

1. There is no significant the relationship between university Website usability and perception of it navigation.
2. There is no significant relationship between university Website usability and perception of its interface design.

3. There is no significant relationship between university Website usability and perception of the page layout.
4. There is no significant relationship between university Website usability and perception of its information architecture.
5. There is no significant relationship between university Website usability and perception of its graphics.
6. There is no significant relationship between university Website usability and perception of its typography.
7. There is no significant relationship between university Website usability and perception of colour attraction.

There is no significant relationship between university Website usability and perception of its interactivity. The figure 1 represents the conceptual model in this study.

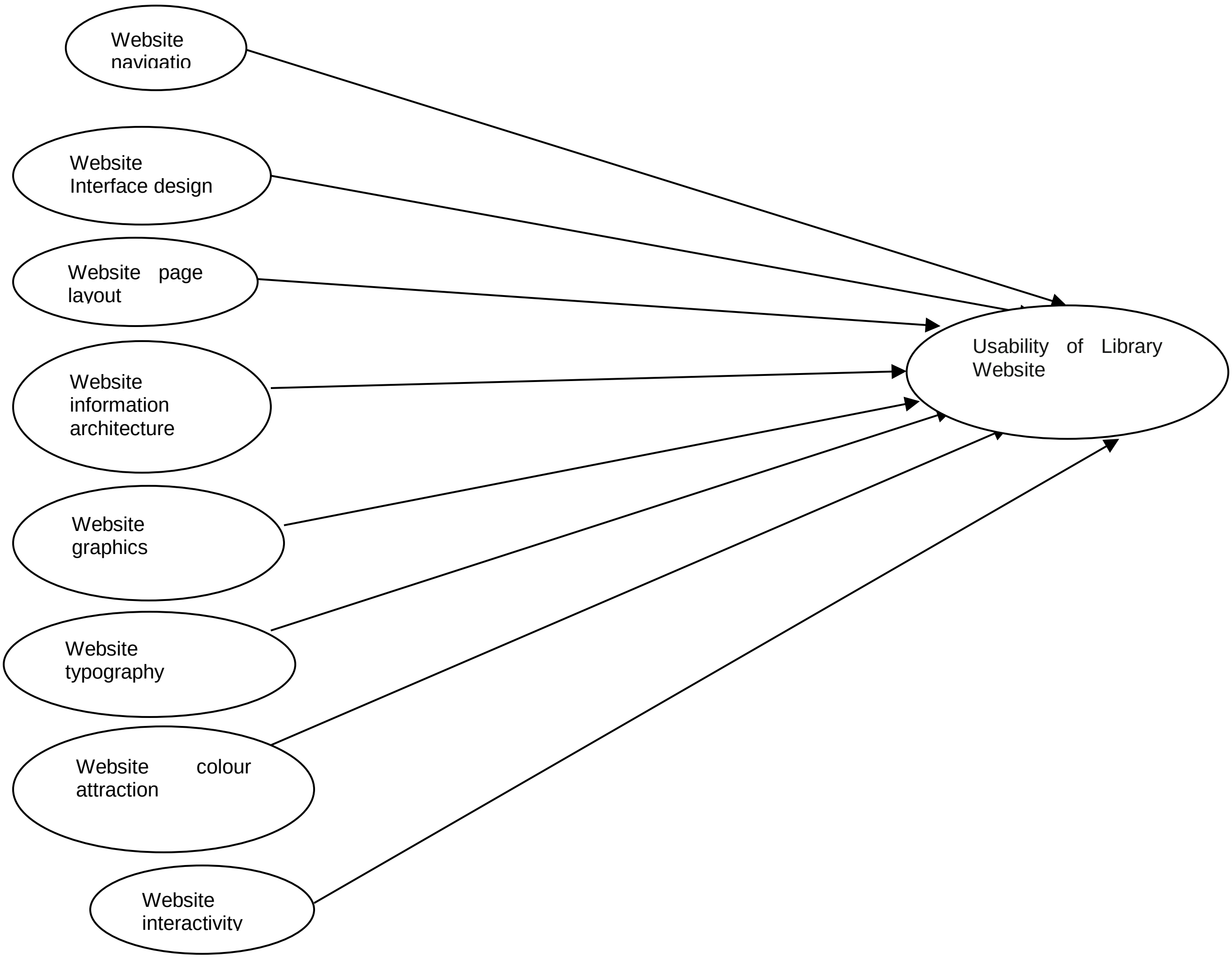

Figure 1: Conceptual Model of Library Website Usability

LITERATURE REVIEW

A technology's capability to be used easily and effectively by the specified range of users, given specified training and user support, to fulfill the specified range of tasks, within the specified range of environmental scenarios referred to the usability of that technology."Usability is measured of in which a system can be learned and used, its safety, effectiveness and efficiency and the attitude of its users towards it (Preece, 1994:15)." According to Zaphiris and Darin (2001),it is assumed that anyone using any kind of Web browsing technology must be able to visit any site and get a complete understanding of the information, as well as have the full and complete ability to interact with the site if that is necessary. Based on that perspective, usability refers to terms such as ease of use and ease of learning that implied providing users with systems requiring minimum cognitive and physical effort to accomplish users' needs and expectations (Sindhuja & Surajith, 2009).

Powell (2000) argued that Website usability is the extent to which a site can be used by specified group of users to achieve specified goals with effectiveness, efficiency, and satisfaction in a specified context of use. In other words, the Website usability is a test on the successfulness of Website's user in doing some task or finding information on the Website (Yusof et. al, 2010). Usability of the website plays a central role in establishing a healthy communication between the university and its stakeholders. From the extant literature, several metrics or features of determining usability of Websites have been identified. Most of these have been used to evaluate usability of general Websites such as corporate websites, online shopping websites, e-commerce websites. The uniqueness of this study has to do with the fact that the features identified were rarely used particularly to evaluate educational websites such as the university library websites. It is on this note that eight features were chosen in order to see how they can best determine the usefulness of the university library websites. The eight features are hereby discussed in turn as follows.

Usability: From the literature, usability is regarded as a key factor affecting quality perceptions. Though, it is not easy to define usability because it is affected by type of users and type of tasks. The concept of usability has been examined and understood in terms of ease of use. TAM (Technology Acceptance Model) proposes that ease of use and usefulness predict attitude toward that technology and usage of that technology (Davis, 1989).

A *critical*, but often overlooked component of a *successful website* is its degree of usability. Usability is a quality attribute that assesses how easy user interfaces are to use. The word 'usability' also refers to methods for improving ease-of-use during the design process (Azadbakht, & Blair, 2017). Similarly, usability can be defined as the capability of a technology (library Website) to be easily and effectively used by users to perform a wide range of tasks for specific purposes (Mentes & Turan, 2012). Usability has been well explained in MIS researches. Usable system must be compatible with users' cognitive skills in communication, understanding, memory, and problem solving (Benbunan-Fich 2001). Usability could be measured using five attributes: learnability, efficiency, memorability, low errors, and subjective satisfaction (Nielson 1996). Loiacono et al. (2002) consider two distinct aspects of ease of use when it is applied to Web: ease of understanding and ease of navigation. On the commercial Website, most users' main purpose of visiting Website is to purchase products/services, while on the educational Website such as university library Website, the main purpose of users visiting the Website might be for getting needed information. Therefore, usability of the Website should be understood in terms of not only user application but also transaction system. University library Website should make it easier for users to work their tasks, understand and read the information, and easy to order and access information materials from the library. Thus, we consider easy to use, usefulness, navigation, colour attraction, page layout and others as features of Website's usability. This is the criterion feature/variable in this study.

Navigation: Websites are great resources that allow users to access information at the touch of their fingertips (Lau, 2015). As such, it is crucial to ensure that Web links to important materials or forms are available and easy to find (John Hopkins University, 2018; McMillen & Pehrsson, 2009). In addition to creating easy navigational links, a Website should attempt to resolve to be simple in the organization of content on various services web pages, adding additional eye appealing graphics/pictures, incorporating necessary information for users, and eliminating unnecessary text heavy content. In the study titled *Study of the Usability of University Registrar's Office Website*, it was determined that minor changes in redesigning drop down menus and web banners increased user experience exponentially (Tuzun et al., 2013). This is especially true for a university library website that is frequently used by the registered users of the university. Thus, it is hypothesised in this study that:

1. There would be no significant the relationship between university Website usability and perception of it navigation.

Interface designs: Perception of user interfaces has become a topic of major interest in human computer interaction (Bargas-Avila & Hornb, 2011). User Interface (UI) Design focuses on anticipating what users might need to do and ensuring that the interface has elements that are easy to access, understand, and use to facilitate those actions. UI brings together concepts from interaction design, visual design, and information architecture (US Department of Health and Human Services, 2019). Interface design components of a website are significant to consider when designing a user-friendly, eye appealing, and successful web interface (Nilsson, 2017). Studies have shown that elements of background contrast, screen layout, color palette, and grouped items all can have a positive effect on usability (**Renee-**Garett**,** Chiu**,** **Ly,** Zhang, &Young**,** (2016; Foley, 2011). On the Web, users control the progress of their navigation through the pages. Internet sites need to support *user-controlled navigation* and help them manage large amounts of information. Additional elements such as pictures and graphics can also influence a product's appearance. Therefore, it hypothesised that:

2. There would be no significant relationship between university Website usability and perception of its interface design.

Page layouts: Web pages need to be designed to users who come from *different platform* such as small or big screen, slow modem or broadband and 'Explore' or 'Netscape' (Song & Sinkhan, 2003). Web page is more independent than print publication in terms of going directly to the specific information without reading preface. Therefore, *Web writing* should be hypertext link, clear, concise, and complete enough to inform consumers properly of contents (Anderson, 2018). Most powerful technology of visual communication is *multimedia technology* combining text, graphics, sounds, and moving images to supplement the consumers' shopping experience. Thus is it hypothesized that:

3. There would be no significant the relationship between university Website usability and perception of it page layout.

Information architecture: The Internet can be a convenient place for potential consumers to gather information. Thus, Information access is key features of Website design. Consumers seek general information, product/service information, customer support information, customer service information (Breschi, 2018; Aladwani and Palvia 2002), complete information on particular products, and information to compare across alternatives (Ranganaghan and Ganapathy 2002). On the Internet, consumers do not have an opportunity to feel or touch the product or talk with sales people. Therefore, if they have unusual questions, they will leave the Website and visit other sites. Thus, it hypothesized that:

4. There would be no significant the relationship between university Website usability and perception of it information architecture.

Graphics: Inappropriate graphic designs may become distracting to users (Loh & Williams, 2002). This implies that graphics is an important metric of Website usability. Tan and Wei (2006), and Rao (2018) suggested that the graphical representations such as icons, colors, images and animations, give website a higher attractiveness. This could improve the degree of usability with the website (Zhang et. al, 2000). Thus, this study hypothesised that:

5. There is no significant relationship between university Website usability and perception of its graphics.

Typography:

6. There would be no significant the relationship between university Website usability and perception of it typography.

Colour attraction: From the literature, attractiveness is one of the key factors to a successful website (Khanna, 2018; Liu & Arnett, 2000). The best way to keep visitors glued to a site is through valuable content, good organization and attractive design (De-Souza, 2018). Attractiveness is the capability of the software product to be attractive to the user (e.g., through use of color or graphic design; ISO/IEC 9126-1, 2001). Website with good colour attraction are visually pleasant, and appeal the interest of the users, whether it is functionality or information. Tan and Wei (2006) argue that the appearance of a website is a crucial factor that improves the perception of information in order for subjects to perform better cognitive mapping and assessment of decisions for execution. Wide agreement exists concerning the unique effect of colors and their composition on aesthetic appraisal in general (Jennatha & Nidhish, 2016; Kawabata and Zeki, 2004; Solso, 2003) and with respect to the design of websites in particular (Cyr et al., 2010; Moshagen et al., 2009). Hence, it is hypothesised that:

7. There would be no significant relationship between university Website usability and perception of colour attraction.

Interactivity: Vernuccio et al.'s (2015) referred to Website interactivity as a communication process that presents Web user control and permits them to communicate with the service provider and other users. Website interactivity is a critical component in creating strong brands (Voorveld et al. 2013), a central aspect of technology-mediated communication. Therefore, website interactivity is a theoretical concept that deals with the basis of engagement and attraction that can be interpreted as a natural characteristic in technology-mediated communication (TMC) and human computer interaction (HCI) (Zeng, Tao, Yang & Tie, 2017; Chen & Yen 2004). As postulated by Jiang et al (2010, 2016), when purchasing online, consumers are involved in two vital elements of Website interactivity to acquire vital information of a product/service and to complete a purchase, specifically (1) system interactivity and (2) social interactivity. Therefore, it assumed in this study that usability of a university library Website could be determine by the perception of its interactivity. Hence, it is hypothesised that:

8. There would be no significant relationship between university Website usability and perception of its interactivity.

RESEARCH DESIGN

The study adopted a survey method. Survey is commonly used in LIS/information system research to collect self-report data from study participants. A survey may focus on factual information about individuals, or it might aim to collect the opinions of the survey takers. Survey design was considered appropriate in this study because, it gives room for the researcher to cover a substantial percentage of respondents (students) in the universities/departments that were covered in the study. Survey design method was adopted because it has been prominently used in previous related studies (Tella, 2019, Jiang et al. 2016; Voorveld et al. 2013).

Area of the study

The study covered two departments from two universities in Kwara State Nigeria: Department of Library and Information Science at the University of Ilorin; and Department of Library and Information Science, Kwara State University Malete, Ilorin. These two departments from the two universities were selected because the researcher is currently in charge of teaching the course Web Design and Management in one and an adjunct lecturer in the other. This course is a two-credit unit that enable the students to acquire the knowledge to design a stand out Website, the processes involved in creating it and the most cost-effective ways of maintaining and developing it, identifying what makes a successful Website, and able to recognise, discuss and critique the individual elements of a Website, planning a successful Website design/development project, etc.

Population of the study

The population of the study included all year 4 undergraduate students in the two departments mentioned above. Students from the year 4 of study were selected because they have completed the course on Web Design and Management assuming that they are the best respondents that understand the contents of this research and can respond to the items in the instrument for the data collection. The total enumerative method was adopted. This was due to the small size of the sample of students in the participating departments. Total enumeration or census survey is a study of every unit, everyone, or everything, in a population. It is known as a total enumeration, which means a complete count. According to Babbie (2013), if a study population is small and less in number; it may be preferable to do a census of everyone in the population, rather than a sample. A census is attractive for small populations necessary for given combinations of precision, confidence levels, and variability (Kothari 2013; Creswell 2014). This approach has a high level of accuracy and provides a complete statistical coverage over space and time. In other words, the researcher sampled all the 187 undergraduates' year 4 students from the two departments covered in the study. This represents the sample for the study (See Table 1).

Table 1: Demographic distribution of respondents

Demographics	Frequency	Percent %
Gender Male	100	53.5
Female	87	45.5
Total	187	100
Age		
21-25 years	155	82.9
26-30 years	26	13.9
31-35 years	6	3.2
36 years +	0	0
Total	187	100.0
Institution		
LIS Department Uni. Of Ilorin	85	45.5
LIS Department, KWASU.	102	55.5
Total	187	100.0

Research instrument

The research instrument used for data collection in the study was questionnaire whose items were adapted from various previous related studies. This was used to gather data from the respondents. It was a closed ended type divided into two sections. Section1focused on demographic characteristics of the respondents. Section two is sub-divided into parts I-VIII with each section targeted at capturing data on the features focused in the study: navigation, interface designs, page layouts, information architecture, graphics, typography, color, interactivity. The section on Usability contains five items adapted from The Standardized User Experience Percentile Rank Questionnaire (SUPR-Q) by Jeff Sauro 2015. The section on Navigation also comprises of five items which were adapted from the same The Standardized User Experience Percentile Rank Questionnaire (SUPR-Q) by Jeff Sauro 2015; while the five items on interface design were adapted from (Thielsch and Moshagen (2015) Visual Aesthetics of Websites Inventory and Song and Zinkhan (2003) features of web site design, perceptions of web site quality, and patronage behavior. The five item son page layout was adapted from. The five items on information architecture, the five Items on graphics and the five items on typography were all developed and informed by the literature. The five items on colour attraction were adapted from The Standardized User Experience Percentile Rank Questionnaire (SUPR-Q) by Jeff Sauro 2015. The eight items on Website interactivity were adapted from 18 items measure of perceived interactivity by McMillan and Hwang (2002). The entire 45 items in the questionnaire were measured on a five-point Liker type scale (from 5, strongly agree to 1, strongly disagree).

Validity and reliability of the instrument

To ensure the validity of the instrument used in the study, it was given to two experts whose research areas include information systems evaluation. The comments and suggestions led to the modification of the instrument thereby authenticating its face and content validity. The reliability of the instrument used was ensured through a test-re-test reliability method of two weeks interval. The responses collected were subjected to Cronbach Alpha. The Coefficient alpha reliability for each of the sub-scale of the questionnaire are as follows: Usability (5 items) r = 0.98; Website navigation (5 items) r = 0.83, Website interface design (5 items) r = 0.95;Website page layout (5 items) r = 0.91; Website information architecture (5 items) r = 0.95; Website graphics (5 items) r = 0.96; Website typography (5 items) r = 0.92;Website colour attraction (5 items) r = 0.93; and Website interactivity (5items) r = 0.93. The overall reliability co-efficient of the whole 45 items instrument returned an r = 0.93 Cronbach alpha. This high reliability confirmed the adequacy of the instrument for data collection in the study.

Table 2: Instrument Reliability Co-efficients

Sub-scale	Reliability Co-efficients
Usability	0.98
Website navigation	0.83
Website interface design	0.95
Website page layout	0.91
Website information architecture	0.95
Website graphics	0.96
Website typography	0.92
Website colour attraction	0.93
Website interactivity	0.93
Overall Reliability of the Instrument	0.93

Procedure for data collection

Prior to the administration of the instrument, the participants in this study i.e. the students from the two different universities had examined each other's' Website. They were given two weeks to navigate each other's university library Website and observe all that have been discussed in class. Thereafter, the copies of the questionnaire on Undergraduate Students' Perception of Usability Features with University Library Websites were administered. Respondents were given voluntary opportunity of participation in the study but eventually, none of them indicated intention to opt out because they found the exercise very interesting to them and they were all willing to associate with it. The instructions given to the respondents at the commencement of the administration made the exercise a very easy one. The exercise was carried out on two different occasions during lesson on Web design and management course (LIS 403) offered at the year 4 first semester undergraduate Bachelor Degree programme in LIS programmed. The data for the Department of Library and Information Science, University of Ilorin year 4 students and those of year 4 students in Kwara State University were captured during the first semester 2018/19 academic session. The entire population of undergraduate students in Year 4 taken LIS 403 (Web Design and Management) in the selected departments, were administered the questionnaire. All the 187 copies of the instrument were properly completed and useful for data analysis. This gives a 100% return rate.

Method of data analysis

Descriptive and inferential statistics including percentage, correlation and multiple regression analysis were used to analyze the data. Pearson correlation method was used to examine the relationships between the dependent variable (usability perception of university library website) with the independent variables – navigation, interface designs, page layouts, information architecture, graphics, typography, color, interactivity) while regression analysis was used to find out the contribution of the independent variables to the dependent variable. A statistical package for social sciences (SPSS) version 21.0 for Windows was used for the coding of the collected data.

RESULTS

Table 3 reveals that relationship exists between the overall Website usability score and the other usability related factors/features of University Library Website. The results show that navigation had the highest correlation with usability (r = 0.89). This is followed by interface design (r = 0.79). A correlation of other factors reveals page layout (r = 0.76), information architecture (r= 0.65), and graphics as having (r = 0.55), typography (r = 0.45), colour attraction (r = 0.33) while service quality had the lowest correlation with usability(r = 0.31). This suggests that all these factors/features correlate with library Website usability or usefulness of library Website.

Table 3: Descriptive and Inter-correlational Matrix among Website Usability Features

Features	**Mean.**	**Std Dev.**	**Usa.**	**Nav.**	**Int. De.**	**Page L.**	**In.Arc .**	**Graphics.**	**Typ.**	**C.A.**	**Inter.**
Usability	122.50	20.412	1.000								
Navigation	18.02	8.670	.890	1.000	.678	.921	.843	.544	.233	.344	.445
Interface designs	21.01	8.02	.789	.567	1.000	.831	.754	.654	.334	.551	.564
Page layouts	17.23	7.96	.756	.663	.637	1.000	.667	.566	.312	.223	.312
Information archi.	16.44	7.77	.645	.556	.456	.507	1.000	.518	.322	.213	.123
Graphics	15.34	7.21	.554	.506	.435	.447	.503	1.000	.316	.204	.108
Typography	12.02	7.04	.448	.500	.412	.433	.501	.327	1.000	.201	.102
Colour Attraction	11.80	6.78	.332	.488	.406	.411	.498	.307	.306	1.000	.100
Interactivity	10.04	5.02	.312	.443	.400	.401	.460	.300	.297	.190	1.000

NOTE: Navigation, Interface Design, Page Layout, Information Architecture, Graphics, Typography, Colour Attractiveness, Interactivity.

Nevertheless, the results reveal that some correlations are higher than others. Among the highest inter-correlations that are higher than 0.5 are navigation with page layout(r =0.92) and interface design with page layout (r = 0.83) and page layout with architectural design (r = 0.67). These high correlations are what should be expected, as users are likely to link navigation with page layout, interface design with page layout and page layout with architectural design.

The other similarly high inter-correlations (above 0.5) are between information architecture with navigation (r = 0.56), between graphics and navigation (r = 0.51), and typography and navigation (r = 0.50). A few other inter-correlations are very close to 0.5. Among these are: navigation and interactivity (r = 0.45) and with graphics and page layout (r = 0.45), and typography and page layout (0.43).

However, some factors had much lower inter-correlations with one another: colour attraction with interactivity(r = 0.10), typography with interactivity (r = 0.10), and graphics with interactivity (r = 0.11); information architecture with interactivity (r = 0.12), interactivity and colour attraction (r = 0.19), graphics and colour attraction (r = 0.20), information architecture and colour attraction (r =0.21), and interactivity with colour attraction (r =0.23). These results indicate that the students' perceptions and ratings of typography, colour attraction and interactivity were low, which probably also explains why these features are also weakly correlated with the usability as reflected on the table.

Model summary

Table 4: Regression of User Satisfaction on Blackboard system-relatedfactors (N = 503)

Multiple R	.832
R Square	.622
Adjusted R Square	.523
Std. Error of the Estimate	5.744
Log-likelihood Function Value	-1621.108

Table 4 presents the results of the regression of user satisfaction on the eight usability-related variables/features. The regression results show an adjusted R-square value of 0.523 Table 4, and an F-ratio of 27.763 Table 5, the latter of which is significant at 0.05 level (0.000 < 0.05). These results indicate that the eight independent variables (***Navigation, Interface Design, Page Layout, Information Architecture, Graphics, Typography, Colour Attractiveness, Interactivity***) jointly (as indicated by the R-square value) explained or predicted 52.3% of the variations in the usability/usefulness of university library Website. The prediction is also significant, as indicated by the F-ratio.

Table 5: ANOVA

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	14113.145	8	1.764.1431	27.763	.000
Residual	11374.270	179	63.543		
Total	25.4874.15	187			

Table 6: Coefficients

	Unstandardized Coefficients		Standardized Coefficients			
	B	Std. Error	Beta	Std. Error	T	Sig.
Usability (Constant)	-.898	.867		.057	-.991	.368
Navigation	.567	.082	.244	.051	8.22	.000
Interface designs	.465	.080	.226	.046	4.44	.000
Page layouts	.423	.068	.201	.041	5.32	.000
Information archi.	.341	.061	.198	.038	2.88	.000
Graphics	.311	.056	.182	.031	2.66	.000
Typography	.301	.048	.164	.027	2.15	.006
Color Attraction	.289	.037	.122	.022	2.11	.005
Interactivity	.211	.031	.118	.018	1.78	.001

Table 6 provides information on the individual contributions of each of the eight features in predicting usability or usefulness of university library Website. The results show, firstly, that each of the features makes significant contributions to the prediction (as indicated by the significance of the t values, which are less than 0.05, as shown in the rightmost column of the table.

Secondly, the standardised coefficients (Beta values) which indicate relative strength of each feature in the prediction of usability/usefulness of the library Website show that navigation contributed most to the prediction of usefulness/usability (Beta value = .244), followed in declining order of strength by interface design (Beta = .226), page layout (Beta = .201), information architecture (Beta = .198), graphics (Beta = .182), typography (Beta = .164), Colour attraction (Beta = 122), and interactivity (Beta = 118). These results imply that all the eight factors/features exert significant contribution to the prediction of university library Website usability/usefulness.

CONCLUSION

The results show that navigation had the highest correlation with usability followed by interface design. Correlation also exists among other factors such as page layout, information architecture, and graphics, typography, colour attraction; while service quality had the lowest correlation with usability. This suggests that all these factors/features correlate with library Website usability or usefulness of library Website. Navigation has been reported to be one of the important factors/variables measure Websites' usability (Tuzun et al., 2013). No wonder its highest correlation with Website usability in this current study. However, the similarity in the results of the two studies might be connected with similarity in the scale and settings where the studies were conducted.

The eight independent variables (Navigation, Interface Design, Page Layout, Information Architecture, Graphics, Typography, Colour Attractiveness, and Interactivity) jointly (as indicated by the R-square value) explained or predicted 52.3% of the variations in the usability/usefulness of university library Website. This is in agreement with Mentes and

Turan (2012) who revealed that five of the six factors (attractiveness, controllability, helpfulness, efficiency and learnability) in their study positively and significantly affect the website usability perceptions of NKU members. There is a similar scenario except that this study identified eight factors compare to Mentes and Turan six factors. In addition, only attractiveness is relevant to the factors in this study. This gives another impression that confirms that several factors are available to measure Websites' usability.

Navigation contributed most to the prediction of usefulness/usability followed in declining order of strength by interface design, page layout, information architecture, graphics, typography, Colour attraction, and interactivity. All the eight factors/features exert significant contribution to the prediction of university library Website usability/usefulness. As earlier indicated navigation is an important variable in measuring Website usually, therefore having the highest contribution to Website usability is not a coincidence.

This study has examined a relational analysis of the usability features of university library features in Nigeria. The study has revealed among others that usability of a university library website is premise on factors such as Navigation, Interface Design, Page Layout, Information Architecture, Graphics, Typography, Colour Attractiveness, and Interactivity. This study has demonstrated that the combination of the eight variables explain 52.3%of the variance in usability features of university library websites. These results show that navigation of library website contributed mostly to the prediction of LIS students' usability perception of university library website, followed by interface design, page layout, information architecture, graphics, typography, Colour attraction, and interactivity. Though the findings may not be applicable to other university library websites but this depend on the experience of the users. The results call for formidable efforts to improve the users experience on the web, because the usability perception counts as it is considered to be usually last long. Similarly, the designers of university library websites are encouraged to work more on the interface design, page layout and information architecture as all of them return lower correlation with the usability of library website.

From the findings of the study, it can be infer that improving the usability of library Website in part is one of the ways of revitalisng the library. Improving the interface design, page layout and information architecture and others are process of making the library Website usable. Revitalisng the library Website by way of improving its usability is considered laudable project that Universities the world over must pursue.

IMPLICATIONS

This usability study helped develop a well organized and aesthetically appealing library website increased user satisfaction, optimized user experience, and allowed individuals to independently access information with greater ease. Another benefit gained from this usability study included reducing the number of ask a librarian reference queries to work more efficiently. By enhancing this website, it is hoped that other University of in

Nigeria will soon follow in order to improve and enhance user web experiences to promote the University library as a whole.

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Role of Tacit Knowledge in Library Material Organization: Case Study on Librarians at Library Material Organization Division of National Library of Indonesia

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ABSTRACT
This article discusses a miscellany of things occurring in library material organization. Certainly, we realize that cataloguing librarian holds important role in library material organization process. In line with the process, to create a systematic and efficient work flow, Library Material Organization Division applies Standard Operational Procedure of Library Material Organization. Qualitative approach with case study method is used to find out cataloguing librarians' interpretation towards SOP. Through interview and observation, it is found that there is tacit knowledge owned and used by cataloguing librarian to help speed up completing their tasks. The tacit knowledge is very unique in its practice. Further research is required to determine appropriate method to explicit the tacit knowledge so as to be beneficial and used by other cataloguing librarians to complete their tasks.

Keywords: Tacit Knowledge; Cataloguing; Librarian; National Library of Indonesia

INTRODUCTION

As patron library, National Library has the task of providing correct examples of varied aspects in library management. One of it is library material organization aspect. Library material organization component is an activity of preparing document contextual metadata, arranging information object through document model, creating new document to provide special service, creating index, abstract, describing document and physical completeness of document so as to be ready to use by library users. Library material organization activity in general consists of descriptive cataloguing, subject cataloguing and post-cataloguing.

In his book titled The Librarian's Book of Lists (Chicago: ALA, 2010), George Eberhart stated that library should continuously adapts to changes, in order to be the backbone of information source provider and not be abandoned. So dynamic and abundant information current these days that it is a challenge in providing fast and accurate information. Therefore, it requires synergy from all components in a library, namely: collection development, library material organization, library service and library material preservation. All of those components should be available and each has its own main task and function in achieving the objectives in accordance with predetermined vision and mission.

Discussing how library users obtain information in a library, we are going to think of how a library material is organized. Library material organization holds an important role in the speed and accuracy of information search through catalogue. Catalogue is generated from cataloguing activity, in which librarian has important role in the process. Cataloguing activity has always been an interesting issue, in which librarian involvement is quite dominating in the process. Some librarians with different education, position, cultural backgrounds, characters cooperate in generating bibliographic information useful in information retrieval.

Formerly research on tacit knowledge in librarians, especially cataloguing librarians has never been done. The researcher also conducted a search of librarians in public libraries in other countries that used methods of processing library materials such as those conducted at the National Library of Indonesia. But the researchers could not find it.

In order working process to be uniform, library arranged Standard Operational Procedure whose aims is library material organization consistency and accuracy. Librarians are required to work according to predetermined SOP. Although SOP is readily available, it is necessary to find out if interpretation of every librarian towards SOP is the same? Is there any possibility that a librarian has tacit knowledge that he has been keeping for himself all this time? Such are the issues to be researched in this article.

This research aims to know the interpretation of librarian on cataloging library materials towards standard operational procedure. Despite of how they identify the implementation of tacit knowledge in its process.

LITERATURE REVIEW

Tacit knowledge

Knowledge is data and information combined with ability, intuition, experience, idea, motivation from competent sources (Nonaka and Takeuchi as cited in Dalkir, 2011). Meanwhile, according to tobing, knowledge is information having been analyzed so as to be understood and used to solve problem and make decision (Tobing, 2007:15).

According to Polanyi, knowledge is divided into two types (Polanyi as cited in Dalkir, 2011), namely:

1. Tacit knowledge is knowledge mostly stored in an organization. Tacit knowledge is something we know and experience but it is difficult to express clearly and completely. Tacit knowledge is difficult to be transferred to others because the

knowledge is stored in each individual's brain in an organization in line with their competence.

2. Explicit knowledge is knowledge and experience on 'how to' described straightforward and systematically. The example is a manual book on machine operation or explanation given by an instructor in a training programme.

Thus, organization should be skillful to transform tacit knowledge into explicit knowledge and back to tacit which can encourage innovation and development of new products. From the above statements, it can be concluded that knowledge is information having been analyzed which can be used as foundation to act, solve problem, make decision and to take certain direction or strategy.

Sharing knowledge is a reciprocal process in which individuals exchange knowledge (tacit and explicit knowledge) and together create new knowledge (solution) (Desouza, 2002). One of objectives of this definition is to provide and collect knowledge, in which providing knowledge by communicating knowledge to others about what someone has and collecting knowledge referring to consultation with co-workers by sharing information they have (Dalkir, 2011:24).

Tacit Knowledge Role in Work Environment

In ancient times, humans conveyed experience, work and anything they experienced to the next generation using verbal language. At the present time, especially at work, humans are more open in performing communication and sharing all the things about idea, experience and knowledge in their heads. All thoughts and knowledge within every human, or more often called as tacit knowledge can actually be organization power in its process to be a learning organization. Wagner and Sternberg (1987) as cited in Smith (2011) stated that the ability to obtain and process tacit knowledge is managerial success key. In other words, human resources and all their knowledge would be useless when organization cannot reach, select, transform, record and archive tacit knowledge potency. Tacit knowledge can be organization potency through conversion process known as knowledge creation process in an organization. Nonaka (1991) as cited in Smith (2011) explained patterns of knowledge creation:

1. From tacit to tacit – learning by means of observation, imitation and practice or socialization through specific ways to perform a particular task, such as concept of peer mentoring.
2. Explicit to explicit – combining pieces of explicit knowledge into one new knowledge, for example the use of data sources to arrange financial report.
3. From tacit to explicit – recording discussion, description and innovation in the form of manual, and using it to create new product. Conversion from tacit knowledge into explicit knowledge can be interpreted as process of expressing something which cannot be expressed (Stewart, 1997).
4. From explicit to tacit – reframing or interpreting explicit knowledge using someone's viewpoint so that the knowledge can be understood and internalized or accepted by other people.

It is necessary to be understood that every organization has different basis of knowledge and organization culture. Transfer of valuable information sometimes has implications in terms of time being used, passion and technology. Employees in an institution have to be stimulated and motivated to always perform communication and information transfer so that tacit knowledge can be utilized.

Library Material Organization Division (National Library of Indonesia)

National Library is a non-department governmental institution which performs governmental duties in library functioning as patron, reference, deposit, research, preservation library and centre of library network located in nation's capital (Act of Republic of Indonesia No. 43 of the year 2007).

As patron library, National Library has the task of providing correct examples of varied aspects in library management. Furthermore, in article 7 of Act of Republic of Indonesia No. 43 of the year 2007, it is mentioned that one of government's obligation is to increase quality and quantity of library collection. In the organizational structure of National Library of Indonesia, the task, one of which is carried out by Library Material Organization Division under the Deputy of Library Material and Information Service Development.

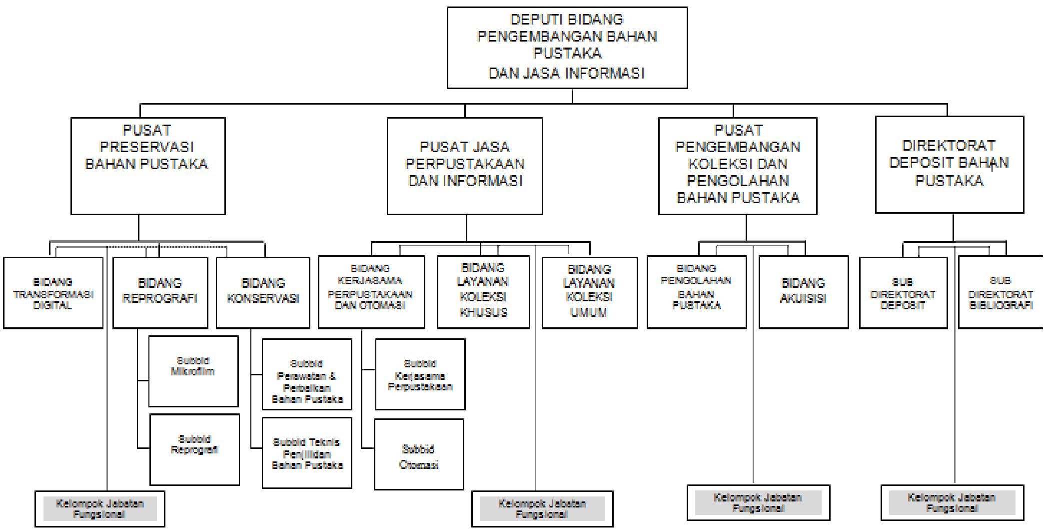

Figure 1: Organizational Structure of Deputy of Library Material and Information Service Development

In order to provide quality information for library users, Library Material Organization Division, as "the kitchen" of library, carries out library material organization in accordance with Decree of National of Library of Indonesia Director No. 3 of the year 2001 which performs the functions:

a. Library material cataloguing, classification and post-cataloguing;
b. Library material verification;
c. Data entry into database;

d. Arrangement, implementation and development of names, corporate body and subject headings.

Library Material Organization Division Librarians

Library Material Organization Division, in performing its functions, is inseparable from librarian's roles. Librarian is someone who has competence obtained from librarianship education and/or training as well as has the task and responsibility to perform library management and service (Act of Republic of Indonesia No. 43 of the year 2007).

Specifically, based on its responsibility and needs, Library Material Organization Division librarians can be called as Cataloguing Librarians.

> Cataloging librarianship is, at its heart, about service. Cataloging librarians provide customer service, through their work, to thousands of users who use library catalogs and databases on a daily basis, as well as supporting future library users. They create coherent catalogs, which enable a reliable search experience for users, many of whom use the catalog remotely without access to a librarian who can interpret results or respond to questions (American Library Association, July 25, 2007).

Cataloguing librarian has great responsibility in information retrieval process at library. Whether or not a collection is found in OPAC, is heavily depended on the catalogue quality itself. According to Sung, Myung Gi, there are ten important qualities to succeed in making catalogue (Sung, Myung Gi, 2013), namely Competence, Accuracy, Efficiency, Consistency, Adaptability, Judgment, Problem Solving, Commitment, Research Ability, Self-Discipline.

Standard Operational Procedure

In order library material organization process to be uniform, library arranges Library Material Organization Standard Operational Procedure. This SOP is arranged with the purpose of library material organization consistency and accuracy.

NO	KEGIATAN	PELAKSANA			MUTU BAKU			KETERANGAN
		KAPUS	KABID	PUSTAKAWAN	KELENGKAPAN	WAKTU	OUTPUT	
1	Kepala Pusat menugaskan kepada Kepala Bidang Akuisisi dan Kepala Bidang Pengolahan				Agenda Kerja	15 menit	Disposisi	
2	Kepala Bidang Pengolahan memberikan arahan teknis kepada pustakawan di bidang pengolahan				Program kerja	1 menit/jdl	Daftar Kegiatan	
3	Koordinator kegiatan dibantu oleh anggota menerima dan memeriksa kesesuaian bahan perpustakaan dengan daftar pengiriman dari Bidang Akuisisi				Daftar Pengiriman	2 menit/jdl	Dokumen penerimaan	
4	Koordinator kegiatan dibantu oleh anggota mendistribusikan bahan perpustakaan kepada pustakawan di Bidang Pengolahan Bahan Pustaka untuk diolah				Daftar Distribusi dan bahan perpustakaan	1 menit/jdl	Dokumen Pendistribusian	
5	Pustakawan memverifikasi data bahan perpustakaan di pangkalan data INLIS untuk mengetahui keberadaan data deskripsi bibliografisnya				Bahan Perpustakaan dan Pangkalan Data INLIS	3 menit/entri	Hasil Kegiatan Verifikasi Data	
6	Pustakawan membuat deskripsi bibliografi buku baru dan menentukan tajuk entri utama dan tambahan				Bahan Perpustakaan, Pangkalan Data INLIS, dan Pedoman	10 menit/entri	Hasil Kegiatan Deskripsi Bibliografi	
7	Pustakawan menganalisis subjek dan menentukan tajuk subjek buku baru				Bahan Perpustakaan dan Pedoman	10 menit/entri	Hasil Kegiatan Analisis Subjek	
8	Pustakawan menentukan notasi klasifikasi untuk buku baru				Bahan Perpustakaan dan Pedoman	7 menit/entri	Hasil Kegiatan Klasifikasi	
9	Pustakawan memeriksa kebenaran dan ketepatan deskripsi bibliografi, tajuk entri utama dan tambahan, tajuk subjek dan notasi klasifikasi buku baru di pangkalan data				Bahan Perpustakaan, Pangkalan Data INLIS, dan Pedoman	5 menit/entri	Hasil Pengoreksian Data	
10	Pustakawan memindai, menyunting dan mengunggah sampul buku ke data katalog di pangkalan data				Bahan Perpustakaan, Scanner, dan Pangkalan Data	5 menit/judul	Hasil Pemindaian dan Penyuntingan Data	
11	Pustakawan mencetak dan menempel label nomor panggil pada buku baru				Bahan Perpustakaan, Printer Label, dan Pangkalan Data	4 menit/entri	Hasil Pencetakan Label	
12	Pustakawan men-tag dan menempelkan RFID pada buku baru				Bahan Perpustakaan dan Mesin Tagging RFID	2 menit/entri	Hasil Tagging RFID	
13	Pustakawan membuat daftar pengiriman buku baru				Bahan Perpustakaan dan Daftar Pengiriman	2 menit/jdl	Laporan Pengiriman	
14	Pustakawan mengirimkan bahan perpustakaan ke Bidang Layanan Koleksi Umum dan Koleksi Khusus				Bahan Perpustakaan dan dokumen pengiriman	5 menit/jdl	Tanda Terima Pengiriman	
	TOTAL WAKTU					55 menit/jdl		

Figure 2: Library Material Organization Standard Operational Procedure

However, at the present time library world changes rapidly. Changes in library world such as library material quantity being organized, library material types and format, tools used in organizing library material are challenges faced by librarians, especially Cataloguing Librarians. The changes certainly influence workflow and librarian workload.

Librarians are inseparable from varied challenges. Concerning library material organization division, there are several challenges which should be faced at the present time:

1. Performing several tasks simultaneously;
2. Lack of long-term and short-term planning;
3. Communication difficulties due to objective and subjective factors (Xuezhi,2014).

RESEARCH DESIGN

Research in this writing uses qualitative approach with case study method, which is an approach to understand an issue or problem using a case (Creswell, 2007).

Analysis Unit

Analysis unit in this research is librarians at Library Material Organization Division of National Library of Indonesia. In order to support and intensify analysis, researcher collects data from several informants. Informants are selected by purposive sampling, that is selection based on criteria determined by researcher. Library Material Organization Division work unit as research location has 33 (thirty three) employees led by head of division. Of all employees, 28 (twenty eight) people are librarians and 5 (five) others are in charge of administration.. To get in-depth information, researchers took 2 librarians as informants namely:

Table 1: Informant Data

Informant	**Level**	**Criteria**
YRW	Middle Librarian	- Graduated from Japanese Literature - Has been working for 15 years
SMY	Senior Librarian	- Master of Library and Information Science Degree - Has been working for 25 years

Data Collection Method

Data in this research is collected through observation and interview. According to Creswell, research data can be collected through three basic activities, namely observation, interview and document study. In this research, researcher uses two activities, interview and observation.

Data Analysis

Data analysis process in this research is conducted through testing process and study of all collected data to be concluded based on theory used here. The stages in analysis include: data reduction, codification, data presentation and interpretation as well as conclusion.

RESULTS

Library material organization at National Library of Indonesia is a fundamental activity as part of library service management in Indonesia. Work unit responsible for this activity is Library Material Organization Division.

This work unit at National Library of Indonesia has 33 (thirty three) employees led by head of division. Of all employees, 28 (twenty eight) people are librarians and 5 (five) others are in charge of administration. In performing information organization, librarian uses Standard Operational Procedure functioning as main guidelines for employees for information organization work. This SOP consists of 14 (fourteen) activities. Seven activities are performed by librarians, two activities by head of division and 5 activities by administration employees. (SOP is attached).

From knowledge format displayed, SOP can be categorized as explicit knowledge. According to Polanyi, explicit knowledge is knowledge and experience on 'how to' described straightforward and systematically (Polanyi as cited in Dalkir, 2011:12). Example given by Polanyi is a manual book of machine operation or explanation given by an instructor in a training programme. This issue is in line with the purpose and objective of arranging SOP, in which SOP is a guidelines or guidance in performing work to be systematic and efficient in terms of cost and time (Tobing, 2007:16).

As mentioned beforehand, there are 7 (seven) activities in Library Material Organization Division SOP performed by librarians, namely (1) librarian checks library material and shipping list from Acquisition Division (2) librarian verifies library material data on database to find out the existence of bibliographic description (3) librarian creates new library material bibliographic description and determines main and additional entry heading (4) librarian analyzes subject and determines new library material subject heading (5) librarian determines classification notation for new library material (6) librarian checks the accuracy and precision of bibliographic description, main and additional entry heading, subject heading, classification notation of new books on database.

This SOP is supposed to be reference in performing library material organization. However, librarian's knowledge on SOP is different. The following is a conversation quote:

> YRW : I know SOP. I have been performing my tasks based on SOP. As for the sequence of stage is still comply with it, but the duration is required to be adjusted.

YRW has been aware of and understood SOP, thus it can be implemented at work. However, in his opinion, the time required to complete the task still needs to be adjusted. This issue is relevant considering there are several stages in SOP requiring more time.

The next informant is SMY who explained that she understood SOP but there are inappropriate stages in SOP. In her opinion, head of division does not give instruction every time library material organization starts. The instruction is only given once at the beginning of the year or at the beginning of activity. Head of division also does not give direction for each library material but for all.

From both informants' explanation, it is inferred that SOP as explicit knowledge plays a quite significant role in library material organization. However, there is obstacle in terms of performing time which according to both informants should be longer. This is where tacit knowledge owned by each librarian in performing library material organization plays its role in minimizing time.

Reviewing workflow used in here, both informants equally mentioned practical work steps in organizing library material, starting from library material verification of the collection received from Acquisition Division, then matches the data with those on catalogue database, creates bibliographic description, then determines access point. However, because every librarian has their own way in interpreting workflow, there are unique thoughts to accelerate the task.

Tacit knowledge is knowledge mostly stored in organization. Tacit knowledge is something we know and experience but it is difficult to express clearly and completely. Tacit knowledge is difficult to be transferred to others because the knowledge is stored in each individual's brain in an organization in line with their competence. Librarians in Library Material Organization Division perform library material organization process by using explicit in the form of SOP, guidelines books and other available sources, such as internet. nevertheless, many who also use tacit knowledge as one of the ways to complete the task. In this research, researcher selected YRW and SMY to describe their tacit knowledge in completing their tasks.

In library material organization process, YRW in addition to using SOP as work reference, he also does things that have not been exposed as a process to accelerate his task. The following is quote from interview:

> YRW: there is trick/tips to fill in the columns by saving entries of the columns which do not change, for example (040, 336, 337, 338) and most used column, for example (504, 546). Column entries are saved in "notepad", in order to save time and energy in filling columns. The way to use it is by "copy paste" column entry from notepad to desired column.

Library material organization process at National Library of Indonesia has already used automation system with MARC21-based metadata, thus bibliographic description is created by using column numbers in the metadata. In the interview quote above, YRW mentioned several column numbers. Mr. YRW makes use of "Notepad" application in Windows operating system to perform copy of columns in MARC21 whose entries do not change. This method, in his opinion, can save time in filling library material physical description. Before starting filling another column, cataloguer feels necessary to check library material description column, namely 245, 250, 264.

It is necessary to recheck because column filling is performed by Acquisition Division, not by librarian of Library Material Organization Division. This check is required to avoid any mistake in library material description.

In line with time efficiency, SMY answered quite the same that cataloguer can require a longer time than the time predetermined in SOP. Both in determining subject and classification notation, moreover, in SOP it is predetermined that determining classification notation requires only 7 (seven) minutes, whereas determining subject, 10 (ten) minutes. Cataloguer feels that determining classification notation is at least as long as determining subject, which is 10 (ten) minutes.

Other tacit knowledge exposed by researcher is the use of hand in organizing library material. The next is, adding tag and filling column 300. In filling column 300, there are tips and trick. Although ruler is available, cataloguer is used to use hand (right hand). Cataloguer has measured the length of hand from the tip of thumb to the tip of little finger is as long as ±23 cm. The way to use it is by extending hand on the book, if the length is exactly the same, it means that the book length is 23 cm. If less, then the measurement is using estimation based on the hand. According to informant, this measurement estimation has no much disparity if compared to using ruler and tends to be correct. This way can only be used to measure book whose length reaches 23 cm (as long as hand's length), as for longer book, this way cannot be used, but has to use ruler. The use of hand aims to save time.

Tacit knowledge in workflow of library material organization is still limited to each librarian's thought and cannot be transformed into explicit knowledge, which certainly will help other librarians in Library Material Organization Division to be able to complete the task faster.

CONCLUSION

Librarians in Library Material Organization Division hold important role in library material organization. The activity is part of library service management, whether or not a collection can be found is greatly depended on the ability of cataloguing librarian who performs it. With a large number of personnel, 33 (thirty-three) cataloguing librarians, the availability of Standard Operational Procedure (SOP) greatly helps them in performing their tasks systematically and efficiently. However, every cataloguing librarian has different interpretation of SOP. From interview and observation on 2 (two) cataloguing librarians, it is found that there is tacit knowledge, and in their opinion, the knowledge helps them in completing the tasks faster. Further research is required to determine appropriate media in implementing this tacit knowledge into explicit, which is useful to other librarians in Library Material Organization Division to complete their tasks faster.

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Role of the Academic Library in the Overall Accreditation Process: A Case from University of Sharjah, United Arab Emirates

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ABSTRACT
Accreditation is the process of external quality review used in higher education to scrutinize colleges, universities, and higher education programs for quality assurance and quality improvement. Success results in an accredited institution and/or program (CHEA, 2001). This paper will examine and analyze the role of the UOS libraries in the university's accreditation process. It will further demonstrate how the library plays a significant role in fulfilling the requirements of the accreditation committees. The University of Sharjah is a comprehensive academic institution with a distinctive learning style and a global vision. The university offers the largest number of accredited programs in the United Arab Emirates, covering a wide range of academic and professional disciplines, with a total of 89 academic degree programs including 51 bachelor degrees, 17 master's degrees, 7 PhD degrees, one graduate and 13 associate diploma degrees. In 2011, the University of Sharjah established the Deanship of Quality Assurance, Institutional Effectiveness and Accreditation to act as a central body to coordinate and control activities related to institutional effectiveness and accreditation throughout the university. The UOS libraries play a critical role in the university accreditation process by presenting the library holdings, through submitting an "Accreditation Information Package" that ensures the provision of services, resources and facilities to support teaching, learning and research activities at the university. Furthermore, full documentation is also attached to the report detailing evidence, statistical facts and figures as collected by the library management system and the research tools. The accreditation process will normally cover a wider range of procedures and actions. Moreover, accreditation recommendations are viewed as opportunities for continuous improvement to the library. The library's Strengths and weakness areas are highlighted and shared with the university management and recommendations are implemented whenever feasible.

Keywords: Academic libraries; Higher education; Accreditation process; Academic programs accreditation; University of Sharjah libraries

INTRODUCTION

Accreditation is the process of self-study and external quality review used in higher education to scrutinize an institution and / or its programs for quality standards and need for quality improvement (Corazon 2003). The quality of academic program in universities has become a universal concern. According to the Commission on Higher Education (1995), accreditation of programs in institutions of higher education is an attempt to ensure that academic programs meet a certain level of minimum quality standards. Furthermore, the accrediting process "is intended to strengthen and sustain the quality and integrity of higher education, making it worthy of public confidence and minimizing the scope of external control". One of the ways of ensuring quality is through the accreditation of academic programs.

The process is designed to determine whether an institution has met the published standard for accreditation which were put in place by an external organization such as a government, national quality assurance agency, or a professional association. It also construes whether the institution is achieving its mission and stated objectives. The process usually includes a self-evaluation, peer review and site visit (Adeola 2014).

Adeola (2014) stated that accreditation helps the institution to evaluate its efforts in enhancing the quality of student learning and the quality of programs and services offered, as well as challenging itself to examine its successes in accomplishing its mission. Accreditation committee members apply their skilled judgment through a preliminary assessment of the institution; to ensure the institution's compliance with the accreditation requirements. It is also believed that the process of accreditation is undertaken in order to evaluate an institution or programs against minimally acceptable standards which protect the institutions themselves, their students and the public.

Objectives of the Accreditation Process

As reported by Adeola (2014) that the main objectives of the accreditation process in any academic institution are as follows,

- To ensure the provision of a high-quality university education and training that produce competent skilled and qualified manpower to the society
- Accreditation will certify the community that programs offered by the university have fulfilled the minimum requirement of the Ministry of Higher Education
- Ensure uniformity of standards in all programs offered by universities and similar tertiary institutions
- To provide counsel and support to the institutions and the offered programs when needed.

The Process of Accreditation

The process for initial and continued accreditation involves a collective analysis performed by the program under accreditation, followed by a review by external evaluators to the institution, and a site visit ending with a decision by the members of the Accreditation Committee on the program.

The Council for Higher Education Accreditation (2002) explained that the "Accreditation review is ongoing". The five key features of accreditation are:

- Self-study: Institutions and programs prepare a written summary of performance based on accrediting organization's standards.
- Peer review: Accreditation review is conducted primarily by faculty, administrators, and members of the public.
- Site visit: Accrediting organization normally sends a visiting team to review an institution or program. Team members are volunteers.
- Action (judgment) of accrediting organization: Accrediting organization has commission that makes decisions about the accredited status of institutions and programs.
- Monitoring and oversight: Institutions and programs are reviewed over time in cycles from every few years to ten years.

University of Sharjah (UOS)

The University of Sharjah is a comprehensive academic institution with a distinctive learning model and a global vision. It is a pioneer in teaching, scientific research and the arts within the UAE and the GCC region. The main campus of the University of Sharjah (UOS) lies in the heart of the University City in the Emirate of Sharjah. The University's architecture lends full expression to its Islamic and Arabic heritage with splendid buildings and captivating landscape. The campus provides spacious, outstanding facilities that include multimedia study halls, advanced scientific and research laboratories, dedicated libraries rich with information resources, state-of-the-art IT infrastructure and computing labs, theatres, clubs, two major sports complexes, student centers with access to restaurants and variety of shops, and many other facilities (University of Sharjah Website 2018).

UOS extends its educational reach across five campuses that cover all of the Sharjah regions, including Khorfakkan and Kalba, which are located on the coastline of the Arabian Sea. The University's emphasis on providing purposeful education and its relentless quest for excellence have earned it the respect and eminence among other universities in the region. Harboring a diverse cultural mix, extensive academic programs, and elegant campus setting are but a few of the remarkable characteristics of UOS (University of Sharjah Website 2018).

The Medical Campus includes the Colleges of Medicine, Dental Medicine, Pharmacy, Health Sciences, Medical Research Laboratories, University general hospital, and a Dental Hospital.

The University of Sharjah has expanded in a relatively short span of time to include 14 colleges offering +85 diverse academic programs (majors) at the diploma, bachelor, master and PhD levels. There are currently about 14,000 students enrolled at the university with academic instructions delivered by 610 faculty members having diverse international experience and renowned stature. The institution has sufficient numbers of faculty members to carry out both the classroom and the non-classroom roles of faculty. UOS staff members providing student support services, such as tutoring, financial aid advising, academic advising, and co-curricular activities, are appropriately qualified, trained, and supported in their professional development. The University has long-term cooperation agreements and strategic alliances with 31 leading academic institutions around the globe. These agreements ensure that the education our students receive meets the highest international standards (University of Sharjah Website 2018).

The main objective of UOS is to provide competitive and resourceful graduates with high moral standards. The university provides high level of teaching and learning opportunity to all people irrespective of race, tribe, religion or political inclinations, which is being achieved through effective programs and services based on provision of adequate facilities as well as professionally qualified and competent staff. All programs offered presently have been granted accreditation status by the National Universities Commission (NUC) (University of Sharjah Website 2018)

Deanship of Quality Assurance, Institutional Effectiveness and Accreditation (DQAIEA)

The Deanship of Quality Assurance, Institutional Effectiveness and Accreditation (DQAIEA) was established in March 2011 as a central body to coordinate and control activities related to institutional effectiveness and accreditation throughout the university of Sharjah. The deanship supervises, assesses and plans issues related to institutional research, institutional effectiveness and accreditation. One of the deanship's main responsibilities is to coordinate and prepare for national and international accreditation while determining factors that are critical in obtaining institutional accreditation

University of Sharjah Programs' Accreditation

The University is completely licensed, and all its programs are accredited by the Commission for Academic Accreditation (CAA) of the Ministry of Education in the United Arab Emirates; (https://www.caa.ae). Furthermore, the UOS maintains the International Accreditation and Recognition such as ABET for College of Engineering, AACSB for College of Business Administration, programs offered by the College of Communication are accredited by the Accrediting Council on Education in Journalism and Mass Communications (ACEJMC) http://www.acejmc.org/. The Bachelor in Biotechnology program is accredited by The Royal Biological society and the Chemistry Program is accredited by Royal Chemical society. There are various accreditation and recognition provided to UOS institutions such as,

- The Clinical Training Center (CTC) which is accredited as a medical training and testing
- International Federation of Surgery and Obesity and Metabolic Disorders (IFSO)
- European Association for Endoscopic Surgery (EAES)
- American Heart Association
- Ministry of Health in United Arab Emirates

Role of Academic Libraries in Universities

The library is the cornerstone of any academic institution. Universities arm their students with the knowledge, skills and attitudes that they need to integrate themselves into their respective societies and become productive, well-rounded members of their communities. Academic libraries across all colleges are designed to supplement school programs as well as the teaching and learning process (Agbetuyi, Adegbilero-Iwari, Subair 2017).

Subair (2015) mentioned that a library, the effective heart of the university, actively performs activities relating to: learning and teaching, research and generation of new knowledge, dissemination of research results, conservation of ideas/knowledge and the extension of services.

Moreover, it facilitates the work of the classroom teacher and ensures students' equitable access to resources. Although the official purpose of a universities is teaching, research and society service are emerging as important and essential functions of higher academic institution. Chiedu (2014) pointed that for the university to be able to carry out its tripartite mandate of teaching, research and community development (service), certain elements that contribute to the existence of the university must be present in adequate qualitative and quantitative measure.

The library must be stocked with current books and journals in hard and soft (electronic) copies to enrich the knowledge of the teacher/ researcher and learners. There is a positive and proportional relationship between libraries and educational development and achievements.

As reported by Agbetuyi, Adegbilero-Iwari & Subair (2017), academic library involvement benefits five stakeholders: universities, libraries, programs, librarians, and students.

In supporting this, Umaru (2013), reported that libraries play integral roles in educational development through its activities of research, services, acquisition, organization and dissemination of relevant information and education carrier materials in both print and electronic media to its users. He stressed that the goals of education cannot be achieved without emphasis on the proper and adequate management of libraries and that quality education is impossible without quality libraries in any given educational institutions. Also, Lonsdale (2003) opines that positive relationship exists between libraries and students' academic performances. This indicates that if education is the transmission of knowledge, skills, values and norms from one generation to another, then the management of libraries in achieving these goals cannot be overemphasized. It can therefore be concluded that the library performs vital and irreplaceable activities related to learning and teaching, research and generation of new knowledge, dissemination of research results, conservation of ideas/knowledge and the extension of services.

University of Sharjah Libraries

The University of Sharjah (UOS) Libraries, at the Deanship of Academic Support Services, provide students and faculty with resources and services they need to succeed in their educational and research undertakings.

Resources are housed in eleven attractive, state-of-the-art library buildings occupying more than 30,000 square meters of space on the main campus and at satellite branches. The buildings offer users ample study and computing common areas; halls for meetings, seminars and conferences; classrooms; faculty development centers; prayer rooms; and executive meeting rooms. The Libraries provide knowledge based and up to date information resources to support academic programs and research activities.

Furthermore, with a diversified collection that includes 320,000 books, 150,000 E-books, 62 Online Databases, 60,000 Electronic Journals, 1,600,000 full text Theses and Dissertations, UOS libraries are considered one of the most comprehensive libraries in the region. Access to resources is provided anytime and anywhere through electronic resources acquisition, providing access to some of the top content providers worldwide including ScienceDirect, Scopus, IEEE, Emerald, Clinical Key, EBSCO, JSTOR, SciFinder, Cochrane Library, UpToDate, and others. Libraries aim to continuously develop and improve library resources and services in response to changing needs of a new generation of students and to support their learning, teaching and research at UOS. They participate proactively in the enrichment of the educational experience; improve information technology and multimedia assets; repurpose available space to accommodate the changing library role; improve community outreach and branding; and enhance administrative structure and commitment to due process.

Providing sufficient library resources to support the nature and scope of the various programs offered by the institution was a necessity. The library also maintained adequate and well organized collection which are accessible to all students, faculty, administrative and research staff.

“The Library Homepage” is the main portal to explore UOS libraries and to access the electronic resources 24/7. To enhance the use of library resources and to ease the search process, a discovery tool was obtained that searches all full text library resources along with the OPAC at once. Off-campus access to our electronic resources is offered to faculty and students through the RemoteX software. Research citations can be prepared by using “Refworks citation manager”. Electronic books and journals are retrievable through E-books and E-Journals Portals, in addition to many tools that help the researchers reach information on books and journals.

Qualified librarians with appropriate education and experience in library and information resources were appointed to provide a wide variety of services that fulfill the faculty and students’ needs. Services include reference services, book-iPad-laptop loans, research assistance, database and Internet searching, and much more. UOS libraries ensure that users receive timely instruction on the use of library resources.

Research papers and documents that are not available at the library can be ordered through the Document Delivery Service from the British Library. Current Awareness Service delivered to faculty and students, keeps them updated of the new library collection and services.

Various activities are conducted to introduce the libraries to the university community and to promote library resources and services such as the open days, book sales, workshops, product presentations, symposiums, and many other events.

UOS Libraries IT infrastructure, systems and facilities

An integrated library system (Sierra) is currently operating that embeds all library functions, services, and auxiliary tools. The libraries are fully automated and linked to all faculty and university offices through the university network. Multi-media rooms equipped with state-of-the-art systems, computers, projectors, etc. Along with an Internet lab equipped with networked computers uploaded with the latest applications. Several networked public access computers are available for students' use, loaded with the latest applications to access research resources and connected to networked printers and scanners. Wireless Networking is enabled in all University of Sharjah libraries to allow library patrons use their own laptops and access the Internet as well as the library resources.

UOS Libraries and Academic Programs' Accreditation

The UOS libraries played a stirring role in the accreditation process of the university programs. The University of Sharjah management stocks the library with adequate, relevant and up to date collection. Books, journals, audio-visuals, online databases and other electronic resources were acquired to build up holdings that support each program offered at the university.

Since the information resources and services provided affect the quality of students' educational experience and achievement, librarians at UOS are systematically engaged in the accreditation process providing high quality and consistent documentation across all programs.

During the accreditation process, UOS library staff ensures that the library meets up with the accreditation committee expectations; working tirelessly to provide the required documentations to the concerned UOS department that is expecting the accreditation visit, as follows,

- Comprehensive reports on the UOS libraries, and its resources, services, IT infrastructure, working hours, facilities, space, …etc.
- Lists of library collections that support the investigated program. Lists include electronic and print books, journals, online databases, theses and dissertations, audio-visual materials, auxiliary research tools, collection development resources, …etc.

- Allocated budget to support the designated college and the investigated program along with a report on the development and increase of the library collection for that program
- Full description of the library orientation and instructional program provided to freshmen, graduate and postgraduate students, to equip students with the necessary skills for effective learning
- Copy of the Libguides that include the program resources and tools along with a UOS Libraries user manual
- Authentication and the availability of the library online resources access, on and off-campus. The acquired software should be explained
- Policies and Procedures should be provided to overview the circulation, general services, acquisition, collection development, weeding, ..etc.
- Results of the most recent and updated survey regarding the library resources, services, environment, space, facilities, ..etc.
- Number of library staff, indicating the professional librarians, para-professionals and administrators

Usually the committee from the program under accreditation collects the documents and submits them to the Deanship of quality assurance, institutional effectiveness and accreditation. Furthermore, the librarians collaborate and communicate with faculty members to receive their selection of relevant and adequate information resources. Librarians conduct workshops and sessions throughout the year to introduce the library resources and research tools for each college / program. Meanwhile, customized sessions and workshops are offered to the faculty and students of the programs under accreditation.

Impact of Accreditation Process on UOS Libraries

UOS libraries welcomed the challenges encountered during the accreditation process. Becoming embedded into the accreditation process of university programs has offered tremendous opportunities for UOS Libraries. Participation in the process can result in improvement and enhancement of the library operations that leads to the library and the university benefits. It also enhances the library profile on campus.

Although the UOS libraries implement many techniques to assess its holdings, services and facilities, being engaged in the accreditation process is still essential to identify potential gaps and weaknesses that lead to evaluation and development. On the other hand, accreditation reviews provide an additional mechanism to ensure periodic and regular assessment and examination highlighting the library strength. An updated collection is highly required by the accreditation committee investigators, therefore, the library was advised to weed some of the programs' outdated resources

Collection development resulted from many of the visits as an action to update some of the existing and acquire new resources on specific topic. Librarians consult significant databases and auxiliary tools subscribed by UOS libraries for the acquisition purposes, such as Global Books in Print (GBIP), Resources for College Libraries (RCL) along with the OASIS database, the libraries' book supplier. Orders for information resources, such as books, periodicals and online databases, are placed to receive books on time, prior to the accreditation follow up visit.

Allocation of a sufficient and supportive library budget was given a remarkable consideration by the university management. New or existing programs that will be evaluated in future are well recognized by the DQAIEA. Cost of resources needed to support the programs either in print or electronic subscribed databases / journals are considered in the planned budget. Accordingly, a notable growth in the library and increase in the information resources were recorded.

Preparation for accreditation visits builds channels of communication between the colleges and the library. Provision of required documentations, conducting sessions, follow up with the program's coordinator and receiving the visiting accreditation committee members at the library, all contributed to the library promotion. Moreover, accreditation process has a significant impact on the library staff's progress. It helps the librarians engage in their occupation and gain valuable experiences.

Finally, being involved in the institution's programs accreditation process provided the library staff with an extensive experience gained with practice. UOS libraries staff give some recommendations for other academic libraries in the UAE when considering integration into an initial program accreditation

CONCLUSION

Academic libraries have a significant role in the accreditation of university programs. University of Sharjah libraries put a tremendous effort to fulfil the accreditation committees' requirements and to meet the high expectations of the programs' coordinators. Provision of the "Accreditation Information Package" describes the libraries' holdings and services that support existing and new academic programs. UOS libraries value the accreditation committees' recommendations and consider them as opportunities for continuous development and enhancement to the library. Moreover, the university management provides the libraries with a full support, takes into consideration and implements the recommendations whenever feasible.

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Tacit Knowledge Preservation: Case Study Param as a Traditional Medicine in Indonesia

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ABSTRACT
This study aims to examine and assist the process of preservation of tacit knowledge from a param maker in the Bogor City, West Java, Indonesia in accordance with the basics of the science of preservation of knowledge that is commonly done. Param is a traditional medicine to treat bruising and swelling and is used as an external medicine. The method in this research is descriptive qualitative method using a case study approach. The data collection method used in this study uses observation, interviews and documentation studies. The results of this study indicate that param makers have not carried out the process of preservation of knowledge in accordance with applicable standards. Therefore the authors try to help preserve knowledge about how to make param as appropriate so that knowledge not lost in the community and can be used by the next generation. The activity of preservation of knowledge based on Romhardt was chosen by the authors in this study. The processes are selecting, collecting, storing, actualizing, protection and accessing.

Keywords: Knowledge Preservation; Tacit Knowledge; Param as Traditional Medicine; Indonesia

INTRODUCTION

Indonesia is a fertile country that so many produce abundant natural wealth. Among the natural wealth is in the form of plants and spices that are useful for use as medicine by the community. Indonesian people in ancient times often used natural ingredients to make all kinds of medicines. Among the medicines made there is one type of medicine commonly referred to as param. Param serves as a medicine to treat bruising and swelling and is used as an external medicine.

At present there are several manufacturers of herbal medicine that sell param as their products. But it is certain that the producer will not want to open a method for making param to be known to the public. No one can guarantee the continuity of the herbal medicine maker making the param. It could be that one day a bankruptcy and param products are gone from circulation. Besides that, the traditional param making process is not many people know about it. In addition, this factory-made param product is felt too hot in the skin when used so it is not suitable for use in some types of consumers such as children and postpartum women. At present there are still some people who can make param traditionally. Even people who can make it are no longer young. Therefore this paper is intended to preserve the knowledge of the param making process as traditional knowledge so that this knowledge is not lost and can be utilized by the next generation.

Param is included in the class of traditional medicine. The definition of traditional medicine according to the Regulation of the Minister of Health of the Republic of Indonesia Number 006 of 2012 concerning Traditional Medicine Industry and Business is ingredients in the form of plant materials, animal ingredients, mineral materials, preparations, or mixtures of ingredients has been used for treatment, and can be applied in accordance with applicable norms in the community.

Information is data that has been organized in context and translated into forms that have structure and meaning. While knowledge is the capacity for effective action; obtain, understand and interpret information. Knowledge is divided into 2, namely explicit knowledge and tacit knowledge, explicit knowledge that is knowledge embedded in documents, images, calculations, designs, databases, procedures or manuals and tacit knowledge that is knowledge that is in someone's mind and usually has not been captured or transferred in a formal way (if it is then explicit knowledge).

Knowledge is largely determined by the transfer process and the preservation of knowledge. According to Mazour: "Knowledge transfers is the transfer of knowledge in a broad array of individuals, groups of individuals communities, organizations, or industries." (Mazour, 2010).

One way people get knowledge is from experience, experience that comes from someone who likes to develop routines to solve problems. Experience is tacit knowledge that is difficult to preserve.

LITERATURE REVIEW

There are three type of knowledge according to Crowley (2001), namely explicit knowledge, implicit knowledge and tacit knowledge. Explicit Knowledge is the knowledge found in books, documents, databases, e-mail and the like. It is public knowledge rather than private. Implicit knowledge is private knowledge. It is personal knowledge stored in the mind of the individuals. Tacit knowledge is job or task specific and related to context.

Traditional knowledge is knowledge developed by indigenous communities or intellectual works based on tradition. Knowledge or work is used by a generation and passed on to the next generation and develops according to the needs of a particular region. Traditional knowledge includes methods of cultivation and processing of crops (agriculture), medication, medicines, food and beverage recipes, arts and so on (M. Hawin, 2009).

Knowledge preservation is an activity to protect, maintain and preserve the knowledge that exists in individuals or in organizations/communities so that information is not lost with the passage of time and can be used for the next young generation in the future. Knowledge loss is caused by many factors, such as damage to knowledge storage media, the departure of individuals who master certain knowledge of the organization and other factors. The Preservation of Knowledge activity, which was presented by the Department of Arts and Culture Indicates, stated that, "The storage and documentation of indigenous knowledge can be used on safeguards of practices and cultural heritage for the future coming generations, which can be considered as a positive part of their identity and promote social cohesion" The Department of Arts and Culture indicates (2009). So that it can be seen that the activity of preservation of knowledge of tacit knowledge can help preserve cultural heritage for future generations to come, which can be considered a positive part of their identity and promote social cohesion. Knowledge preservation activities can be done one of them with exchange of indigenous knowledge activities.

With the preservation of knowledge it is expected that loss of organizational memories does not occur, so that the organization is able to preserve its capacity for effectiveness. Knowledge preservation encompasses two main activities, which include capturing knowledge and storing knowledge into the knowledge reservoir.

Mazour argues that "Knowledge conservation is a process for maintaining knowledge important to an organization's mission that stores knowledge or information overtime and provides the possibility of recall for the future" (Mazour, 2010)

Tacit knowldge about how to make param to be able to continue the activities of knowledge preservation, because tacit knowledge is usually only stored in the mind of one individual or the local community itself, this was revealed by Suliman (2002) who stated, "Tacit knowledge is a type of knowledge that many people believe that can only exist in the human minds. It is a product of people interaction with each other and the people interaction with the environment around them."

The importance on how to preserve the tacit knowledge is because amont of the three type of knowledge, explicit knowledge, implicit knowledge and tacit knowledge, tacit knowledge is the most difficult for transfer (Faust 2010). Tacit knowledge contains experience based knowledge about topics such as how to ride a bike or how to talk. Tacit knowledge of an employee is for example the way how to persuade other people, how to behave in different situations or how to organize a meeting. Tacit knowledge cannot completely be explained, since it is wholly embodied in the individual, rooted in practice and experience for which cognitive schemata are required also being referred to as "mental models". It is expressed through skilful execution, and transmitted by apprenticeship and training through watching and doing forms of learning [1]. Whereas those technical elements, i.e. concrete know-how, crafts and skills, can be transferred by observation. The cognitive part of tacit knowledge, namely believes, intuition or personal values need special effort to be extracted.

The basic process of preservation of knowledge according to Romhardt (1997):

1. Selecting
The process of choosing from where or whom knowledge will be presented and what type will be preserved, after the knowledge has been selected and then mapped to be collected
2. Collecting
The process of gathering knowledge that has been selected, after it is collected, knowledge is stored

3. Storing
The process of storing knowledge that has been stored becomes a form that fits the needs, then actualized

4. Actualizing
Actualization activities can be carried out through mentoring from knowledge owners to mentoring participants. Then knowledge must be protected

5. Protection
Many deviations result in loss of knowledge, therefore activities to safeguard and protect knowledge need to be carried out.

6. Accessing
Knowledge that has been stored must be able to be used by the community or organization that stores it with easy access.

RESEARCH DESIGN

Based on the problems to be examined, this study uses qualitative research methods with a case study approach. The author wants to get an idea of the knowledge of how to make param which is owned by one param maker in Bogor City, West Java and then documenting it in a paper form with the intention of to be disseminated and stored in library. According to Poerwandari in Afifudin and Saebani (2009) "*Qualitative research is research that produces and processes data that is descriptive in nature, such as transcription of interviews, field notes, images, photos, video recordings, and others*."

Qualitative research with the type of case study research was chosen because researchers wanted to understand the preservation of knowledge about making param. According to Cresswell (2015) "Case study research is a qualitative approach in which researchers explore real life, limited contemporary systems (cases) or limited systems (various cases), through detailed and in-depth data collection involving various sources of information or multiple sources of information (for example, observations, interviews, audiovisual material, documents and various reports), and report case descriptions and case themes."

The objective of this study is the preservation of knowledge about making param. While the subject of the research in this study was an informant who still had knowledge about how to make param. "The research subjects are people who are in a social situation that is defined as giving information in a study or known as an informant" (Mukhtar, 2012). The subject in this is the giver of information that needed for research.

Data collection techniques need to be done in order to obtain valid data in the study. To obtain an understanding of the preservation of knowledge about making param, the data collection process is carried out through:

Observation

“Observation is a systematic surveillance and recording of the elements that appear in a symptoms in the object of research” (Nawawi & Martini in Afifuddin and Saebani, 2009). The researcher collects data through the internet, online journals and other related research. The type of observation used by researchers in this study was non-participant observation. “Non-participant observation is an observation that does not involve the researcher in the activities under study, the researcher is separate from the observed activity, the researcher only observes and records what happens in the field.” (Sulistyo-Basuki, 2006)

Observations were made on the behavior and activities of the traditional owner community, including the procedures for implementation, the transfer process from the older generation to the next generation, and other activities in the research location related to the making of param. Observation is the earliest data collection technique carried out in research. However, observations continue to be made throughout the study because data through interviews need to be supported by data obtained through direct observation or surveillance in the field.

Interview

“Interviews are methods of retrieving data by asking something to someone who is an informant or respondent” (Afifuddin and Saebani, 2009). This study is using unstructured interviews. “Unstructured interviews are interviews conducted without a clear structure” (Sulistyo-Basuki, 2006). The researchers used the results of the interviews as the main data source in this study.

The researcher conducted a direct interview (face-to-face interview) with an in-depth interview technique. The researcher prepared a draft question that became a reference in conducting interviews with informants. Interviews were conducted in Indonesian and Sundanese. To avoid errors and loss of data, the interview process is written manually and accompanied by an interview recording process.

Literature Studies

In addition to observations and interviews, data collection techniques in qualitative research can be done using the literature studies and documentation studies methods.

The researcher used a literature study, that is data collection by looking for literature related to research. Documents in research can be in the form of images, and other literature that can help the research process.

RESULTS

Informant

This study uses data collection techniques in the form of observations and interviews to one informant who is the maker of the param that is appropriate to the criteria of the informant. The informants in this study were Mrs. Euis who lives in Bogor City. Informants are known having knowledge about how to make param traditionally. This information is known through neighbors who live close to Mrs. Euis's house and often come to her home to get param.

Mrs Euis was born in Bogor in the 1920s. Actually the activity that became the main ability of Mrs. Euis was a massager. But massaging is also not a major profession. He began his massage activities after retiring from his main job. Mrs. Euis massages only if someone comes to her house. People who often come to Mrs. Euis's house consist of various ages, ranging from babies, children to adults. Knowledge of massage is obtained from his mother-in-law who also has the ability to assist the traditional birth process. Massaging knowledge was passed on to Mrs. Euis from her mother-in-laws through an oral tradition method. This is relevant with regard to Hart's theory that the oral tradition is a process of transitioning knowledge from one generation to the next by way of spoken communication (Prince of Wales Northern Heritage Centre & Wolfe, 1995). Mrs. Euis's husband also has massage skills, especially in handling fractures. But Mrs. Euis did not learn the knowledge of this massaging a broken bone from her husband.

In massaging Mrs. Euis use oil to avoid irritation to the skin that being massaged. The oil used by Mrs. Euis for massaging it in Sundanese is commonly called letik oil or oil made from heated coconut. Adults usually come with complaints of aches, sprains due to falls, women who are after childbirth and so on, except for a broken bone Mrs. Euis cannot treat it. Parents carrying their babies usually come monthly regularly with the aim that their baby bodies are not stiff, but also can come with complaints ranging from unwilling to often crying with a possible cause of a miscarriage due to a fall or other causes that their parents didn't know. Mrs. Euis could easily find out after the massage process began.

In addition to learning massage techniques, Mrs. Euis also learned how to make param from her mother-in-law. In addition to treating pain in muscles that are bruised due to falls and so on, param is also commonly used in women after childbirth. Param used to be smeared on the stomach of a postpartum woman as a warmer with the aim of alleviating the feeling of cramps that are often felt. Param, made by Mrs. Euis is warm and not hot because it is conditioned for various ranging age. The method of making param was the main topic and was discussed in this study.

At present Mrs. Euis has 7 children, 3 of whom are women. For this her three daughters the knowledge of making param had been revealed. But still, the method used in the transfer of knowledge is using oral tradition so that it is feared that one day this knowledge will be lost because it has not been well documented.

Param Making Process

The way of Mrs. Euis making param is actually very simple and easy. The raw materials for making param are Rice (Oryza sativa), Kencur (Kaempferia galanga), Ginger (Zingiber officinale), Remek Daging (Hemigraphis alternata) leaves and Ki Urat (Plantago major) leaves.

All the ingredients pounded then formed lumps about the size of about 10 cm in diameter and then dried in the sun for one day. After drying, the param is ready to use.

How to use param is given water until it becomes thick and then applied to the skin of the body part that feels sick or wants to be warmed. Can be added with a massage so that the param can seep into the skin and muscles that are painful.

Analysis Results

How to make param is one of the culture that is easily extinct. This is not only due to the diminishing of making param, but also the perception of the people who consider making param is only needed in the treatment process and is not a culture that needs to be preserved.

The most important problem in the way of making param is that the owner of this knowledge has become getting more older and the lack of regeneration activities. This is feared to overthrow these objects. The additional problem that becomes a problem for preservation of how to make param is the people perception of the making of param which is ancient and does not need to be preserved.
The lack of action to externalize knowledge has become a weakness of society in carrying out tacit knoweledge that only certain people have.

To assess the preservation process for making param, researchers used measures to preserve knowledge according to Romhardt.

(a) Selecting

The first step in the process of preserving knowledge is selection. In the analysis of the selection of knowledge on how to make param, researchers are more focused on discussing the knowledge owner, what knowledge will be preserved and to whom the knowledge is given.

1) Knowledge Owner

The method of making param is the original knowledge that must be preserved before it is lost. In this study there was only one informant who possessed this knowledge. The owner of the knowledge on how to make param is Mrs. Euis, previously it was known that this knowledge was obtained from her mother-in-law. The transfer of knowledge was obtained by Mrs. Euis from her mother-in-law through oral tradition. There is no stored and accessible documentation regarding this knowledge.

2) Preserved Knowledge

In this study, the knowledge that is preserved is the method of making param. In preserving the method of making param, it can be done by Job Shadowing. How to make param need to be preserved because of the lack of government attention to the manufacture of traditional medicine in general.

3) Target of Knowledge Preservation

The knowledge owner carries out the preservation of knowledge to maintain the knowledge within the family and if possible to the community around the knowledge location.
Preservation of knowledge is carried out for cultural knowledge so that people understand the cultures around them, especially about how to make traditional medicines, especially param.

(b) Collecting

Collecting is the second stage of preservation, knowledge is collected by knowing how to implement it in an effort to preserve the knowledge of making param. The community, especially the younger generation who want to learn how to make param, must have a high willingness, without a high willingness, this knowledge transfer process cannot run well. Will is the most important thing before learning about making param.

Actually learning how to make param requires relatively short time. Constraints may occur in obtaining the raw materials, but it can be dealt with by planting their own raw materials for making param on the home yards.

1) Preservation of Knowledge Efforts to Make Param

Forms of knowledge preservation activities that can be carried out in according with the preservation of knowledge on how to make param and the knowledge contained in it, such as:

- Reviving the culture of making param with home industry

People can try to revive the culture of how to make param by making it a home industry. The goal is to introduce and preserve the method of making param among the community, besides that it can also be used as an increase in family income.

- Documentation

Documentation of how to make param was made into an article in this paper. Writing into the form of a book will be done if it is deemed necessary and possible. This documentation activity is one form of knowledge externalization as stated by Nonaka. Documentation is an effort to preserve knowledge on how to make param.

- Job Shadowing Knowledge

Job shadowing activities began to be carried out considering the limited of these knowledge owners in the community. Generally job shadowing activities are carried out through one or two people who will inherit or the next generation of knowledge as a whole. The selection process is based on willingness and family members who want to continue the method of making this param.

- Introducing Param as a Traditional Medicine through the Level of Higher Education

University of Indonesia and Airlangga University are two higher education institutions in Indonesia that study traditional medicine / herbal medicine. At present the Faculty of Pharmacy of the University of Indonesia has a Masters in Herbal Sciences and the Vocational Faculty of Airlangga University has a Traditional Medicine Study Program.

By introducing param as traditional medicine through the higher education level, it is expected that there will be a lot of participation from the education community who make writing based on research on param and other traditional medicines. It is expected that with a lot of writing from traditional medicine education community, it will gain trust in the hearts of the Indonesian people concerning to traditional medicine.

In addition, the most important thing in the information era is the use of information technology in the process of acquiring, storing, and sharing information. The database that contains all matters relating to the way of making traditional medicines, especially making param in the form of the web and connected to the internet network, will provide greater opportunities in introducing the culture. Not only to the people of Indonesia but also to the world community.

2) Constraints in the Activity of Knowledge Preservation of Making Param Methods

Constraints that will be faced in the preservation of knowledge activities in making param are as follows:

a. The people is accustomed to its customs which verbally without regulating matters relating to the transfer of knowledge. Not all things can be explicit in society. This resulted in the increasing number of knowledge owners.
b. Traditional param making is considered to be less practical, so people prefer medicine that are sold freely in the market to treat their pain.

c. The raw material for making param which consists of many medicinal plants at this time is relatively difficult to obtain in the market. Only a few people are now cultivating medicinal plants in their home yards.
d. Lack of public awareness about the importance of culture, especially how to make param. Making param is considered an old-fashioned and outdated thing
e. The absence of a knowledge database in connection with how to make param that can be accessed by the community
f. Knowledge of the community that making param is only a medicine not as part of traditional culture
g. Lack of marketing and promotion in the scope of traditional medicine

Tacit Knowledge Preservation Implication to the Library Services

The implications of tacit knowledge preservation on library services can be applied by serve a collection of books in the library on tacit knowledge preservation for example in this study is to preserve the knowledge on how to make param.

The library is a place where people find the information they need. As its development, libraries, especially the Regional Library, still function as the center of information sources in the form of text in the community, both texts originating from written culture and texts which are the result of externalizing the culture of traditional medicine, one of them is how to making param. Documentation in the form of books in writings containing knowledge about for example how to make param is only collected by the library. The library keeps saving it as part of the library collection. To maintain the existence and continuity of knowledge on how to make param born in the community, the function of the library must shift from a repository to a culture collection service.

The library is an organization that supports research, therefore libraries are obliged to store, manage and service all kinds of documentation whether explicit or tacit, because it is a very valuable asset for knowledge. Like the following statement “Universities and research organizations are knowledge reservoirs. These highly valued intellectual assets, regardless of whether they are explicit or tacit, should be inventoried, archived, indexed, frequently updated and made accessible in digital form (Kumar 2010).”

In addition, the use of tacit knowledge can be seen from the ability of service librarians, especially reference librarians, in their knowledge of serving users in their needs for library materials. Reference librarians have an incredible amount of tacit knowledge regarding library, community and online resources (Kille 2006). Stover (2004) claimed that much of the knowledge held by reference librarians is tacit knowledge that needs to be made explicit and formalized. He identified the web-based Ready Reference Database at San Diego State University as an example of the process of knowledge conversion in library reference services.

Gandhi has identified three reasons why knowledge preservation is needed in reference work. They are:

1. Reference librarians in libraries across the United States and the world answer thousands of questions every day.

2. Reference librarians manage to answer only 50-60 per cent of the questions correctly; therefore, there is immense potential to improve services and learn from each other by sharing correct answers.

3. It has long been recognized that librarians cannot remember all sources.
Therefore, capturing the tacit knowledge of reference librarians – knowing how to find information, where information is available, how to select the right resources, when to use a certain resource, how to follow a trail of clues to get to the right information.

The preservation of knowledge models in this study can also be used to preserve the intelligence and methods of referral librarians in serving the needs of users.

CONCLUSION

Based on the results of the analysis of the research on the answers to all the questions asked in the interviews that have been made to the informants about how to make param. Furthermore, it can be concluded that the preservation process and knowledge transfer method for making param have been going on since the method of making param was born. This happens because of the habits of the people who have oral traditions, so that all cultural knowledge is preserved by telling stories to the next generation.

Preservation of knowledge is done by means of selection, namely by knowing who owns the knowledge, the knowledge to be preserved and to whom knowledge will be preserved. Owner of knowledge on how to make param, namely Mrs. Euis. The knowledge that will be preserved is the method of making param, because this knowledge is less noticed by the community, while the preservation of this knowledge is carried out to the family and surrounding communities.

Besides selection, preservation of knowledge on how to make param is also carried out by collecting. In this collection stage, it can be seen how the knowledge transfer process about how to make param. The main thing is the willingness of the community to learn how to make param. Then the people do a shadowing job, follow and observe Mrs. Euis doing her work to be studied before being taught directly. After that, people who want to learn and help make it easy to understand. After understanding the way, the community will start making it directly.

The externalization of knowledge on making param has not been carried out in the form of documentation and rewriting it in writing or in books. Books can be a guideline for the community. The method for making param is also introduced in universities through a department or study program of traditional medicine / herbal sciences. Currently the colleges that have the study program are the Faculty of Pharmacy, University of Indonesia in the Masters in Herbal Sciences and Faculty of Vocational at Airlangga University in the Traditional Medicine Study Program.

By introducing traditional medicine through the higher level of education, it is expected that there will be a lot of participation from education circles who make writing based on research on traditional medicine. It is expected that with a lot of writing from traditional medicine education circles, it will gain trust in the hearts of the Indonesian people concerning to traditional medicine especially param.

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Tasyakuran Laut or Sadran, the Preservation and Transfer of Indigenous Knowledge in the Fishermen Community in Bluru Kidul Village

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ABSTRACT

This research is aimed to observe the mindset of stakeholder in preserving and transfering of fishermen's indigenous knowledge about Sadran in Bluru Kidul village in Sidoarjo regency. Sadran or Tasyakuran Laut are fishermen's tradition that formed by Javanese-Hinduism and Islamic acculturation. This study is motivated by the fact that many libraries in Indonesia, despite of the rich indigenous culture, are not aware of the importance of collecting these indigenous knowledge as one of duties to revitalize the library as culture resilience effort for the nation. This tradition are intended to expressing the gratitude to the almighty god and give a thanks to the sea. The ritual need at least four items such as kemenyan, sajen, berkat, and tumpeng. Etnographic qualitative method are used to obtaining data, through interview to one of community figure in Bluru Kidul. The result showed that fishermen community in Bluru Kidul already preserving Tasyakuran Laut by transfering their knowledge with accompany their children to join the tradition ceremony and unofficially documenting the tradition. Furthermore, local government and mass media are having their part to support Tasyakuran Laut resilience such as promoting as a marine tourism and broadcasting it through the television or newspaper.

Key words: Preservation; Indigenous knowledge; Knowledge transfer; Sadran; Tasyakuran Laut; fishermen community; Bluru Kidul village; Sidoarjo regency

INTRODUCTION

Indigenous knowledge is a unique side of society and it's culture that is useful to help many aspects in their lives. It composed by tacit knowledge in the community which means only people within the community can know and understand what is the knowledge, what can they do and how to do with it. This also related to the tradition of the local community that interpret the relationship between indigenous people and their environment (Soh, 2012). People use indigenous knowledge as a basis for making decision in their life, e.g. health, agriculture, environmental security, food issues, and other purposes. (World Bank, 1998). Indigenous knowledge may vary and it often distributed without documentation or become anonymously, but the contents of knowledge can be inherited to the future generations. The knowledge are local within specific place and orally transmitted (Joranson, 2008). Sadran is an example of indigenous knowledge. People who live as a fishermen in northern Sidoarjo regency have a tradition called Sadran, more specifically called Tasyakuran Laut. The tradition was formed by acculturation of Javanese-Hinduism influence with Islam. The tradition intends to give a thanks, hope for God's blessing and beg for safety to going fishing in the next season. The influence of Javanese-Hinduism appears in the way of ritual including *obong kemenyan* (incense burning), *tumpeng* (mountain shaped dish for eat together) and *sajen* (kind of food that will be floated to the sea), and *nyekar* (having pilgrimage to ancestor's grave). While the influence of Islam appears in the the praying manner. According to the Bluru Kidul community, this tradition is founded by the fishermen's gratitude who have been able to fishing in the sea with blessed and safely. And they always crossing Dewi Sekardadu's tomb before reaching the sea. They feel have a debt to the nature that give them livelihood. From this point, Sadran can be understand as an expression of gratitude, begs for safety and blessing of god to going fishing to the sea in the future, and paying their respect to Dewi Sekardadu as their ancestor as they considered.

Sadran in Bluru Kidul now called Tasyakuran Laut based on what community figure said that this name can be distinguish with another Sadran in Sidoarjo. Because there are three places that celebrating Sadran and likely similar among others, differentiation can be start with the name. It was only held once a year, at Maulid Nabi. The uniqueness of Tasyakuran Laut in Bluru Kidul is the fishermen must visiting Dewi Sekardadu's tomb at the final step and only be held in Maulid Nabi. Dewi Sekardadu is King Blambangan's daughter, named Prabu Menak Sembuyu, who is the mother of Wali Songo figures, Raden Paku or well known as Sunan Giri. Until now, Tasyakuran Laut still exist in this modern age because the Bluru Kidul community still holds the ancestor's mandate to keep the tradition. Also, the local government give them a support to promote the tradition as tourism potential (Rochmania, et al., 2015). However, Tasyakuran Laut still can't be identified who is the creator, when did it first time begin, and why it was only held once a year only in Maulid Nabi. There are no answer for that because no one notes or documents are founded that record the tradition's history.

Indigenous knowledge about Tasyakuran Laut in Bluru Kidul was inherited over generation, especially in the fishermen community. Library need to play their part as an information service for indigenous knowledge resillience. In this case, Library are needed to protect and preserve this indigenous knowledge with collection development program. By this point, indigenous knwoledge can be added to library's collection, whether is local library or national library. Library can acquiring indigenous knowledge from indigenous people or from mass media. Collaborative action between many stakeholders that consist indigenous people and government as supported role are needed. In the library, indigenous knowledge can be stored in order to prevent it loss along with an elders (Maina, 2012). Bluru Kidul is a village in Sidoarjo, 3 km away from the Sidoarjo Regency government's office. Bluru Kidul area is near Madura Strait according to the river flow. In Bluru Kidul lived fishermen community in shellfish and shrimp. The fishermen spending 2-3 hours to go sailing into the sea. This research was discussed about indigenous knowledge preservation and focusing the knowledge transfer from older generation to younger generation in Bluru Kidul Sidoarjo Regency. The result can be suggestion for libraries to preserve the indigenous knowledge of community that they serve.

LITERATURE STUDY

Sadran

The research of Sadran in Sidoarjo regency have been done by Hartoyo (2017) in his study through sociocultural approaches that resulting an understanding of Sadran tradition. In terms, Sadran is the tradition that influenced by the Javanese-Hinduism, and Islamic. Sadran was initiated by fishermen’s feel that they have been given a living by God through the sea wealth. From this point, they must give a positive feedback to the sea after all this time they can live and support their families with the sea wealth. The relationship between fishermen and the sea is reflected in the Sadran as an expression of gratitude and beg for blessings to God. With hope, they can live safe, peace, and better than before. This activity has been going for centuries without knowing the creator and beginnings. All stories about Sadran are spreading over generation. In general, almost all marine and farming areas in Indonesia have a tradition similar to Sadran. But, there are a bit difference between Sadran in Bluru Kidul and in another place in Indonesia, that is *nyekar* (pilgrimage to Dewi Sekardadu’s tomb) before going to the sea with *sajen*. Dewi Sekardadu is the daughter of Prabu Menak Sembuyu, king of Blambangan, as well as Sunan Giri’s mother. According to the legendary tales of the Bluru Kidul community, Dewi Sekardadu was looking for her only son, who at that time was a baby and have been floating into the sea. During the trip, she fall and floating following the sea flow until arrive in Ketingan beach. Dewi Sekardadu was found by the fishermen aground and surrounded by keting fish. This word Ketingan was born from that Keting fish. Then Dewi Sekardadu was buried in the area which is now become Ketingan village, a location that held Sadran every year. Eventhough Ketingan is different village with Bluru Kidul, but this place is the last destination for Sadran in Bluru Kidul. The fishermen said that everyday before arrive in the sea, they always crossing Dewi Sekardadu’s tomb and the history told them that fishermen are respect to her as a great person over the time and decided as their ancestor. It must be the sacred place for them.

In Sadran tradition, at least four items are available during the ritual. That is *kemenyan* (incense) and *tumpeng* (mountain shaped rice), *sajen* (food for ritual), and *berkat* (food for eat together). First, fishermen doing ritual in their own dock with *kemenyan* and *tumpeng*. Second, they sail to the river intersection to throw the *sajen* in three points according the river branch. Third, they continue to sail to another sacred place according by them and do the same as previous step. Last, going to Dewi Sekardadu’s tomb to deliver the *sajen, berkat* (food for eating together), and pray together before floating the *sajen* to the sea. Now as community figure and government policy to distinguishing Sadran in three different names only in Sidoarjo, that resulting Tradisi Laut as Bluru Kidul’s Sadran.

Knowledge Preservation

Knowledge preservation is the process of maintaining and protecting knowledge that can be needed again in the future (IAEA, 2011). In theory, knowledge are preserved. When people who have this knowledge are no longer in the organization, the knowledge will still available in the organization. The knowledge are documented to prevent it vanish (Liauw, 2006). This is an effort to avoid the knowledge extinction as well as for the organization's live. Indigenous knowledge need to be preserved because this knowledge is dominated by tacit knowledge. It was very depending on individual memories. Which is spreading with an informal way over the generation through orally interaction. Knowledge distribution is limited, it is generally only done by one generation to the next generation with word of mouth and limited to particular places. In order to prevent it loss, indigenous knowledge preservation can be done by library, museum, and archive.

SECI Model

This research using SECI model from knowledge creation and conversion (Nonaka, 1991) as applied theory to sharpening the analyze of transfering indigenous knowledge in order to preserve the knowledge. Knowledge transfer can be related to knowledge creation and conversion as SECI model figured that consist of socialization, externalization, combination, and internalization. Knowledge process always start from individual knowledge or well known as tacit knowledge (Dalkir, 2005). Making knowledge available to the others, may need a further process that SECI model figured. Tacit knowledge will transform into explicit knowledge for broader use. From this point, knowledge are converted by changing tacit knowledge into explicit knowledge and will transformed into another format for broader application. At last, the knowledge can be understand and accessible by the others. Following the SECI model in knowledge creation and conversion are consist of; (1) Socialization, individual learning and knowledge sharing directly with another, usually individual learn it by observing or imitating another individual, (2) Externalization, tacit knowledge that only understand individually will be changed into explicit knowledge for broader benefit, another individual will understand somebody's tacit knowledge, in this step tacit knowledge are documented or recorder, (3) Combination, combining explicit knowledge into a new form, but no new knowledge created, in this step explicit knowledge are formed into the research text, books, journals, etc., (4) Internalization, individual will embedding the knowledge that already learn from another into his tacit knowledge. After passing internalization, individual can start socialization to another individual and so on. Indigenous knowledge need to be preserved to prevent risk of lost. Knowledge must be transfered to younger generation from older generation and convert it into another format to keep the knowledge availability over the time. This is because indigenous knowledge are represent local community sociocultural authenticity. Transfering knowledge might need SECI model that can be found in this research.

Bluru Kidul Village Profile

Bluru Kidul village is the lowland area as another areas in Sidoarjo regency. The area was 260,817 ha and has a fisherman community. This is because Bluru Kidul area is drained by the river that directly flowing into the Madura Strait. Fishermen in Bluru Kidul are rely on shrimp and shellfish as a market commodity. They sailing 2-3 hour from their houses to the sea from dawn until afternoon. Now fishermen's population are significantly decrease in the last decade. Last survey data from 2013 mentioned their population are 330. This problem are found by the younger tend to working in the factory as a labor than continuing their elder's job to catching the shellfish and shrimp.

RESEARCH METHODS

This research is using etnographic qualitative (Creswell, 1997) method in order to explain the indegenous knowledge of the fishermen community in Bluru Kidul called Tasyakuran Laut or Sadran and the knowledge transfer as preservation effort. This research is start from cultural and social insight during join the Tasyakuran Laut in the previous year. Why and how this tradition can resist, how the community transfering knowledge of tradition, also how the government's effort to keep the tradition resilience are the starting question of this research. Then researcher observing the fishermen community in Bluru Kidul including their daily life activities, their social activities, and their attention to Tasyakuran Laut tradition. The research question are expanding to know how they keep the tradition and the challenges that may occur from transfering knowledge to the next generation.

Data Collection Method

To obtain data and information from informant, are conducted from direct observation with join the Tasyakuran Laut and interview with one of community figure in Bluru Kidul. The community figure as informant are chosen under village leader's suggestion to collect data about Tasyakuran Laut or Sadran.

Informant

The only informant are chosen is Haji Waras (fisherman's grandchild and community figure). According to village leader, Haji Waras is the only man that become research reference in Tasyakuran Laut. He has many experience collaborating with students to doing a research about Tasyakuran Laut. Thus village leader give a suggestion to doing interview with him because he already know about Tasyakuran Laut and can answer many question about Tasyakuran Laut that frequently asked by students. Researcher having a conversation to speaking about Tasyakuran Laut to obtain various data. The interview using local language (Javanese) and will be write down in discussion with English translation to support the result finding. Researcher also recording the interview and find the documents, which consists of photos and videos about Tasyakuran Laut from the internet for further understanding the tradition.

RESULTS AND DISCUSSION

Preservation of Indigenous Knowledge in Bluru Kidul

The Bluru Kidul community considers that Tasyakuran Laut or Sadran are not in the risk for extinction. This tradition are supported by community's participation to keep the tradition and government's role on marine tourism promotion to shows that Sidoarjo have marine tourism potential. To ensure that opinion, researcher make an interview with selected community figure, he is haji Waras.

Haji Waras says, *"Selama iki nyadran (Tasyakuran Laut) nang kene (Bluru Kidul) aman-aman ae mas, tetep dilakoni wong kene, tapi nek pemangku-pemangku (tokoh masyarakat) wes gak onok yo isok ilang masio sing enom wes diwuruki. Sampeyan eroh dewe arek enom saiki akeh malese ngurusi ngonoan"* (After all this time Tasyakuran Laut in Bluru Kidul are away from extinction, people still do the tradition, inspite of have a risk to extinct if the elder are passed away eventhough the younger already learn about tradition. The younger tend to do not care about it).

Figure 1: Boat group that contain Tasyakuran Laut materials.
(Source:http://suryakabar.com/2018/12/02/desa-bluru-kidul-pertahankan-tradisi-nyadran-laut/)

However, it still having a risk to extinct as what Haji Waras said that if the elder or community leader already passed away, the knowledge about the Tasyakuran Laut will disappear if not inherited to the next generation. Eventhough there are still many young generation follows the tradition year by year, they are not fishermen but a labor. They tend to be more active to give their creativity to support Tasyakuran Laut, such as decorating boat and *tumpeng*. The elder are holding the ceremonial, they lead the pray and ritual, a part that the younger are not much involved.

Figure2: Dewi Sekardadu's thomb. (Source: Private collection from 2012)

In indigeous knowledge preservation about Tasyakuran Laut, many things are done to keep the knowledge survive. **First**, local government has the authority to protect the tradition and community as Sidoarjo's marine tourism symbol. The government already markup the Bluru Kidul as tourism village with Dewi Sekardadu's grave as a brand. **Second,** Bluru Kidul community plays a role to support preserving Tasyakuran Laut. The support are providing their creativity for *tumpeng* and *sajen* making, decorating the boat, inform another people to join Tasyakuran Laut, documenting the ceremony, and inheriting to young generation by accompany them to join the ceremony. **Third,** mass media having their part as journalistic institution to report the ceremony through television or newspaper.

Figure 3: Two guys bring *tumpeng* for eating together after praying in Dewi Sekardadu's thomb. (Source: http://hurek.blogspot.com/2010/03/nyadran-di-bluru-kidul.html)

Figure 4: *Obong kemenyan* (incense burning). (Source: http://hurek.blogspot.com/2010/03/nyadran-di-bluru-kidul.html)

Figure 5: Bringing *sajen* into the sea. (Source: https://gwslur.id/tradisi-nyadran-warisan-luhur-sidoarjo/)

Bluru Kidul community already recognize their culture and tradition about Tasyakuran Laut. They identified it as gratitude expression to almighty god. Eventhough fishermen population are decreased in the last decade, non fishermen are giving their participation not only to join the Tasyakuran Laut, but also donating fund or make a *tumpeng* and *sajen,* decorating boat, set a sound system in a boat for entertaining during the trip, also picking up their family to join the ritual. A detailed information about the history and procedural in Tasyakuran Laut is needed to be introduced. The objective is to prevent Tasyakuran Laut lost. According to Haji Waras, this attempt is introducing Tasyakuran

Laut not only to the community but also widely to tells that in Bluru Kidul have a tradition called Tasyakuran Laut.

In Bluru Kidul, Tasyakuran Laut don't have any document or record that contain its history. The founder of this tradition still become anonymous. Only document in photos and videos that records the Tasyakaran Laut ritual year by year that mostly owned individually. Tasyakuran Laut are not officially involving young generation and non fishermen community to documenting in video and photo during the ritual. But, they able to record and documenting Tasyakuran Laut as what they want freely.

Haji Waras says, *"Konco-konco reporter teko tv karo koran sering rene pas acara iki (Tasyakuran Laut) dimulai. Tujuane ngeliput acara kanggo disiarno nang tv utowo nang koran. Gak jarang wong amatiran yo melok ngrekam mas, engkok hasile diserahno nang koncone sing kerjo nang tv-tv cek iso disiarno"* (Television's reporter often come here when Tasyakuran Laut have just begin. Their goal is to live report the ritual then will broadcasted in TV or in newspaper. oftenly an amateur reporter are join to record the ritual and will be send it to their friend who working in mass media for broadcasting).

From what Haji Waras said, we know that mass media often come to Tasyakuran Laut with their journalist to make a live report about Tasyakuran Laut for television or newspaper purpose. An amateur journalist also make a report about it that will be send to their friend who working in mass media. Mass media have a role to promote and report this tradition widely through the television which is local or national channel, and newspaper to become widely known.

From the discussion above, we can conclude that indigenous knowledge preservation about Tasyakuran Laut or Sadran in Bluru Kidul can be done by the elder role to introduce the tradition to the younger. Then the younger supporting the tradition with their effort to decorate the boat, making *sajen* and *tumpeng*, informing another people to join the ceremony, and documenting or recording the ceremony. Also local government already promoting the tradition as marine tourism and mass media take a part in broadcasting this tradition.

Indigenous Knowledge Transfer in Bluru Kidul

In the way of transfering indigenous knowledge about Tasyakuran Laut to the younger, elder have a technique to transfer it that can be analyzed with SECI model. In **socialization**, Elders often get their children to join to see the tradition and do the same way year by year. Children will observing the tradition by themself and will have a question what is Tasyakuran Laut, why we do this tradition, or when we do this. Elders have a tacit knowledge about the tradition and they socialize it to the younger for knowledge transfering. Elders told the younger about what kind of materials that should be bring during Tasyakuran Laut such as *tumpeng, sajen, kemenyan,* and *berkat*. After learn from the elder, the younger can define what materials need to be bring for the ritual also they can support the tradition such as decorating boat, providing *tumpeng*¸ and so on. In **externalization**, Tasyakuran Laut will be recorded or documented by the people to keep the memory of the ceremony in the year. It is also for ease of learning to understanding Tasyakuran Laut. In **combination**, Bluru Kidul community are collaborating with another people such as students or researcher to write the report about Tasyakuran Laut in another form. Tacit knowledge about Tasyakuran Laut can be transformed into explicit knowledge. For example, students from universities often collaborating with fishermen to doing a research about Tasyakuran Laut, also public often collecting information from fishermen in the same manner with students. What fishermen know about Tasyakuran Laut will be explained to students, then they make report and book it. The book that containing research result is kind of knowledge record and document about Tasyakuran Laut. It will stored by community leader. Non student will post the information from fishermen through the internet such as website, personal blog, or social media. From this point we figure out that what fishermen knows about tradition will be transformed into another format, that is book and internet posts about Tasyakuran Laut. Explicit knowledge about Tasyakuran Laut becoming widely known. In **internalization**, what already learn from the elders are embedded to their knowledge for the next ceremony and will need to continued with another.

CONCLUSION

Tasyakuran Laut was a tradition that represents gratitude by the fishermen. Sea give them a livelihood with shellfish and shrimp and the fishermen conscious that they must give a thanks to the nature and gratitude to god. This tradition was fishermen culture based on their indigenous knowledge as a fishermen, now become communal culture in Bluru Kidul community that have marine tourism potential. Knowledge preservation in Tasyakuran Laut was done by many efforts such as picking up the children to join the tradition and give them an introduction to tradition, documenting the tradition that held every year as village or personal archive, established as tourism potential, and broadcasting in mass media. By picking up the children to join the tradition was an effort to transfer the knowledge, slow but sure they will accept it as their knowledge about tradition. Transforming the knowledge about Tasyakuran Laut into book format or internet based also important as an effort to keep the knowledge availability.

SUGGESTIONS

Beside the knowledge preservation and transfer as what we discuss above, knowledge preservation can be perfectly done with involving the whole community to care about documenting Tasyakuran Laut. Document have an authentical value as its tradition that become community cultural identity. We suggest that community figure must involving whole community to documenting the ritual as an village archive. They must take a photos and recording a videos of Tasyakuran Laut. Then they can post them on the internet and become village archive. Also teaching and involving young generation to take a role on ritual. If not, the younger are doubt can do the ritual well as the elder.

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The Green Library Initiative at Universiti Putra Malaysia

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ABSTRACT
UPM Library is committed to play its significant role in supporting the mission of its parent institution to conserve the university environment through various eco-friendly, green activities and quality management systems based on sustainable and efficient environmental management. The case study is written based on experience of the library staff, who is involved in managing the green library initiative since June 2017 and the report that was submitted to the "Administration Management Star Rating Award 2018". In this paper, the green libraries initiative around the world was briefly discussed and its implementation in UPM Library was described into five main elements such as budget, electricity saving, water saving, recycle paper and the initiative/ innovation implemented in the year 2018. In return, there are a lot of benefits after the implementation of the green initiative and UPM Library has shown green leadership capability among the UPM community which is reflected by winning one of the UPM awards that is second placing for the "Administration Management Star Rating Award 2018" during UPM Services Quality and Innovation Day. Green Sustainability is one of the components that were being evaluated for the purpose of this award.

Keywords: Environmental Management; University Environment; Green Library; Universiti Putra Malaysia; Perpustakaan Sultan Abdul Samad

INTRODUCTION

Nowadays, the concept of "Go Green" has been widely embraced in any types of organization either business or education. The concept of "Go Green" means to pursue knowledge and practices that can lead to more environmentally friendly and ecologically responsible decisions and lifestyles, which can help to protect the environment and sustain its natural resources for current and future generations (Samaranayake and De Silva, 2010).

As a higher learning institution at the forefront of the sustainability movement, Universiti Putra Malaysia (UPM) is also fully committed to alleviate and mitigate adverse environmental impacts. UPM is committed to provide services and to be developed based on the principles of sustainable development and responsible in raising the quality of life and ensure continuity of universal life through Green@UPM Fundamental Goals (Aris et al., 2018). As a result, UPM successfully listed as the world's top 17th university by the UI-Greenmetric World University Ranking. The ranking consist more than 40 indicators and covering six main scopes such as infrastructure, energy and climate change, waste, water and education (Khairul Anuar, 2018). As parts of the UPM organizations, the library also plays an important role in supporting the mission of Green@UPM Fundamental Goals.

From the article reviewed, many academic libraries strive to go green by designing a "green library", whether in the form of a new building or renovation. However, it has been pointed out that only few academic libraries have certain standard or certificate on green concept due to various limitations, either financially or in terms of space and embracing an holistic approach to sustainability practices may be a way forward (Jones and Wong, 2016). Moreover, literature search found that most of the articles regarding green libraries were published from the western and developed countries in Asia. There is still lack of local articles that published on this topic. This paper focuses on UPM Library as a case study and discusses how the library develops and implements its green strategy and how the strategy has gradually reshaped its services. We hope this paper can contribute as a best practices and guidelines for other libraries, especially in Malaysia.

BACKGROUND OF STUDY

Background of UPM Library

The history of the library began with the establishment of the Malaya Agricultural School on May 21, 1931 by John Scott, Government Administrative Officer of the Straits Settlements on the 22 acres of land in Serdang, Selangor. This historic event was witnessed by His Royal Highness the Sultan of Selangor, Sultan Hisamuddin Alam Shah. On 3 June 1947, the Malayan Union Government upgraded the status of the Malaya Agricultural School to Malaya Agricultural College and it was inaugurated by Sir Edward Gent, Governor of Malayan Union (Universiti Putra Malaysia, 2014)

Later in 1971, Universiti Pertanian Malaysia was established as a result of the merger between the College of Agriculture, Malaya and the Faculty of Agriculture, University of Malaya. The Library of the College of Agriculture, Malaya thus eventually became known as the Universiti Pertanian Malaysia Library. In 1997, the university was renamed as Universiti Putra Malaysia (UPM) in honor of Tunku Abdul Rahman Putra Al-Haj, Malaysia's first Prime Minister by the Prime Minister, Tun Dr. Mahathir Mohamad, as a strategic gesture to portray the status of UPM as a centre of higher education capable of providing fields of studies, especially in science and information technology, which facilitate national development in the new millennium. In tandem with the development, the Library was also officially changed its name to be known as the Universiti Putra Malaysia Library (Universiti Putra Malaysia, 2014).

And as of 23rd May 2002, the Library was renamed as Perpustakaan Sultan Abdul Samad (PSAS), Universiti Putra Malaysia, after the late great-great-grandfather of the current Sultan of Selangor, Sultan Sharafuddin Idris Shah Ibni Almarhum Sultan Salahuddin Abdul Aziz Shah Alhaj (Perpustakaan Sultan Abdul Samad, 2018). Located approximately 22 kilometres from Malaysia's capital city, Kuala Lumpur, UPM is among the Research Universities (RU) in Malaysia that is deeply committed to the discovery and distribution of knowledge. UPM is also known internationally as one of the most distinguished universities in the region and also for its academic disciplines. UPM presently has more than 26,000 students enrolled in its 71 Bachelor, 7 Diploma and 47 Postgraduate programmes at the Masters and PhD levels both in the Main Campus, Serdang and UPM's Branch Campus, Bintulu Sarawak (Hairul Nizam, 2018).

Since the establishment of the university, the library play its vital roles in providing resources, services, and facilities in supporting the university's learning, teaching, research and consultancy activities among the university community. The library is located strategically in the campus center and it is easily accessed by the students and lecturers. The library building comprises of two (2) blocks with a total floor area of approximately 19,007 square meters and it could accommodate about 2000 users at any one time (Perpustakaan Sultan Abdul Samad, 2018).

The Library has over the years built up its collections in various subject fields, both in print and electronic format. The Library currently holds a collection of 670,000 volumes of books and bound journals, as well as a collection of maps, sound recordings, microforms, video tapes and slides Besides the Main Library, branch libraries are located at the Faculty of Medicine and Health Sciences, Faculty of Veterinary Medicine, Faculty of Engineering and Architecture and the Bintulu Campus Library, Sarawak (Perpustakaan Sultan Abdul Samad, 2018).

Overview Green Library Initiative around the world

The Online Dictionary of Library and Information Science define that green libraries as "a library designed to minimize negative impact on the natural environment and maximize indoor environment quality by means of careful site selection, use of natural construction materials and biodegradable products, conservation of resources such as water, energy, paper, responsible waste, disposal, recycling and others (Reitz., 2004).

Brown (2003) identifies nine green design elements which can be incorporated into libraries such as the community collaborations, daylight, green materials, green roofs, raised floor systems, energy efficiency, natural ventilation, green power and renewable energy and indoor environmental quality. While, Greenmetric UI in year 2015 has six main categories to evaluate green sustainability in the university environment such as Setting and Infrastructure, Energy and Climate Change, Waste, Water, Transportation, Education and Research (Khairul Anuar, 2018).

In this paper, we observed the websites of the five libraries around the world that implement "Green Library Concept" as examples for discussions. The National Library, Singapore implemented their green libraries in the year 2005, then followed by

Minneapolis Central Library in the year 2006, Taipei Public Library's Beitou Branch, Taiwan in the year 2006, Anna Centenary Library, Chennai in the year 2010 and Kasetsart University Eco-Library, Thailand in the year 2012. Through the observations, four main elements on green initiatives were found use in this libraries such as materials and resources, energy efficiency, water conservation and indoor environmental quality.

From an overview, all libraries are purposely design and build with the concept of green libraries (Taipei Public Library's Beitou Branch (TravelkKing, 2019) and National Library, Singapore (Pan, 2012) and some of them used recycled materials for construction (Kasetsart University Eco-Library (KU Eco Library, 2012), Anna Centenary Library (2019), Minneapolis Central Library (Archiseek, 2010 and Clarke, 2019)). For energy efficiency, the deployment of various innovative 'green' features helps to keep the building operating in an energy-efficient way such as using LED and CFL lighting and motion sensors and energy efficient lightings that are switched on only when required after a closure of the library (Brown, 2003).

While on the water conservation, all of this libraries acting various efforts such as used of rainwater for landscaping and toilets. They also used recycled water for landscape irrigation and toilet flushing. In maintaining indoor environmental quality, most of the libraries used natural light to substitute interior lighting, and ventilation to reduce the needs of fans and air-conditioning. The libraries also develop an outdoor reading area to promote reading activities among library users.

METHOD

The case study is written based on the experience of the library staff, who are involved in managing the green library initiative since June 2017 and the report submitted to the Center for Quality Assurance (CQA) for the "Administration Management Star Rating Award 2018". Base on the report, the implementation of the green library initiative was categorized into five main elements and described in the next section.

GREEN LIBRARY INITIATIVE AT UPM LIBRARY AND THE ELEMENTS ASSESS

Universiti Putra Malaysia has embarked on the "Services Quality and Innovation Day" since the year 2013. The purpose of this celebration is to support the country's transformation agenda in realizing innovation and creativity in service delivery (Norliyani, 2013). During this celebration, certain awards were presented to the organization, team, and employees who have significantly contributed in improving the university services and innovation.

In the spirit to participate in the "Administration Management Star Rating Award", the Library 5S Committee was set up in the year 2014. Parts of the role of this committee are to plan and ensure that all the criteria's assess for the award are fulfilled. The committee role is also to help in encouraging the library staff to get involved in the green library initiative such as the "Reduce, Reuse and Recycle" campaign and to develop the green corners in every 5S zone in the Library.

In July 2018, to further enhanced the green initiatives in the Library the Green Sustainability Committee was set up to focus and play more roles in encouraging green initiatives and activities among the library staff. The Library was divided into several 5S zones. This is to ensure that the initiatives were effectively implemented and all staff in the particular zone was given the responsibility to manage the activities that are related to the green initiative.

This year (2018), the Green Sustainability Committee focused on the herbal garden project, utilities saving (water, electricity and paper), UPM sculpture, mural wall painting, and few others. For the purpose of the award assessment, the Green Sustainability Report was submitted to the Corporate Strategy and Communications Office, UPM in August 2018. There were five main criterias in the assessment of the implementation of the green sustainability as shown in Table 1 which include budget, electricity saving, water saving, paper saving and initiative / innovation organized by the participating organization. Certain criteria were adopt from the UI-Greenmetric World University Ranking, the ranking on environmental sustainability. UPM has been listed as the world's top 17th university in year 2018 by UI-Greenmetric World University Ranking based on its rigorous efforts to promote campus sustainability and effective environmental management (Aris et al, 2018; Hairul Nizam, 2018).

Table 1: Assessment of Green Sustainability

Elements of Green Sustainability	**Criteria of Green Sustainability**
Budget	Budget allocated for green sustainability initiatives
Electricity Saving	Annual report of the percentage consumption
Water Saving	
Paper Saving	Annual report of the percentage of paper purchase cost
Initiative / Innovation	The total number of Green Sustainability activities organized yearly by the organization

(a) Budget

The allocation of proper budget indicates the seriousness of the organization in their green sustainability initiatives as described in table 1. In the assessment for these criteria, the participating organization is to submit reports on the budget allocated, planning document and purchasing reports. In UPM Library, the management already allocated budget for the indoor flower rental since the year 2016 until early of 2018. Since the reducing of library budget, this rental was terminated. Later, the responsibilities to maintain the indoor flowers were given to the library staff base on where the indoor flowers were located.

The budget previously allocated in maintaining the indoor flowers was later given to the Library Green Sustainability Committee. The budget allocation was partly to set up the herbal garden in front of the library to beautify the library outdoor environment and also in preparing for the library visit by the delegates from the 84th World Library and Information Congress, Kuala Lumpur held in August 2018. The garden covers varieties of flowers, herbal plants and fruit trees.

(b) Electricity Saving

The university's attention to the use of energy and climate change issues takes the highest weightage in this ranking. With these criteria, the library is expected to increase the effort in energy efficiency on their buildings and should undertake more awareness on nature and energy resources. The evaluation for these criteria was based on the percentage of electricity consumption report and used the previous year report as the base line.

In UPM Library, many initiatives were taken to reduce the electricity consumption which include replacing the conventional light sources to LED (Light Emitting Diode), launching of the energy awareness campaign and used of economic photocopy machine. Replacing the light sources to LED initially is costly. However, it will be more economical over the years. While the campaign increases the awareness among library staff of their responsibility and on the important of energy saving at workplace. The used of the economic photocopy machine help to further enhance the saving on electricity consumption. The photocopy machine will automatically turn on to sleep mode if it is not in use.

(c) Water Saving

The aim of these criteria is to help the university to reduce the water consumption on campus and to increase the awareness on water conservation and protecting the habitat. Water conservation awareness program and piped water use are among the criteria use by Greenmetric UI (Universitas Indonesia, 2015). The evaluation for water saving is similar to the electricity saving which is based on the percentage of water consumption reports and used the previous year reports as the baseline. In UPM Library, among the initiatives taken to reduce the water consumption include repair leaking pipes and launching water conservation awareness campaign among the library staff. Notices to remind staff and users of water saving are placed in the toilets and staff pantry.

(d) Paper Saving

The evaluation for these criteria is based on the percentage of paper purchase costs and used the previous year reports as the base line. In UPM Library, among the initiative taken to reduce paper usage are by using double sided paper and the use of recycled paper for printing purposes. In addition, the library also encourages the use of online form to replace the printed form. For examples, in the 2018 Library Introduction Session for New students the Library has adopted the "Green Concepts" by minimizing the use of printed materials. Library Guides and Class Assessment Forms are no longer in printed version but are uploaded into the library website. As a result, the library managed to save 94% of paper usage. Furthermore, the use of the online assessment form facilitates students to easily evaluate the classes by using computer or smartphone.

Waste treatment and recycle activities are major factors in creating a sustainable environment in Greenmetric UI (Universitas Indonesia, 2015). Most staff and students activities on campus contribute to lots of waste, therefore programs on waste treatments have been among the concern of the university this include recycle program and policy to reduce the use of paper and plastic on campus. Recycle corners are provided by each 5S zones in the Library. Each 5S zones are free to explore their own creativity in creating this recycle corners and use of recycled materials were encouraged. The Recycle Corners created at all 5S zones commencing January 2017.

(e) Initiative / Innovation

In the year 2012, education criteria have been added to the Greenmetric. These criteria are based on the thought that the university has an important role in creating the new generation concern with sustainability issues (Universitas Indonesia, 2015). The evaluation for these criteria is based on the total number of green sustainability activities that have been organized by the organizations in UPM. In UPM Library, among the initiatives taken were launching of the "Green Library Initiative", creating recycle corners and green corners at all 5S zones, herbal garden, UPM sculpture, mural wall painting and a few others.

(i)The Launching of the "Green Library Initiative"

The Green Library Initiative in UPM Library was officially launched in June 2017. A brief on the green sustainability initiative at UPM level was outlined by YBhg Prof Datin Paduka Datuk Vice Chancellor and the library action plan was address to all staff by the Chief Librarian, Encik Amir Hussain Md. Ishak on June 9, 2017

(ii) UPM Sculpture

The Sculpture Project of 'We Love UPM' was completely design and constructed within two months (July and August 2018) by the library staff. The sculptures were made of recycle steel book shelves, boards and wood. There were two (2) sculptures constructed, one inside the Library and the other was constructed right in front of the Library. These sculptures have become the Library new landmark and have attracted visitors to capture their memories during their visit to UPM Library.

(iii) Mural Wall Painting

Mural wall painting was painted on the side wall of the library main staircase to create more beautiful environment and to blend with the herbal garden. This mural wall painting was also painted by a group of library staff and was completed on August 2018. Some of the materials use was contributed by the library staff. The mural wall painting is also becoming one of the attractions among the library visitors to capture their memories while visiting the library.

CONCLUSION

As parts of the university organizations, UPM Library is committed to play its significance roles in supporting the mission of its parent institution to conserve the university environment through various eco-friendly, green activities and quality management systems based on sustainable and efficient environmental management. In order to enhance the knowledge and skill among the library staff, the Library has scheduled courses regarding plant care and compost fertilizer preparation. In return, there are lots of benefits after the implementation of the green initiative such as reduce on budget, energy saving, good staff attitude towards energy consumption and also increase healthy workplace among library staff through teamwork activities. UPM Library has shown green leadership capability among the UPM community which is reflected by winning one of the UPM awards that is the second placing for the "Administration Management Star Rating Award 2018" during UPM Services Quality and Innovation Day. Green sustainability is one of the components that were being evaluated for the purpose of this award.

Presenter Biography

Encik Muzaffar Shah Kassim was appointed as the Chief Librarian of the Universiti Putra Malaysia (UPM) Library in May 2018 and starts his career with UPM since the year 1985. He obtained a Bachelor on Library Sciences from the Institut Teknologi MARA (currently known as Universiti Teknologi MARA) and holds Master in Economics and Social Studies (Library and Information Sciences) from the University of Wales, Aberystwyth. His interest is on managing library building transformation and income generation. Under his leadership, UPM Library actively introduces new library services and facilities to fulfill the current trends of the library users and recently has won second place for "Administration Management Star Rating Award 2018" during UPM Services Quality and Innovation Day.

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The Transfer of Indigenous Knowledge on the Pecinan Traditional House among Generations in Indonesia

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ABSTRACT
One of the cultural heritages in Situbondo regency, East Java province, Indonesia, is Pecinan traditional house which has not been maintained in one of the competent institutions in the region such as library or museum. At present, its existence is hard to find, especially in the city center and in the modern village. Many young people do not know the history, the function, the tradition and the value of this house as their ancestral heritage. Therefore, the objectives of this study are to find out how indigenous knowledge (IK) is being transferred and acquired and the barriers that hinder intergenerational knowledge transfer. The method used in this study was qualitative. The sample used was stratified purposeful sampling divided into baby boomers (1946-1964), generation X (1965-1980), and generation Y (1981-2000). The results showed that IK transfer for baby boomer was obtained from storytelling and observation. While for generation X was only through storytelling and generation Y was through the internet. There was no obstacle for baby boomer in the knowledge transfer. While in generation X and generation Y they were due to the existence of socio-cultural factors. There were also communication gap, the lack of appreciation and a sense of belonging to their culture and the lack of awareness to transfer it back to the next generation. This study gives an insight into the library and local government to give their contribution in maintaining and preserving local knowledge to prevent its loss.

Keywords: Indigenous knowledge transfer; Pecinan house; baby boomer; generation X; generation Y; Indonesia.

INTRODUCTION

At present, the existence of Pecinan house as an IK in Situbondo regency especially in the modern village is difficult to find because it has been replaced by modern houses but, it may still be found in some areas that are far from the city center although there are few. It is worrying when the number of the traditional house has begun to decrease in modern villages although it has high aesthetic values and many useful functions.

Situbondo regency is a small town located in East Java Province, precisely in the east end of East Java. Situbondo is included in the *horseshoe* area which consists of 7 regencies and named *horseshoe* because the shape of the area in the map is similar to the shape of a horseshoe. The community of the *horseshoe* area is known as the *Pandhalungan* community which means they have mixed cultures between the two cultures, *Javanese* and *Madurese*, but the dominant culture is *Madurese*. This study focuses on the Pecinan traditional house in four modern sub-district namely Panji, Situbondo, Arjasa, and Asembagus.

IK really needs to be preserved as an effort to maintain the preservation of local community knowledge that continues to be known to the next generation. Besides, it also strengthens the knowledge of indigenous people, increases the awareness of the younger generation of their culture and traditions, initiates to the policies, and can be a significant resource in increasing sustainable development.

However, neither the library institution nor the museum institution in Situbondo at the forefront to take the initiative to manage IK. In fact, the management of IK has been generated only by researchers and journalist. The lack of attention in preserving this Pecinan house could damage and threaten the existence of IK and will eventually make the loss of identity of a society and nation. Hence, preservation of traditional house is very important because of its values as local culture and ancestral heritage where there exists the uniqueness of the house, the philosophy of each part and ornaments, the history, the materials used, the functions, the development in society, and etcetera.

This study is expected to have a contribution academically and practically. Academically, as Kgomotso (2012) mentioned that The International Federation of Library Association (IFLA) has clearly mandated libraries to:

- collect, preserve and disseminate indigenous and local knowledge;
- publicize the value, contribution, and importance of indigenous knowledge to both non-indigenous and indigenous peoples;
- raise awareness on the protection of indigenous knowledge against exploitation;
- involve elders and communities in the production of IK and teaching children to understand and appreciate the traditional knowledge; and
- encourage the recognition of principles of intellectual property to ensure the proper protection and use of indigenous knowledge and products derived from it.

Practically collaborating among the library, local government, and local people in acquiring, storing, and making IK accessible can improve community awareness and appreciation of their IK. It can also initiate many programs such as teaching to the youth generation, built a traditional house for tourism destination, create books and videos that can be stored in library or museum and disseminated to the community and etcetera. Those can benefit to sustainable development and preserved local wisdom.

Assumptions to the study are knowledge transfer continually to decreases even forgotten from the older generation to the younger generation, tradition is still firmly kept by older generation and continue to die to the younger generation, factors that hinder knowledge transfer becoming increased from the older generation to the younger generation, and those factors are socio-cultural, communication gap, values, and attitudes.

Thus, the study aims to investigate on how IK transferred and acquired regarding Pecinan house in different generations in modern villages in Situbondo regency and how the barriers hinder the effectiveness of IK transfer among them in order to understand why the tradition has been becoming disappear recently. This IK result will develop and increase public awareness, library, and local government in disseminating and empowering IK throughout the community, especially the young generation.

Pecinan Traditional House

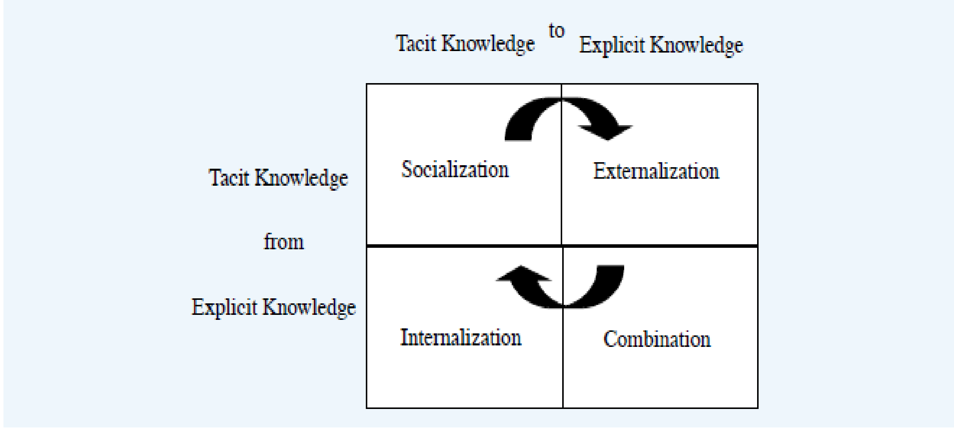
The history of Pecinan's house or what is often called *Pacenan* or the other name is *Tabing Tongkok, Gebluk, or Bin Sambin* by the people in Situbondo regency is originated from migrants from China to the Situbondo around 1870 (Arifurrohman, Koriawan, Radiase, n.d.). The migration caused Chinese people to settle, trade, and marry Situbondo residents, especially in the area of Tanjung Pecinan village and then they made Pecinan house. The house is not only influenced by China's culture, but also Java and Madura that can be seen in the model of the house on the roof, fence, carvings, and so on. The word of Pecinan comes from Madurese word '*pa-Cena-an*' which means like a Chinese building (Tulistyantoro 2005).

Pecinan house is very unique because each part of this house is made from wood and connected using pegs, not using nails at all, so this house is very easy to install and dismantle. This house is also resistant to an earthquake because the pillars are not planted in the ground. Thus, if an earthquake occurs, it is more dynamic, sturdy, and flexible to the shocks.

Framework

This study was guided by the theory of knowledge management which is very appropriate to be applied to regulate how IK should be preserved. It is because knowledge management refers to a system of actions with knowledge, which includes the establishment of strategies and procedures, with proper utilization of technologies, so that the acquisition, storage, conversion, sharing, application and generation of knowledge can be effectively performed; the goal is to effectively use the available knowledge for problem-solving and decision making (Lai: 2005, Lwoga, Ngulube, & Stilwell: 2010).

The authors use a model from (Nonaka & Takeuchi: 1995, Dalkir: 2005) to find out how knowledge is transferred from tacit to explicit by informants. There are four models of knowledge conversion, as illustrated below:



Source: Nonaka and Takeuchi, 1995, p. 62.

Figure 1: The Nonaka and Takeuchi Model of Knowledge Conversion

It explains that the Socialization (tacit-to-tacit) consists of sharing knowledge in face-to-face, natural, and typically social interactions. The process of externalization (tacit-to-explicit) gives a visible form to tacit knowledge and converts it to explicit knowledge. The next stage is a combination (explicit-to-explicit), the process of recombining discrete pieces of explicit knowledge into a new form. The last conversion process, internalization (explicit-to-tacit), occurs through diffusing and embedding newly acquired behavior and newly understood or revised mental models. Internalization is strongly linked to "learning by doing."

LITERATURE REVIEW

Knowledge and skills in IK are shared over generations, and each new generation adds and adapts in response to changing circumstances and environmental conditions (Kaniki & Mphahlele, 2002). The generation itself divided into baby boomers who were born between 1946 and 1964, generation X were individuals born between 1965 and 1980 (Strauss & Howe, 1992; Hobbs & Stoops, 2000; Lancaster & Stillman 2002, Bourne 2009). Generation Y was born between 1981- 2000 (Jefferies & Hunte 2004; Lancaster & Stillman 2002; White 2004, Bourne 2009).

To help the knowledge from suffering from the loss, the need to transfer knowledge among generations is very important. When the elders who have knowledge died without sharing their tacit knowledge, then the community especially the young generation will lose a lot of intellectual knowledge and give the impact in the loss of the identity of a society. Therefore, the knowledge transfer that involves in different generations which is the elderly and young generation faces different issues that need to be considered in making the knowledge transfer process a successful one (Md Sabri, Haron, Jamil, Ibrahim, 2014). Knowledge transfer among generations is a dynamic and interactive process of sharing tacit and explicit knowledge that is mutual and involves two or more individuals from different generations (Harvey 2012; Kuyken, K., Ebrahimi, M., Saives, A-L. 2018).

However, Harvey (2012) reported that the perceptions of generations involved in the transfer of tacit knowledge are not consistent, about what deserves to be retained, transferred, and reused by the next generation. The impact could only be seen in the long term because this situation will be repetitive and passed to the following generation. In another situation, the transfer process could be interrupted or the recipients feel not interested in the knowledge being transferred (Md Sabri, Haron, Jamil, & Ibrahim, 2014). It can make generation gap occur because a broad difference in values and attitudes between two generations or between elderly and younger generation that occurs when they do not understand each other due to differences in their opinions, habits, and behaviors (Faye, Lortie, & Desmarais, 2008; Sarikhan, 2009; Md Sabri, S., Haron, H., Jamil, N., & Nuraihan Mior Ibrahim, E. 2014). Besides, knowledge creation is also impacted by cultural factors and social (Lee, H., & Choi, B. 2003; Cloete & Snyman, 2003; Pollard, 2003; Annadata 2012). Cultural aspects include aesthetics, education, language, law and politics, religion, social organizations, technology and material culture, values, attitudes. While social factors include reference groups, family, role, and status in society (Kozenkow, 2018). Next barrier is a communication problem that can create more problems than opportunities (Kister 2012; Md Sabri, S., Haron, H., Jamil, N., & Nuraihan Mior Ibrahim, E. 2014.

RESEARCH DESIGN

Method

This study uses a qualitative with a phenomenological approach. Data collection was done through interviews and observation. A semi-structured interview was conducted, where open-ended questions were posed and recorded using the voice recorder. While the observation was conducted through daily activity. Examination of data validity was carried out by triangulation the data interview from the three different generations (baby boomer, generation X, and generation Y).

Informants

The sample used in this study was stratified purposeful sampling. The informants were those who own the Pecinan house, an heir to the house, or a neighbor of the Pecinan house owner. They divided into baby boomer (1946-1964), generation X (1965-1980), and generation Y (1981-2000). A total of 25 participants were selected which are: 7 people for the baby boomer, 7 people for generation X, and 11 people for generation Y. The authors decided to keep all responses anonymous assigning alphabet letters to participants, for example, participant A, B, etcetera even though they had no problem with being mentioned in the study.

Data analysis

Data analysis was conducted according to Moustakas (1994) in Creswell (2018) as follows:

- Describe personal experiences with the phenomenon under study
- Develop a list of significant statements
- Group the significant statements into broader units of information

- Create a description of "what" the participant in the study experienced the phenomenon
- Draft a description of "how" the experience happened
- Write a composite description of the phenomenon

RESULTS

Interview

a. Knowledge transferred and acquired among generations

In order to understand how knowledge was transferred regarding Pecinan traditional house, each generation was asked to share their experience on how knowledge is acquired and transferred to them. The following responses were given (see Table 1, Table 2, and Table 3).

Table 1: How knowledge transferred and acquired in baby boomer generation

Participant	Response
Participant A	"I know the story of the Pecinan house from my parents when I was a child. They usually told me before going to bed, not just stories about Pecinan house, but all the stories of ancient times."
Participant B	"I know from my grandfather. It was done usually after the evening prayer because it was a relaxing time, there was no TV, so we usually spent the time to gather and listen to our grandfather stories."
Participant C	"In the past, there were many people made Pecinan house. I remembered the architectural designs and functions of them because I often talked to the builder who made it."
Participant D	"I often get involved if invited to the "*jheg ngajheg*" tradition to dismantle and to install the Pecinan houses if there someone going to get married."

Knowledge has been transferred to baby boomer generation orally through storytelling that was carried out by baby boomer parents or grandparent during their spare time usually at night before they went to sleep. They have a lot of time to spare together, so telling a story is the best activities. While observations were done through seeing the builder who made it because there were still many people who applied and upheld the tradition at that time. The observation was also done through *"jheg ngajheg"* tradition.

Table 2: How knowledge transferred and acquired in generation X

Participant	Response
Participant A	"I know about Pecinan house story from my parents. They usually told stories at night to me."
Participant B	"I remembered about historical issues was told by my parents on every Sunday because it was a school holiday and parents were not going to the rice fields."

Knowledge has been transferred to generation X from their parents (baby boomer) orally only through storytelling during their spare time, at night or on the weekend when they did not go to the rice field. While observation activities have not existed in this generation because no one has made it anymore, as stated by participant C that "In my era, many young men think that parents responsibility in giving Pecinan house to their son is burdensome to their parents, because it spent a lot of money and not many parents are rich in the village." Participant D stated that "In my day, this "*jheg ngajheg*" tradition is only for helping to organize wedding party but not for making a house for marriage, no one applied this tradition anymore because it was complicated, there were offering and selametan (communal feast) rituals that must be held and it spent a lot of money."

Table 3: How knowledge transferred and acquired in generation Y

Participant	Response
Participant A	"... I am not very close to my parents because I have been busy with school activities. So, It is rare to talk a lot with parents. I know the Pecinan houses because my grandmother has it, but grandma also never told about it, i know it from the internet."
Participant B	"My parents never told me because they were busy. I know from the internet when there was an assignment from school which asked students to find the culture and tradition that still exist in Situbondo. "

Both storytelling and observation did not longer exist in generation Y as a knowledge transfer. Generation Y parents (generation X) have never transferred the knowledge they already got from their parents (baby boomer) to their children (generation Y) because both of them were very busy with their activity. Instead, generation Y got the information through the internet.

They also never know about *jheg ngajheg* for marriage tradition. Participant C stated, "I have never seen anyone doing *jheg ngajheg* tradition for marriage or built this house, even though if there is Pecinan house still exist now, it is an ancestral inheritance to their children and grandchildren which still used." Another statement by participant D that "Todays, If people want to get married and want to build a house (a modern house), they just build it without doing *jheg ngajheg* tradition."

b. Barriers that hinder intergenerational knowledge transfer

Due to the activities of knowledge transfer and acquisition, informants were asked how obstacles that might come and hinder the effectiveness of knowledge transfer in each generations related to socio-cultural factor such as technology, education, migrants, communication gap, the appreciation and sense of belonging to a culture, and the awareness to transfer the knowledge. The following responses were given (see Table 4, Table 5, and Table 6).

Table 4: How barriers hinder knowledge transfer in baby boomer generation

Participant	Response	Barriers
Participant A	"In our time there were no televisions and cell phones..."	Technology
Participant B	"The number of people was few, there were not many outsiders, the highest community education was only up to elementary school, and many even did not graduate because they preferred to work to help parents rather than schools."	Education
Participant C	"We are very close to each other and always got much advice from our elders for all of our problems and activities."	Communication gap
Participant D	"I am very proud of what my parents revealed to me regarding knowledge, traditions, principles of life, and so on. So, I should have applied it."	Appreciation and sense of belonging to a culture
Participant E	"I have to pass on this tradition to posterity because this is a pride of our ancestors."	The awareness to transfer knowledge

In this generation, there are no obstacles that hinder the transfer of knowledge from the baby boomer parents to them (baby boomers). There is no influence of technology and their education only up to the elementary level and many do not go to school because they choose to help parents, so they are not affected by modernity. They are very obedient and very close to their parents, hold the traditions and appreciate it strongly. They also deeply care to preserve the knowledge they get by telling it back to their children (generation X).

Table 5: How barriers hinder knowledge transfer in generation X

Participant	Response	Barriers
Participant A	"Television had existed in my village around the year 1977. After that, people's lifestyles began to be affected and little by little changed, imitating the style that is on television and pursues their dream by going to school."	Technology
Participant B	"In our time, there were many migrants from cities due to marriage or work assignments. The youth in the village began to imitate their habits which were considered more modern than they were. Finally, many people were affected and followed their lifestyle such as building a modern house and so on."	Education
Participant C	"My child and I often have different opinions about seeing things. Sometimes I find it difficult to understand their views and cannot impose my will on them."	Communication gap
Participant D	"Traditions in our time were rarely applied. I prefer not to follow tradition because it was something complicated and not modern anymore."	Appreciation and sense of belonging to a culture

Participant E	"I think children today can find it themselves through technological advances such as the internet and so on."	The awareness to transfer knowledge

In this generation, the barriers to knowledge transfer exist due to the influence of technology, such as the emergence of television and the presence of migrants from big cities. The lack of closeness with their parents (baby boomer) makes them reluctant to apply what their parents have applied for the tradition. Thus, make them lack in appreciation and sense of belonging to their culture and affected their awareness to did not transfer it back to the next generation.

Table 6: How barriers hinder knowledge transfer in generation Y

Participant	**Response**	**Barriers**
Participant A	"This tradition is no longer in our village, so we don't know about it. Many young people here have gone out of town to study and work, education for us is the most important."	Technology
Participant B	"Now we live in the modern era where technology is everywhere and there are no more people in this village apply the tradition."	Education
Participant C	“My parents and I rarely talk to each other and discuss for many things.”	Communication gap
Participant D	"Even if we know the tradition, maybe we will not implement it in our lives because it is modern now."	Appreciation and sense of belonging to a culture
Participant E	"Telling a story directly is not necessary because now information can be easily obtained through the internet, ..."	The awareness to transfer knowledge

It can be seen from the table that barriers that hinder the generation Y are due to the influence of the advanced technology and high educated. The lack of closeness with parents makes them difficult to share anything. They are very independent in deciding a lot of things and do not involve parents anymore. The lack of appreciation to care about the values of culture and traditions resulting in the lack of their awareness to share the knowledge.

Observation

From daily observations, the author discovered two issues. First, Pecinan traditional house was only preserved in human minds as a tacit form and there is no documentation made by local people. Thus, it is vulnerable to gradual disappearance due to memory loss and elders death. Elders think that when knowledge is already preserved in marriage tradition rules and "*jheg ngajheg"* tradition, it will exist forever and no need to document it. But the problem is, it turns out that the rule had lost due to socio-cultural factors and etcetera, which make Pecinan house history, values, rules and aesthetics have not been documented at all in a form of tangible knowledge. Consequently, there have been no books, recordings or videos ever made from local people about the comprehensive information of Pecinan house. Some explicit forms which available are made by the outside community such as news and research paper, and the information in it was inadequate because none of them explained in detail the history of the origins, the traditions, the rituals, the existence and etcetera about Pecinan house information.

Secondly, there are also no formal or non-formal organizations that specifically teach about IK to the younger generation. So, teaching about local knowledge and tradition is required by the local government. Teaching will also provide opportunities for teachers to collaborate with the young people to keep the transfer of knowledge going in order to to make younger generation know and appreciate their own ancestral heritage.

DISCUSSION

Interview

From the interview we analysis some results, among others:

(a) Knowledge transferred and acquired among generations

Knowledge transferred and acquired in baby boomer generation

This study found that IK transfer in baby boomer generation only occurs in a form of *socialization* (tacit-to-tacit) which are storytelling and observation. Storytelling activity was carried out by baby boomer parents or grandparent during their spare time usually at night before they go to sleep. While observations are done through seeing the builder who makes it and through "*jheg ngajheg"* tradition.

The*"Jheg ngajheg"* tradition is a tradition about inviting neighbors, relatives, and friends to participate in helping to the installation of Pecinan's house where there is someone who wants to marry. Pecinan house is given by parents to grandson as a gift and a form of parents' responsibility for their son who will marry because this is a male responsibility to the woman he is going to marry. The house must be dismantled and then bring it to the prospective bride location using a truck if the location is far, or carried together by male participants if the location is near and then they assembled it after arrived. Even, if the one who moved is the prospective bride to the prospective groom area, the house must still be made without moving the house but only install it. If then the couple divorce but they do not have children, then the house will be brought back by the man, but if they have children, then the house will be given to the woman. For that reason, this house is made easy to be dismantled and assembled.

In this generation, the tradition is still held firmly by them, it is because baby boomer parents are very concerned about applying and transferring the knowledge to their children (baby boomer) so the traditions still occur a lot in their environment. Besides, baby boomer parent also require themselves and their children to apply the tradition.

Knowledge transferred and acquired in generation X

In generation X, IK transfer also occurs in a form of *socialization* (tacit-to-tacit) but only through storytelling which was delivered by generation X parents (baby boomer) to them. There was no observation anymore because people began to leave the tradition. The "*jheg ngajheg*" tradition as a real activity in the application of Pecinan house has begun to extinct in the modern village because no more generation X wanted to make it and upheld the tradition as strongly as their parent (baby boomer). The reason why the tradition was not held anymore in generation X is because they think it will burden their parents to make the house because it is parents responsibility and many rules must be applied such as offering and selametan (communal feast) rituals before and after building the house which is a very complicated ceremony and a lot of expenses will be spent.

Knowledge transferred and acquired in generation Y

Generation Y do not get the information through storytelling from their parents (generation X) because their parents did not transfer it to them. There were also no observation can be done because they did no do *jheg ngajheg* tradition at all to built the house. Instead, the *internalization* knowledge transfer (explicit-to-tacit) occurs in this generation because they obtained the information of Pecinan house only from the internet. It is unfortunate that storytelling and observation did not occur at all in this generation. The tradition might die off because there is no tradition that must be held firmly especially in *jheg ngajheg* tradition for marriage rule.

(b) Barriers that hinder intergenerational knowledge transfer

There was no obstacle occur for knowledge transfer in the baby boomer generation. It was because there were no socio-cultural factors that hindered the process, they still apply the tradition, very obedient to their parents, really appreciate what their parents do and decide to their life, and they also have a sense of appreciation and sense of belonging to the culture they have and high awareness to transfer it back to the next generation. Baby boomer generation can safeguard this knowledge and ensure the survival of the knowledge for future generations by sharing their tacit knowledge to their children (generation X).

Meanwhile, the same thing did not happen in generation X. They began to leave the tradition because of the socio-cultural factor such as technology, education, and migrants. Since then people have been affected by modernization and changes in lifestyles. They desired to become more advanced and took higher education. Tradition has begun to be abandoned, so that appreciation and concern for the preservation of tradition to the next generation has begun to be forgotten.

The transfer of knowledge hindered in generation Y is because of the existence of socio-cultural factors mainly technology and education. Generation Y is web savvy and highly connected via social media. The existence of communication gaps between generation Y and X also trigger the lack of trust for any information that conveyed by their parents and consequently makes the lack appreciation and sense of belonging of generation Y to their culture and then make lack of awareness to transfer it back to the the others. They also do not want to apply the tradition in their life because they think it is not modern.

Observation

From the observations, the author summarizes two issues. First, there is no explicit knowledge made by local people. Secondly, the teaching program is needed for the young generation to introduce, to encourage, and to make them respect their local tradition. Those issues could be resolved with the involvement of library and local government to initiate programs that support the revive of local tradition.

CONCLUSION

It can be concluded that from generation to generation the transfer of knowledge both storytelling and observation has diminished and has finally disappeared. The more barriers appeared the more tradition is abandoned. The barriers caused the young generation do not care and do not want to apply the tradition in their life. A form of tangible knowledge from local people is not available at all because knowledge is only preserved in human minds especially elders as tacit knowledge. The teaching program is needed to maintain the knowledge transfer to the youth.

Therefore, it is important to take precautionary measures so that the traditions and culture might not a loss. The need for library and local government involvement to collaborate with local people and initiates many programs is really worth in order to increase community awareness especially young generation of their own culture and tradition as their identity.

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The use of school libraries in selected secondary schools in Ilorin, Kwara State, Nigeria

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ABSTRACT
The study examined use of school libraries in selected secondary schools in Ilorin, Kwara State, Nigeria. A survey approach was adopted while questionnaire was used to collected data from 256 students drawn from four different school through total enumeration sampling technique. Five research questions were raised to guide the study. The results revealed that the use of school library enables students to have broader knowledge of different subjects, prepare and perform well in their examinations, and respond well in class. Furthermore, the result of the study shows that challenges such as unavailability of audio-visual materials, insufficient library resources, lack of internet facilities and unsatisfactory attitude of library staff are hindrances to effective use of school libraries by the students. The impact of school library on academic performance of the students cannot be overemphasized, because of the role it plays in acquiring, processing, organizing, disseminating and preserving relevant information resources to meet user information needs. Therefore, the government, proprietors/proprietress, school management and the school library staff should made available relevant and useful library resources that will help in enhancing students' performance in all areas of their academic pursuit. The study recommends among others that there should be provision of sufficient library resources by the government, proprietors/proprietress, and school management as this will enable students to have access to their various information resources.

Keywords: School libraries; Secondary school; Secondary school students; Library resources; Kwara State; Nigeria

INTRODUCTION

A school library is a library attached to primary and secondary school levels of education. The school library unlike public, special, university libraries is unique because its objectives are mainly centered on enriching the foundation of learning (pre-school, primary and secondary schools). It is expected that the foundation of any endeavour should be solid and form the basis of a higher and lasting structure. The school library therefore, should form the foundation of a child's independent use of information and this foundation is expected to make and solidify the child's use and analysis of information at a higher level of learning and indeed throughout the child's life, when formal education would have terminated. Therefore, the role of school library is fundamental in the stimulation of learning skills, creative and reflective thinking, and more importantly, independent self-learning.

School libraries in the educational institutions such as pre-primary, primary and secondary schools are important to the life-wire and foundational up-bringing of children. This is because they primarily stock materials that are of interest and developmental growth for young, teenagers and youths of the era (Edeghere, 2001). School libraries are known as learning laboratory for the school. They provide the entire learning package required by the students and their teachers for learning and teaching respectively. A school library according to Elaturoti (1995) can be defined as a room or a building within the school premises where a collection of books and non-book materials in various subjects' fields is kept for reading. He further stressed that apart from the school library, there is the classroom library. The classroom library according to Elaturoti is a small collection of books in a corner of the classroom. Its collection is meant to enrich and supplement the classroom study, and the classroom libraries are branches of school libraries. According to Ayeni and Oyebanji (1997) a school library is a strategic arm of its parent institution. Its major aim is to organize collections of all human efforts either in print or non-print forms that are relevant to the educational development of the children. Whereas, Ezenwa (1993) was of the view that school libraries are libraries in primary and secondary schools whose collections are mainly for the young. For him the school library is not only a depository and a storehouse of knowledge and a center for the dissemination of knowledge but also a recreation and relaxation center.

For school libraries to attain their objectives there must be set standards to serve as guidelines for management. Some of these guidelines are contained in some important policy documents on education management at local and international levels. The National policy on Education (1998) is the main policy document prescribing standards on the levels of education in the country. The policy lists the library as an education service to be provided in schools. It says, "As libraries are one of the most important educational services, proprietors of schools shall provide functional libraries in all their educational institutions in accordance with the established standards. They shall also provide for training of librarians and library assistants for this service".

The role and contribution of school library services in the provision of education at all levels cannot be overemphasized particularly when one considers the functions of a library within the school system. Robin (2005) confirmed that any high school without an efficient and effective library is comparable to a car without engine. Therefore, every school (pre-primary, primary and secondary) should set up a school library that will be responsible for acquisition, organization, preservation and conservation of various information materials needed for learning of pupils and teaching of the teachers. Because just as the university library is the intellectual center of a university so also is a school library the center of intellectual activities in a school. For this reason many educationally advanced countries pay much attention to the development of school library services. Alemna (1988), state that school libraries contribute to the total development of the students and teachers and enlarge their knowledge and stimulate their imaginative, critical and creative facilities. He also points out that the main purpose of the modern school library is to support the educational aims of the school, supplement students' classroom or broaden their horizons.

The fact has also been established that a well-stocked, professionally staffed school library will assist individualized learning and improve pupils and students performance throughout the school curriculum (Shaibu, 1997). Wali (1978) rightly pointed out that the school library serves as the “web” of the school, the axis on which the intellectual life of the school revolves; however, he was quick to say that “yet in practice the school libraries are not the real centre of attention in our schools.”

Furthermore, many scholars, parents, principals and successive governments have recognized the fact that the presence of functional school libraries is essential to the educational development of the nation. This was clearly demonstrated in the National Policy on Education which clearly identifies libraries as one of the most important education services (FGN, 2004). The policy therefore, urges the various arms of libraries in all educational institutions to train librarians and library assistants for effective services and utilization of same. In spite of the above, however, school libraries in Nigerian secondary schools are still performing below the roles defined for them in the new national policy on education. That was why Ibrahim (1997) asked why in spite of technological advancement and the rapid growth in the Nigerian educational sectors, school libraries still display inadequacies in funding, staffing, collection and services. Some of these variables as identified by Ibrahim are still in one way or the other affecting the provisions of varied library resources for the use of the students of Nigerian secondary schools.

Despite these objectives, it is amazing to however observe that the development of school libraries in Ilorin is receiving the least attention from school principals and the government. Some school libraries are not well established, some are found in dilapidated buildings and some were not well funded. School library services may be seen as the most neglected of all services in the school system by the principal and the government. Since the introduction of school library into Nigeria in 1946, the process of school library development recently seems to be slow and many schools are yet to have good libraries or have adequately equipped ones.

The study, therefore, intends to investigate and analyze the use of school libraries by secondary school students in selected secondary schools in Ilorin-West Local Government, in order to determine the extent to which school library resources are being used by secondary school students, how often the students use the library, and appraises the influence of availability, accessibility and impact of school libraries on secondary school students performances, as well as determine the constraints hindering the use of school libraries in some selected secondary schools in Ilorin-West Local Government Area.

The place of school libraries in the overall development of Secondary School education cannot be over emphasized because as a resource centre, it is expected to acquire and organized print and non-print materials suitable for the needs of the users and more so, as a learning laboratory. It is expected to provide materials to support teaching and encourage students to find out things for themselves. In the past, government has sunk large sum of money into the provision of library material resources for both teachers and students of the state. Regrettably, observation indicates that government efforts have not led to effective utilization of school libraries by students and teachers of Kwara State secondary schools.

It has been noted that the problems that affect reading and uses of school libraries resources at the secondary school level in the State are a carry-over from the lower level of education. Kolawole and Kolawole (2007) remarked that most primary schools in Nigeria had no functional libraries, books and teachers who can promote reading at that level of education. The cumulative consequence of these problems is that most pupils in the country leave primary school level inadequately prepared to cope with the challenges of reading at the secondary school level.

Secondary school students in Nigerian secondary schools require standard school library and adequate library resources in order to improve their academic performances and prepare them for the academic challenges in the higher institutions. However, they have limited access to libraries resources in the school libraries. It is generally acknowledged that the major problem of school libraries collection is a drastic cut in the budget of Nigerian secondary schools coupled with high cost of acquiring needed library materials, Lack of adequate fund and unprofessional librarian to manage the school libraries resources have affected the use of school libraries by secondary school students in Nigerian.

A part of the roles of school libraries is to provide materials and necessary information including serials to support teaching, learning and research as well as to provide facilities to process, preserve, organize and disseminate the information. Provision of sufficient funds for acquisition of library resources and training and development of school library staff, attractive and user-friendly library, recruitment/selection and appointment of professional and qualified library staff, provision of internet facilities and audio-visual units etc can be used to address problems facing school library in Nigeria secondary schools. In addition, inclusion of the use of library as a subject to be offered by pupils/students in primary and secondary level of education will equipped pupils/students with the knowledge of what a library is all about and its pertinent in the educational, social, cultural and psychological life of mankind.

In view of this, the researcher decided to embark on this study to find out specifically the use made of school libraries by secondary students in selected secondary schools in Ilorin-West Local Government Area of Kwara State. The study also appraises the level of availability, accessibility and impact of school libraries on secondary school students' performances, as well as identifies constraints the secondary school students face in using the school library resources in Ilorin-West Local Government Area.

Objectives of the Study:
The general objective of this study is to find out how the school libraries are being used by secondary school students and the impact of the school libraries on their academic performances. The specific objectives are to:

i. Ascertain the extent to which school libraries are being used by secondary school students in the selected secondary schools in Ilorin-West Local Government;

ii. Determine the frequency of the use of school library resources by secondary school students in Ilorin-West Local Government;
iii. Assess the level of availability and accessibility of secondary school library resources;
iv. Determine the influence of school library use on the secondary school students performance;
v. Examine the constraints/challenges hindering the use of school libraries by secondary school students.

Research Questions

The study will seek answers to the following research questions:

i. How are the school libraries being used by secondary school students?
ii. How often do secondary school students use school library?
iii. What is the level of availability and accessibility of school library resources to secondary school students?
iv. How does the use of school library influence secondary school student's performance?
v. What are the constraints/challenges hindering the use of school library resources by secondary school students in Ilorin-West Local Government Area?

LITERATURE REVIEW

The school library just like any other types of library developed its collection in order to support the mission of its parent institution thereby disseminating relevant and unfamiliar information resources for its users' utilization. Arua and Chinaka (2011) stated that school library information resources are seen as all inputs which are utilized in the library in order to provide good learning environment for students and teachers so as to be able to achieve educational goals. This variety of library information resources is essential to enable the school library fulfill its functions among which are: to thoroughly provide adequate and relevant information resources necessary for the school's educational programmes and to assist in improving and inculcating the reading skills and learning habits of students as well as aiding the teaching and research study of the school staff. Adeyemi (2009) posited that, student expectations and demands of the library are reflected in their library information resources usage. And Salisu (1996) also argued that, the extent at which pupils and young people of today will be creative, informed and knowledgeable will be shaped by the usage of the library resources available within the school. In addition, Elaturoti (1993) described that, the usefulness of any school library Resource depends on its maximum utilization by students otherwise it is as good as wasted. The school library and resources use therefore, need to be available and accessible for utilization of both school students and staff in order to ensure their maximum utilization to achieve higher educational development and personal development of both school students and staff.

Several studies have been done on the use of school libraries. Bolodeoku (1979) for instance, in a study on the use of school libraries in some secondary schools in Ibadan found out that only two schools out of the ten selected can be said to have school libraries. They were accommodated in separate building. Orji (1996) in his study on the use of school library, found out that users use the school library for many and various reasons i.e.; to prepare for examination; for leisure; recreation for serious academic work, to see friend and people and so on. Similarly, Agyekum and Filson (2012) on the use of library resources by students in Ghana schools found that most of the students use library resources and services to supplement their class notes, assignments and helped them in examination preparation. In addition, Clabo (2002) adds that students use school library information resources for recreational readings, for reference purposes, doing their school homework, teacher requirements and reading news from newspapers. Majid (2005) in the research on use of school library resources in Singapore revealed that teachers generally do not use their school libraries and various information resources effectively due to the inadequacy of their libraries in terms of education materials. Waldman, in one of his research questions that what did they do at library? 80% reported studying, 38% to do research, 33% to sleep, 30% to socialize, 24% to use the library's electronic resources, 22% to check the books out and 21% to e-mail or chat. He concluded that, even though some of these areas overlap (research and use of electronic resources, for example) and students could pick more than an option, it is clear that these students are mostly using the library as a place, not to make use of the library resources. Adebamowo (2011) in a research carried out in Ijebu North local government of Ogun state to find out the use of school library resources by students discovered that though the schools surveyed had libraries, the libraries were not adequately equipped showcasing a sparse collection. These were also not professionally manned and the students did not find the resources particularly useful to their needs. This finding supported that of Udo-Ilomechine (2008) who reported a study of Novena University staff school Kwale, on the significance of school libraries in the educational development of students. The survey showed that the pupils of the staff school were not satisfied with their library's collection and services. They felt that it did not meet their needs and that the resources available were not satisfactory.

Goodall and Pattern (2011) showed a correlate between library use and performance in a research carried out at the Huddersfield University. School libraries would seem to have an indisputable place in the work of the school, something recognized by staff and pupils but despite its importance on the performance of students. Very least attention was paid to it. Adeyemi (2010) in a research on school libraries and students learning outcomes in secondary schools in Ekiti state found that library development in Ekiti sate was very poor. This findings show a correlation with research done in other parts of Nigeria on the state of school libraries and their collections such as those of Petterrs and Otong (2012), Idiegbeyen-ose (2012).

In addition, Arua (2011) observed that poor library accommodation; poor library orientation and restricted library hours were problems militating against the use of school libraries. Poor funding and bad management, inefficiency and inadequacy of library provision are some of the factors affecting students in using their school library effectively. Obi (1964) in her studies of the scene in Eastern Nigeria observed that all of the 225 secondary schools in that region had libraries of sorts, most of which were largely unorganized and left to the part-time care of the teaching staff. Also, Yusuf (2003) In his study of the reading habits of students in Boarding secondary schools in Kontagora town of Niger State found that although the greater number of students sampled revealed that there were libraries in their public schools 86.8 or 87% of the respondents were all agreed that the libraries in question were all inadequately run both in number of books and the services. He concluded that for libraries to exist in the schools is one thing and for them to be effectively enhancing teaching and learning is another thing entirely. He also found that only about 30% of the respondents made use of the library while a whole 70% did not. On the purpose of using the library, 37% of the respondents did so for private study while only 13% used the library for recreation and pleasure.

According to PSN (2010) the problem areas in the development of school libraries in Nigeria include lack of legislation, shortage of funds, poor accommodation, unavailability of trained staff, lack of relevant material and apathy on part of school administration and government. Similar to this is a report of a study on school library by Egesimba *et al (* 2011) which reported inadequate staffing; lack of adequate materials; inadequate funding, obsolete libraries collections; lack of infrastructures and uncomfortable sitting arrangement for users as well as insufficient awareness of the significance of libraries in educational settings constitutes challenges to Nigerian school libraries.

From the literature review, it is observed that despite the importance of school library on the academic performance of students, constraints such as poor funding and bad management, inefficiency and inadequacy of library provision, unqualified library staff, lack of understanding of the role and function of a school library by both students and teachers and others are the problems facing school libraries in Sub-Saharan African countries including Nigeria.

RESEARCH DESIGN

The design adopted for this study is survey design. Survey as a research design collects standardized data about large numbers of people (Haralambos, Holborn and Heald, 2004). The design was considered appropriate in this study because it allows for the use of questionnaire as a data collection instrument. Similarly, survey is appropriate in assessing thoughts, views, opinions, and feeling of a large group of people. Therefore, the design gives room for equal chance of been selected in a sample of respondents thereby not giving room for been bias.

Population of the Study

The target populations for the study are the SSS Three (3) students of the four selected secondary schools in Ilorin-West Local Government Area (Mount Carmel, Queen Elizabeth, Iqra College and An-Nur Islamic College Ilorin). Therefore, total population of the study was 256 students that sat for 2016/2017 National Examination Council (NECO), with 20 students in Mount Carmel College, 115 in Queen Elizabeth Secondary

School, 55 in An-Nur Islamic College, and 66 in Iqra College Secondary School respectively.

Sampling and Sample Size

The study adopted simple random sampling technique to select the case study of the study. This was done to give various secondary schools in Ilorin-West Local Government Area equal chance of being participated in the study. Thus, four schools were selected for the study and the selection were based on their willingness to participate and ability of being have in place facilities that will meet the research objectives, of which average school library if not standard were considered. Total enumeration sampling techniques was used this is because the population is not too large for the researcher to cover although enough for the research scope.

Table 1: Selected Schools for the Study

Name of School	**Year of Establishment**	**Students population**	**Sample Size**
Mount Carmel College	1962	20	20
Queen Elizabeth Sec. Sch.	1956	115	115
Iqra College	2000	66	66
An-Nur Islamic College		55	55
		Total=256	**Total=256**

Instrument for Data Collection

The data collection instrument employed in this study was questionnaire. It is basically to seek the opinion of individuals in the sample relating to the objectives of the study. Section A requires the respondent’s bio-data information [name of schools, gender, age, and class], section B is to seek the level of extent to which school library is being used with response ranging from (Strongly Agreed, Agreed, Not Sure, Disagree, Strongly Disagree), section C shows the frequency of student’s visitation to the library chosen (Daily, Sometimes and Never) as response, while section D gathers respondents opinions on the level of availability and accessibility of school library resources in their respective school libraries with response base on (Not Available and Accessible, Partially Available and Accessible, Fully Available and Accessible, Available but not Accessible). Section E focuses on the impact of school libraries use in students’ academic performance, section F base on the constraint/challenges hindering or affecting students from using their school libraries effectively, and finally, section G probes with suggestion encouraging the use of school libraries by students.

Procedure for Data Collection

This refers to the process by which the research instruments were administered for the purpose of data collection. The questionnaire was administered to the students of selected secondary schools in Ilorin-West Local Government Area in a face-to-face exercise. The researcher met them in their schools and has a physical contact with the respondents. A total of 256 copies of questionnaires were distributed to only SSS3 students that sat for 2016/2017 National Examination Council (NECO) in the selected secondary school chosen as case study for the study.

Validity and Reliability of the Instrument

In order to ensure content and construct validity mechanism, the instrument was given to my supervisor and two other experts in the field of Library and Information profession for specialist's scrutiny and expertise judgment with the view of checking the appropriateness of language to enable it measure what it is supposed to measure before administering the instrument. The suggestions by the experts lead to the modification of some items in the instrument before the final administration.

Data Analysis Method

The data collected on the study was analyzed using descriptive statistics, simple frequency and percentage count. Data collected for the five objectives of this study was coded using SPSS 12.0 These methods was adopted because of their simplicity and understanding.

RESULTS

Table 2: Bio Data Information of the Respondents

Variables	**Groups**	**Frequency**	**Percentage (%)**
Gender	Male	79	177
	Female	177	69.1
Age	15-20	254	99.2
	21-25	2	0.8
	26-30	0	0
Class	SSS Three	256	100

Table 2 shows that 79(30.9%) of the respondents are males, while 177(69.1%) are females. Therefore, the majority of the respondents are females. Also 254(99.2%) are within the range of age 15-20, while 2(0.8%) are within the range of age 21-25, and 0(0%) is in the range of age 26-30. Therefore the majority of respondents are within the range of age 15-20. It was shown from the table also that 256(100%) of the respondents are in SSS Three, and this is because the respondents of the study are the SSS Three students of the selected schools.

Research Question 1: What are the uses of school libraries are by Secondary School Students?

Table 3: The Use of School Library by Secondary School Students

Library Use:	SA (%)	A (%)	NS (%)	D (%)	SD (%)
everyday	48 (18.8%)	113 (44.%)	21 (8.2%)	56 (21.9%)	18 (7.0%)
only when I have assignment	25 (9.8%)	34 (13.3%)	24 (9.4%)	78 (30.5%)	51 (19.9%)
only when I want to prepare for a quiz	25 (9.8%)	34 (13.3%)	30 (11.7%)	95 (37.1%)	72 (28.1%)
only when I want to relax	13 (5.1%)	35 (14.8%)	19 (7.4%)	76 (29.7%)	110 (43.0%)
only when my friend want me to	4 (1.6%)	29 (11.3%)	22 (8.6%)	86 (33.6%)	115 (44.9%)
just when I am bored	20 (7.8%)	43 (16.8%)	22 (8.6%)	80 (31.3%)	91 (35.5%)
only when I have examination	48 (18.8%)	72 (28.1%)	22 (8.6%)	68 (26.6%)	46 (18.0%)
only to use the internet	11 (4.3%)	19 (7. 4%)	27 (10.5%)	86 (33.6%)	113 (44.1%)
to hide from the class work	6 (2.3%)	9 (3.5%)	11 (4.3%)	58 (22.7%)	172 (67.2%)
TOTAL FREQUENCY	**199 (8.7%)**	**433 (18.8%)**	**198 (8.6%)**	**683 (29.7)**	**788 (34.2%)**
AVERAGE FREQUENCY	**22.11**	**48.11**	**22.00**	**75.89**	**87.56**

Table 3 shows that 48(18.8%) of the respondents strongly agreed and 113(44.1%) of the respondents agreed, 21(18.2%) of the respondents were not sure, and 56(21.9%) of the respondents disagreed and 18(7.0%) of the respndents of the respondents strongly disagreed that they visit the library everyday. Also, 24(9.4%) and 79(30.9%) of the respondents strongly agreed and agreed that they visit the visit the library only they have assignment, 24(9.4%) of the respondents were not sure of this, while78(30.5%) and 51(19.9%) of the respondents disagreed and strrongly disagreed that they visit the library only when they have assignnent. In addition, 25(9.8%0 and 34(13.3%) of the respondents strongly agreed and agreed that they vivit the library only when they want to prepare for quiz, respondents who are not sure of this are 30(11.7%), and 95(37.1%) and 72(28.1%) of the respondents disagreed and stronggly disagreed that they vivit the library only when they want to prepare for quiz.

The result also, revealed that 13(5.1%) and 35(14.8%) of the respondents strongly agreed and disagreed that they visit the library only when they want to relax, 19(7.4%) of the respondents were not sure of this, while 76(29.7%) and 110(43.0%) of the respondents disagreed and strongly disagreed that they visit the library only when they want to relax. On visiting the library only when their friends want them to; 4(1.6%) and 29(8.6%) of the respondents strongly agreed and agreed respectively, 22(8.6%) of the respondents were not sure, and 86(33.6%) and 115(44.9%) of the respondents disagreed and strongly disagreed respectively. Also, 20(7.8%) and 43(16.8%) of the respondents strongly agreed and agreed that they visit the library only when they are bored, respondents who are not sure of this are 22(8.6%), and 80(31.3%) and 91(35.5%) of the respondents disagreed and strongly disagreed that they visit the libary only when are bored.

Furthermore, 48(18.7%) and 72(28.1%) of the respondents strongly agreed and disagreed that they visit the library only when they have exams, 22(8.6%) of the respondents were not sure of this, while 68(26.6%) and 46(18.0%) of the respondents disagreed and strongly disagreed to this. The result also showed that 11(4.3%) and 19(7.4%) of the respondents strongly agreed and agreed that they visit the library only to use the internet, 27(10.5%) of the respondents were not sure whether they visit the library only to use the internet or not, while 86(33.6%) and 113(44.1%) of the respondents disagreed and strongly disagreed that they visit the library only when they want to use the internet. Lastly on table 4.3.3, 6(2.3%) and 9(3.5%) of the respondents strongly agreed and agreed , 11(4.3) of the respondents were not sure, and 58(22.7%) and 172(67.2%) of the respondents disagreed and strongly disagreed that they visit the library to hide from the class work.

Research Question 2: What is the frequency of use of school libraries by Secondary School Students?

Table 4: Frequency Use of School Library by students

Frequency of school library use:	**Daily**	**Sometimes**	**Never**
textbooks	114(44.5%)	139(54.3%)	3(1.2%)
newspapers	66(25.8%)	133(52.0%)	57(22.2%)
dictionaries	90(35.2%)	130(50.8%)	36(14.1%)
encyclopedia	32(12.5%)	129(50.4%)	95(37.1%)
journals	29(11.3%)	128(50.0%)	99(38.7%)
magazines	49(19.1%)	153(59.8%)	54(21.1%)
government publication	37(14.5%)	109(42.6%)	110(43.0%)
reference resources	39(15.2%)	145(56.6%)	72(28.1%)
story books	111(43.4%)	121(47.3%)	24(9.4%)
maps	36(14.1%)	102(39.8%)	113(44.1%)
TOTAL FREQUENCY	**603(23.6%)**	**1289(50.5%)**	**663(25.9%)**
AVERAGE FREQUENCY	**60.3**	**128.9**	**66.3**

Table 4 above shows that 114(44.5%) of the respondents make use of textbooks daily, 139(54.3%) of the respondents make use of textbooks sometimes, and 3(1.2%) of the respondents never make use of textbooks. Also, 66(25.8%) of the respondents make use of newspapers daily, 133(52.0%) of the respondents make use of newspapers sometimes, and 57(22.2%) of the respondents never make use of newspapers. The table also shows that, 90(35.2%) of the respondents make use of dictionaries on daily basis while 130(50.8%) of the respondents make use of dictionaries sometimes, and 36(14.1%) of the respondents never make use of dictionaries. In addition, 32(12.5%) of respondents agree to making use of encyclopedia daily, 129(50.4%) agree that they use encyclopedia sometimes and 95(37.1%) of the respondents agree that they have never make use of encyclopedia.

On the other hand, the table shows that, 29(11.3%) of the respondents make use of Journals on daily basis, while 128(50.0%) of the respondents make use of Journals sometimes and 99(38.7%) of the respondents never make use of Journals. Also, 49(19.1%) of the respondents make use of Magazines daily, 153(59.8%) of the respondents make use of Magazines sometimes and 54(21.1%) of the respondents never make use of Magazines. It was also revealed that 37(14.5%) of the respondents make use of Government Publication daily, 109(42.6%) of the respondents make use of Government Publication sometimes and 110(43.0%) of the respondents never make use of Government Publication. Also, 39(15.2%) of the respondents make use of Reference Resources daily, 145(56.6%) of the respondents make use of Reference Resources sometimes and 72(28.1%) of the respondents never make use of Reference Resources.
Finally, the table shows that 111(43.4%) of the respondents make use of Story Books daily, 121(47.3%) of the respondents make use of Story Books sometimes and 24(9.4%) of the respondents never make use of Story Books. Also, 36(14.1%) of the respondents make use of Maps daily, 102(39.8%) of the respondents make use of Maps sometimes and 113(44.1%) of the respondents never make use of Maps.

In summary 603(23.6%) of the respondents make use of library resources daily, 1289(50.5%) of the respondents make use of library resources sometimes, and 663(25.9%) of the respondents never make use of library resources. Therefore, majority of the respondents make use of school library resources sometimes.

Research Question 3: What is the Level of Availability and Accessibility of School Library Resources?

Table 5: Level of Availability and Accessibility of School Library Resources

Availability and Accessibility of School Library Resources:	Not Available and Accessible	Partially Available and Accessible	Fully Available and Accessible	Available but not Accessible
textbooks	5 (2.0%)	32(12.5%)	211(82.4%)	8(3.1%)
newspapers	34(13.3%)	54(21.1%)	158(61.7%)	10(3.9%)
dictionaries	11(4.3%)	38(14.8%)	194(75.8%)	13(5.1%)

encyclopedia	48(18.8%)	83(32.4%)	104(40.6%)	21(8.2%)
journals	57(22.3%)	97(37.9%)	84(32.8%)	18(7.0%)
magazines	25(9.8%)	96(37.5%)	122(47.7%)	13(5.1%)
government Publication	60(23.4%)	90(35.2%)	88(34.4%)	18(7.0%)
reference resources	26(10.2%)	101(39.5%)	117(45.7%)	12(4.7%)
story Books	8(3.1%)	33(12.9%)	205(80.1%)	10(3.9%)
maps	27(10.5%)	79(30.9%)	132(51.6%)	18(7.0%)
TOTAL FREQUENCY	**301(11.7%)**	**703(27.5%)**	**1415(55.3)**	**141(5.5%)**
AVERAGE FREQUENCY	**30.1**	**70.3**	**141.5**	**14.1**

From the table above 5(2%) of the respondent agree that textbooks are not available and accessible, while 32(12.5%) of the respondents agree that textbooks are partially available and accessible, 211(82.4%) of the respondents agree that textbooks are fully available and accessible and 8(3.1%) of the respondents said that textbooks are available but not accessible. Also, 34(13.3%) of the respondent agree that newspapers are not available and accessible, 54(21.1%) of the respondents agree that newspapers are partially available and accessible, while 158(61.7%) of the respondents agree that newspapers are fully available and accessible and 10(3.9%) of the respondents said that newspapers are available but not accessible.

The table also shows that 11(4.3%) of the respondents agree that dictionaries are not available and accessible, 38(14.8%) of the respondents agree that dictionaries are partially available and accessible, 194(75.8%) of the respondents agree that dictionaries are fully available and accessible and 21(5.1%) of the respondents agree that dictionaries are available but not accessible. Also, 48(18.8%) of the respondent agree that encyclopedia is not available and accessible, while 83(32.4%) of the respondents agree that encyclopedia is partially available and accessible, 104(40.6%) of the respondents agree that encyclopedia is fully available and accessible and 21(8.2%) of the respondents agree that encyclopedia is available but not accessible. In addition, 57(22.3%) of the respondent agree that journals are not available and accessible, 97(37.9%) of the respondents agree that journals are partially available and accessible, 84(32.8%) of the respondents said that journals are fully available and accessible, and 18(7.0%) of the respondents agree that journals are available but not accessible.

On the availability and accessibility of Magazines, 25(9.8%) of the respondent agree that magazines are not available and accessible, 96(37.5%) of the respondents agree that magazines are partially available and accessible, 122(47.7%) of the respondents agree that magazines are fully available and accessible and 13(5.1%) of the respondents agree that magazines are available but not accessible.

Also, 60(23.4%) of the respondent agree that government publications are not available and accessible, while 90(35.2%) of the respondents agree that government publications are partially available and accessible, 88(34.4%) of the respondents agree that government publications are fully available and accessible, and 18(7.0%) of the respondents agree that government publications are available but not accessible. In addition, 26(10.2%) of the respondent agree that reference resources are not available and accessible, 101(39.5%) of the respondents agree that reference resources are partially available and accessible, 117(45.7%) of the respondents agree that reference resources are fully available and accessible and 12(4.7%) of the respondents agree that reference resources are available but not accessible.

It was also revealed that 8(3.1%) of the respondent agree that story books are not available and accessible, 33(12.9%) of the respondents agree that story books are partially available and accessible, while 205(80.1%) of the respondents agree that story books are fully available and accessible and 10(3.9%) of the respondents agree that story books are available but not accessible. Also, 27(10.5%) of the respondents agree that maps are not available and accessible, 79(30.9%) of the respondents agree that maps are partially available and accessible, 132(51.6%) of the respondents agree that maps are fully available and accessible and 18(7.0%) of the respondents agree that maps are available but not accessible.

In summary, by using total frequency, we see that 301(11.7%) of the respondents agree that the library resources are not available and accessible, while 703(27.5%) agree that library resources are partially available and accessible, 1415(5.5%) agree that library resources are fully available and accessible, and 141(5.5%) agree library resources are available but not accessible. The analysis therefore, revealed that library resources especially textbooks, story books, dictionaries and newspapers are fully available and accessible.

Research Question 4: How does the Use of School Library Influence Secondary School Student's Performance?

Table 6: Influence of School Library Use on Students' Performance

Influence of School Library Use on Students' Academic Performance:	**SA**	**A**	**NS**	**D**	**SD**
respond well in class	114 (44.5%)	106 (41.4%)	22 (8.6%)	4 (1.6%)	10 (3.9%)
perform confidently in my school debate	80 (31.3%)	111 (43.4%)	35 (13.7%)	15 (5.9%)	15 (5.9%)
prepare well for my NECO examination	111 (43.4%)	112 (43.8%)	18 (7.0%)	7 (2.7%)	8 (3.1%)
perform well when I represent my school/class in quiz	86 (33.6%)	106 (41.4%)	31 (12.1%)	19 (7.4%)	14 (5.5%)
perform well in my last May/June 2016 WAEC	109 (42.6%)	110 (43.0%)	21 (8.2%)	7 (2.7%)	9 (3.5%)
have access to good and conducive environment to read/study	115 (44.9%)	102 (39.8%)	19 (7.4%)	10 (3.9%)	10 (3.9%)

have access to expensive textbooks that I cannot afford	99 (38.7%)	95 (37.1%)	23 (9.0%)	15 (5.9%)	24 (9.4%)
develop myself beyond the subjects areas	115 (44.9%)	94 (36.7%)	25 (9.8%)	9 (3.5%)	13 (5.1%)
perform well in my test and assignment	119 (46.5%)	100 (39.1%)	21 (8.2%)	5 (2.0%)	11 (4.3%)
perform poorly in my school in ternal examination	6 (2.3%)	7 (2.7%)	16 (6.3%)	54 (21.1%)	173 (67.6%)
TOTAL FREQUENCY	**1,073 (38.1%)**	**1,056 (37.5%)**	**243 (8.6%)**	**153 (5.4%)**	**291 (10.3%)**
AVERAGE FREQUENCY	**107.3**	**105.6**	**24.3**	**15.3**	**29.1**

Table 6 shows impact of the school library use on the academic performance of the students. The results showed that using the library helps the respondents in many ways, with 220(85.9%) of the respondents agreed that using school library helps them respond well in class, 22(8.6%) respondents were not sure of this fact, while 14(5.5%) of the respondents disagreed to this fact. Also, 191(74.7%) of the respondents agreed, 35(13.7%) of the respondents are not Sure, and 30(11.8%) of the respondents disagreed that using their school library makes them perform confidently in their school debate. On the issue of the school library making them have broader knowledge of different subjects. 232(91%) of the respondents strongly agreed, 12(4.7%) of the respondents were not sure, 12(4.7%) of the respondents disagreed that the use of Library makes them have broader knowledge of different subjects.

In addition, 223(87.5%) of the respondents agreed, that the use of library enable them to prepare well for their NECO exams. 18(7%) of the respondents were not sure of this fact, while 15(5.8%) of the respondents disagreed. Also, agreed that the use of library helps them to perform well when they represent their school/class in quiz are 192(75%) of the respondents, 31(12.1%) of the respondents were not sure, 33(12.9%) of the respondents disagreed that the use of library helps them to perform well when they represent their school/class in quizzes. In addition, 219(85.6%) of the respondents agreed, 21(8.2%) of the respondents were not sure, and 16(6.2%) of the respondents disagreed that the use of library helps them to perform well in their May/June 2016 West African Examination Council (WAEC).

Furthermore, 217(84.7%) of the respondents strongly agree, 19(7.4%) of the respondents were not sure, 20(7.8%) of the respondents disagree that the library makes them to have access to good and conducive environment to read/study. In addition, 194(75.8%) of the respondents agreed that the use of library has exposed them to expensive text books they cannot not afford, 25(9.8%) of the respondents disagreed to this while 23(9.0%) of the respondents were not sure. Also, 209(44.9%) of the respondents 94(81.6%) of the respondents agreed, while 25(9.8%) of the respondents were not sure, and 22(8.6%) disagreed that the use of library has developed them beyond their school subject areas.

On the others hand, the result shows that 219(86%) of the respondents agreed, 21(8.2%) of the respondents were not sure, and 16(6.3%) of the respondents disagreed that the use of library makes them to perform better in their tests and assignments.

Finally, on may be library makes them to perform poorly in their school internal examinations or not; 13(5%) of the respondents agreed, while 16(6.3%) of the respondents were not sure, and 227(88.7%) of the respondents disagreed that the use of library makes them to perform poorly in their school internal examinations.

Research Question 5: What are the Constraints/Challenges Hindering the Use of School Library by Secondary School Students in Ilorin-West Local Government Area?

Table 7: Constraints/Challenges Hindering Students from Using School Library

Factors Affecting Students from Using School Library:	**SA**	**A**	**NS**	**D**	**SD**
insufficient library resources	42 (6.9%)	86 (33.6%)	28 (10.9%)	47 (18.4%)	53 (20.7%)
unsatisfactory attitude of library staff	56 (21.9%)	66 (25.8%)	31 (12.1%)	45 (17.6%)	58 (22.7%)
poor ventilation	28 (10.9%)	56 (21.9%)	31 (12.1%)	58 (22.7%)	83 (32.4%)
Un-attracted library building	22 (8.6%)	62 (24.2%)	41 (16.0%)	60 (23.0%)	71 (27.7%)
lack of internet facilities	51 (19.9%)	78 (30.5%)	28 (10.9%)	41 (16.0%)	58 (22.7%)
inaccessibility of useful textbooks and other library materials	25 (9.8%)	59 (23.0%)	35 (13.7%)	51 (19.9%)	86 (33.6%)
unavailability of audio-visual materials	63 (24.6%)	85 (33.2%)	27 (10.5%)	37 (14.5%)	44 (17.2%)
irrelevant information resources	22 (8.6%)	52 (20.3%)	52 (20.3%)	56 (21.9%)	74 (28.9%)
lack of awareness of the importa nce of library and its resources	34 (13.3%)	63 (24.6%)	37 (14.5%)	51 (19.9%)	71 (27.7%)
inability to identify and use librar y resources without depend on th e Librarian/Teacher Librarian	31 (12.1%)	47 (18.4%)	43 (19.9%)	51 (19.9%)	84 (32.8%)
TOTAL FREQUENCY	**374 (14.6%)**	**654 (25.5%)**	**353 (13.8%)**	**497 (19.4%)**	**682 (26.6%)**
AVERAGE FREQUENCY	**37.4**	**65.4**	**35.3**	**49.7**	**68.2**

Factors Affecting Students from Using School Library:	**SA**	**A**	**NS**	**D**	**SD**
insufficient library resources	42 (6.9%)	86 (33.6%)	28 (10.9%)	47 (18.4%)	53 (20.7%)
unsatisfactory attitude of library staff	56 (21.9%)	66 (25.8%)	31 (12.1%)	45 (17.6%)	58 (22.7%)

poor ventilation	28 (10.9%)	56 (21.9%)	31 (12.1%)	58 (22.7%)	83 (32.4%)
Un-attracted library building	22 (8.6%)	62 (24.2%)	41 (16.0%)	60 (23.0%)	71 (27.7%)

The result on the constraints/ challenges hindering/ affecting students from the use of school library revealed that 128(50.5%) of the respondents agreed to th e challenge of insufficient library resources, 28(10.9%) were not sure, while 100(39.1%) do not agree that insufficient library resources hindered them from using their school library. Also, the result shows that 122(47.4%) of the respondents faced the challenge of unsatisfactory attitude of the library staff, 31(12.1%) were not sure whether they face this challenge or not, while 103(40.3%) disagreed to facing this challenge/constraint. Similarly, 84(32.9%) of the respondents strongly agreed, 31(12.1%) were not sure, and 144(55.1%) disagreed that poor ventilation hindered them from using the library. In addition, 84(32.8%) of the respondents agreed that they un-attracted library building is one of the challenges affecting them from using their school library, while 41(16.0%) were not sure of this fact, and 131(51.1%) disagreed to this fact.

In another case, 129(50.4%) of the respondents agreed that they faced the challenge of lack of internet facilities, 28(10.9%) of the respondents were not sure of this, while 99(38.7%) of the respondents disagreed that lack of internet facilities affect them from using their school library effectively. Also, 84(32.8%) of the respondents agreed, 35(13.7%) of the respondents were not sure, and 137(53.5%) of the respondent disagreed that inaccessibility of useful textbooks and other library materials affected them from using their school library effectively. On the other hand, on weather unavailability of audio-visual materials hindered the students from using their school library effectively; Also 148(57.8%) of the respondents agreed, 27(10.5%) of the respondents were not sure, while 81(31.7%) of the respondents disagreed that Unavailability of audio-visual materials hindered them from using the school library effectively.

The result also revealed that 74(28.9%) of the respondents agreed, 52(20.3%) of the respondents were not sure, while 130(50.8%) of the respondents disagreed that irrelevant information resources affect them from using their school library effectively. Also, 97(37.9%) of the respondents strongly agreed to the fact that lack of awareness of the importance of the library and its resources hindered them from using their school library effectively, 37(14.5%) of the respondents were not sure of this fact, while 122(47.6%) of the respondents disagreed to the fact. Lastly, table 4.3.6 shows that 78(30.5%) of the respondents agreed, 43(19.9%) of the respondents were not sure, while 135(52.7%) of the respondents disagreed that their inability to identify and use library resources without depend on the Librarian/Teacher Librarian affect them from using the school library effectively.

From the table above 5(2%) of the respondent agree that textbooks are not available and accessible, while 32(12.5%) of the respondents agree that textbooks are partially available and accessible, 211(82.4%) of the respondents agree that textbooks are fully available and accessible and 8(3.1%) of the respondents said that textbooks are available but not accessible. Also, 34(13.3%) of the respondent agree that newspapers are not available and accessible, 54(21.1%) of the respondents agree that newspapers are partially available and accessible, while 158(61.7%) of the respondents agree that newspapers are fully available and accessible and 10(3.9%) of the respondents said that newspapers are available but not accessible.

The table also shows that 11(4.3%) of the respondents agree that dictionaries are not available and accessible, 38(14.8%) of the respondents agree that dictionaries are partially available and accessible, 194(75.8%) of the respondents agree that dictionaries are fully available and accessible and 21(5.1%) of the respondents agree that dictionaries are available but not accessible. Also, 48(18.8%) of the respondent agree that encyclopedia is not available and accessible, while 83(32.4%) of the respondents agree that encyclopedia is partially available and accessible, 104(40.6%) of the respondents agree that encyclopedia is fully available and accessible and 21(8.2%) of the respondents agree that encyclopedia is available but not accessible. In addition, 57(22.3%) of the respondent agree that journals are not available and accessible, 97(37.9%) of the respondents agree that journals are partially available and accessible, 84(32.8%) of the respondents said that journals are fully available and accessible, and 18(7.0%) of the respondents agree that journals are available but not accessible.

On the availability and accessibility of Magazines, 25(9.8%) of the respondent agree that magazines are not available and accessible, 96(37.5%) of the respondents agree that magazines are partially available and accessible, 122(47.7%) of the respondents agree that magazines are fully available and accessible and 13(5.1%) of the respondents agree that magazines are available but not accessible. Also, 60(23.4%) of the respondent agree that government publications are not available and accessible, while 90(35.2%) of the respondents agree that government publications are partially available and accessible, 88(34.4%) of the respondents agree that government publications are fully available and accessible, and 18(7.0%) of the respondents agree that government publications are available but not accessible. In addition, 26(10.2%) of the respondent agree that reference resources are not available and accessible, 101(39.5%) of the respondents agree that reference resources are partially available and accessible, 117(45.7%) of the respondents agree that reference resources are fully available and accessible and 12(4.7%) of the respondents agree that reference resources are available but not accessible.

It was also revealed that 8(3.1%) of the respondent agree that story books are not available and accessible, 33(12.9%) of the respondents agree that story books are partially available and accessible, while 205(80.1%) of the respondents agree that story books are fully available and accessible and 10(3.9%) of the respondents agree that story books are available but not accessible. Also, 27(10.5%) of the respondents agree that maps are not available and accessible, 79(30.9%) of the respondents agree that maps are partially available and accessible, 132(51.6%) of the respondents agree that maps are fully available and accessible and 18(7.0%) of the respondents agree that maps are available but not accessible.

In summary, by using total frequency, we see that 301(11.7%) of the respondents agree that the library resources are not available and accessible, while 703(27.5%) agree that library resources are partially available and accessible, 1415(5.5%) agree that library resources are fully available and accessible, and 141(5.5%) agree library resources are available but not accessible. The analysis therefore, revealed that library resources especially textbooks, story books, dictionaries and newspapers are fully available and accessible

Discussion of the findings

The first objective of the study is to find out the extent to which school libraries are being used by secondary school students using selected Secondary Schools in Ilorin-West Local Government Area as case study (Queen Elizabeth, Mount Carmel College, Iqra College, and An-Nur Islamic College Secondary Schools Ilorin). The study revealed that student are making use of the library with 161(62.9%) of the respondents agreed that they visit the library every day. It has also revealed that most of the students who visited the library do so when they have exams with 120(46.9%) of the respondents agreed to this fact, 22(8.6%) were not sure, and 114(44.6%) disagreed to the fact. Supported this analysis is Orji (2996) in his study on the use of school library, who found out that users use the school library for many and various reasons i.e.; to prepare for examination; for leisure; recreation for serious academic work, to see friend and people and so on. In a similar study, Mubahsrah et al (2013) revealed that libraries are mostly visited by students/teachers for reading of textbooks, preparation of assignment and consume spare time.

The second objective of the study is to determine the frequency of the use of school library resources by secondary school. Fayose (1983) in her study on the "student use of school library resources in Ibadan and Benin" found out that secondary school students make use of their respective school libraries during their free period, and school libraries available in those schools studied do not follow any set of standards, no suitable accommodation, and adequate personnel to man such libraries. "Free period" in Fayose analysis correspond with the analysis of this study that revealed that majority of the students make use of school library resources sometimes 1289(50.5%), and on daily basis 603(23.6%) basis with textbooks has the highest use of 253(98.8%), followed by story books 232(90.7%), dictionaries 220(86%), and then magazines 202(78.9%).

The third objective of the study determine the availability and accessibility of school library resources and it has been discovered that school library resources are fully available and accessible with 1415(55.3%) of the respondents agreed that school library resources are fully available and accessible. Oniovosa (2004) notes that, in a survey around the world on the reading ability of the children that, one of the factors that positively influence children's reading attainment is the availability and accessibility of books and other non-books resources in their immediate surroundings, at home, in the classroom and in the library. In a similar study, Abdullahi (1998) adds that usefulness of a library depends upon its proper organization which includes the availability and accessibility of information resources, their arrangement, the situation of the library, etc.

The fourth objective of the study is to determine the impact of school library on the secondary school students' performance and the study shows that using school library has positive and great impact on the performance of secondary school students. School libraries support the development of student skills and improve student achievement

(American Association of Librarians, 2011). In another study, Dent (2006) in a study of three Ugandan schools with varying levels of library access; found that those students with library access scored higher in particular subjects than those who did not have access. These facts were supported by Lance, et al., (2005) who stated that results from dozens of large-scale studies, involving over 8,700 schools and over 2.6 million students, have consistently demonstrated that students score an average of 10-20 % higher on reading and achievement tests when their school has a strong library media program. This effect holds, regardless of other school conditions such as student-teacher ratio, overall per-pupil spending, student demographics, and community socio-economic conditions.

The analysis of this study corresponds with those studies that revealed that the existence and use of school library improves students' performance. This is because most of the respondents 232(91%), 223(87.5%), and 220(85.9%) believed that their use of the school library have helped them to have broader knowledge of different subjects, prepare well for their National Examination Council (NECO), and respond well in class. The analysis also shows that not only does the use of school library improve and help students to have broader knowledge, be active in the class, and prepare well for their NECO exams but also help them to perform well in their May/June 2016 West African Examination Council (WAEC) as well as in their test and assignment. In addition, 227(88.7%) of the respondents disagreed that the use of library makes them to perform poorly in their school internal examinations. This shows that the use of school library were associated significantly with better learning outcomes.

The fifth objective of the study determine the constraints/challenges hindering or affecting students from the use of school library and this study shows that there are lots of constraints militating students against the use of school library with unavailability of audio-visual materials has highest opinion (57.8%), alongside insufficient library resources (50.5%), lack of internet facilities (50.4%), and unsatisfactory attitude of library staff (47.4%). Supported this analysis is a study of school library by Egesimba *et al (* 2011) who opined that inadequate Staffing; Lack of adequate materials; inadequate funding, obsolete libraries collections; Lack of infrastructures and uncomfortable sitting of users as well as Insufficient awareness of the significance of libraries in educational settings constitutes challenges to Nigerian school libraries. In another study, PSN (2010) stated that the problem areas in the development of school libraries in Nigeria include lack of legislation, shortage of funds, poor accommodation, unavailability of trained staff, lack of relevant material and apathy on part of school administration and government.

CONCLUSION

The impact of school library on academic performance of the students cannot be overemphasized, because the library is an institution that is charged with the responsibility of acquiring, processing, organizing, disseminating and preserving and conserving relevant and useful information resources for the purpose of meeting people's informational needs. Therefore, the government, proprietors/proprietress, school management and the school library staff should made available relevant and useful library resources that will help in enhancing students' performance in all areas of their academic pursuit.

Recommendations

Based on the findings and conclusion drawn from this study above, it is recommended that: Provision of sufficient library resources should be provided by the government, proprietors/proprietress, and school management as this will enable students to have access to their various information resources. As it was discovered form the findings of the study and agreed upon by the majority of the respondents. Audio-visual equipment and materials should be made available and accessible in the library. This will help students to learning and assimilate fast, because children/students learn fast when they hear and see what they are being taught. The school management should also make provision for internet facilities as this will increase students' access to large and vary information materials.

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The Way of Preserving Ondel Ondel Betawi: A Cultural Icon that Becomes a Street Icon

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ABSTRACT

Ondel Ondel used to be an icon of Jakarta, which is the capital of Indonesia. In addition, this culture was an identity of the Indonesian people. Therefore, knowledge preservation on all cultures and indigenous knowledge herited by this nation was very necessary, one of which was Ondel Ondel art. The purpose of this research was to highlight issues of related knowledge preservation. One of these concerns was intended to the emergence of a phenomenon, that nowadays the Ondel Ondel art of Betawi takes to the streets for busking, performed by a community or group of people. These activities were commonly known as "ngicrik". This study aimed at determining the process and stages of the knowledge preservation, one of which was the knowledge transfer of the Betawi Ondel Ondel art from older generation to the younger generation and from one community to others as well as from one individual to another. As the result, the purpose of this study is to identify the process of preserving Ondel Ondel art both in Jakarta and surroundings through "ngicrik" on the city streets. The method used in this study is qualitative methods, by observation and interview approaches. The results showed that This research highlighted several important points in the process of preserving knowledge, one of which was to appreciate the Ondel Ondel art of betawi regularly, to prevent extinction, as well as a new way in the process of transferring and spreading knowledge. Ondel Ondel "ngicrik" is a new way of preserving and spreading knowledge, but there are some points to concern with the aim of creating a community that knows about Betawi culture, especially Ondel Ondel art, both properly and appropriately. The results of this study is a solution to improve the knowledge transfer processes and the spread of culture through Ondel Ondel "ngicrik", so that it is more appropriate and focused in achieving goals of preserving Betawi culture, particularly Ondel Ondel.

Keywords: Preserving Knowledge; Ondel Ondel; Kebudayaan betawi; Ngicrik

INTRODUCTION

Preserving knowledge is important for Librarian and Information Specialist. It is an important phase within the KM cycle, from creation to implementation. A librarian has to perceive some certain series of activities in preserving knowledge, such as selecting, collecting, storing, actualizing, protecting, dan accessing. (Romhardt, 1997)

Indonesia is a home to more than three hundred ethnic groups with approximately five hundred spoken languages and dialects. Eighty-seven percent of its population, around 200 million people, is Islamic, making Indonesia the largest Muslim nation in the world. For thousands of years, Indonesians have developed complex agricultural societies with rich artistic and cultural traditions, and with roots in believing in ancestral spirits and animism. The history of Indonesia also chronicles the influx of maritime trade, the transmission of religions, the rise and fall of Buddhist and Hindu kingdoms, 350 years of colonization by the Dutch, invasion by the Japanese, and the establishment of an independent nation in 1949. The Indonesian people have nurtured a world view that incorporates diverse religions and traditions with indigenous beliefs that lie at the heart of Indonesia's cultures.

The most populous of the Indonesian islands is Java island, a home to the sprawling city of Jakarta. Jakarta is one of the largest cities in Indonesia, as well as being Indonesia's capital city. Jakarta is a comfortable place for immigrants. Jakarta was formerly known as Jayakarta, which means "Complete Victory". The descendants of the people living here are recognized as "People of Batavia", or "Orang Betawi". The term Batavia was named by the Dutch in 1619. People of Batavia are mostly descended from various Southeast Asian ethnic groups, brought and attracted to meet the demand for labor. They have been living since around the eighteenth century.

Jakarta has its own singularities regarding to culture, art and traditional food. One of them are Ondel Ondel large puppet dance. Ondel Ondel is one of Betawi cultural icons. Ondel Ondel is a figure about 2,5 m tall made from bamboo and dressed in brightly colored garments. Finished faces are fitted above their draped body frames, with palm fibers fastened to the back of the heads to which stalks of coconut flowers are stuck as headgear adornments. Folk dances are usually followed by music entitled *'Gambang Kromong, Gambang Muncak dan Sambrah'* (Hidayah, 1997:55-56).

The background of this study is to observe the dynamics of the natural phenomena of Betawi art for the past 7 years. Nowadays, various figures are parading their pairs as far as the Jakarta outskirts, either as groups or invlduals, with folk dance instrumental music played by instruments, like kendang, kempul, gong, kenong, bas, and sukong. One of its members bring a small bucket to ask people for money as the small performances reach the end. It is a new thing for civilians, whom the most part are coming from another part of the city. The objectives are preserving culture and art divergence of Ondel Ondel Betawi. The research subject is busking with Ondel Ondel figures and folk dance on the street, or "ngicrik". This is interesting work providing a valuable new constraint on the long-standing issues surrounding the indigenous knowledge atmospheric and knowledge preservation. I believe it is ultimately worthy of publication in this conference.

The aim of this research will be focused on cultural artistic preservation of Ondel Ondel by busking using Ondel Ondel's figures and folk dance.

1. To identify and recognize the culture and art of Ondel-Ondel
2. To explore the knowledge transfer process
3. To explore the diverging process and Ondel-ondel Art progress over time.

LITERATURE REVIEW

Indigenous Knowledge: is the local knowledge – knowledge that is unique to a given culture or society. Indigenous knowledge contrasts with the international knowledge system generated by universities, research institutions and private firms. It is the basis for local – level decision making in agriculture, health care, food preparation, education, natural – resource management, and a host of other activities in rural communities. (Warren 1991)

The process of exchanging Indigenous Knowledge involves the following six steps (World Bank, 1998, pp.8-10): **Recognition and identification** which may not be easy in certain situations and might involve social and technical analyses; **Validation** in terms of its relevance, reliability, functionality, efectiveness and transferability; **Recording and documenting** in view of the intended use of information using audio – visual technology, taped narration, drawings, or other forms of codifiable information; **Storage** which will involve categorization, indexing, relating it to other information, making it accessible and conserving, preserving and maintaining it in the form of retrievable repositories for later use; **Transferring** means making it available to the potential users for testing in the new environment; and **Dissemination** to the wider community through appropriate channels of communication.

Knowledge Preservation: *a process of maintaining an organizational system of knowledge and capabilities that preserves and stores perceptions, actions and experiences over time and secures the possibility of recall for the future (IAEA International Atomic Energy Agency). An act of keeping information alive or in existence (IGI Global)*

Knowledge Management: is a collaborative and integrated approach to the creation, capture, organization, access and use of an enterprise's intellectual assets. (Grey, 1996)
Knowledge management is a surprising mix of strategies, tools, and techniques—some of which are nothing new under the sun. Storytelling, peer-topeer mentoring, and learning from mistakes, for example, all have precedents in education, training, and artificial intelligence practices. Knowledge management makes use of a mixture of techniques from knowledge-based system design, such as structured knowledge acquisition strategies from subject matter experts (McGraw and Harrison-Briggs, 1989) and educational technology (e.g., task and job analysis to design and develop task support systems; see Gery, 1991).

RESEARCH DESIGN

Method: This study used a qualitative method. Data were collected through interviews, observations and document support. In qualitative research, the numbers and types of approaches have also become more apparent during the 1990s and into the 21st century. The historic origin for qualitative research comes from anthropology, sociology, the humanities, and evaluation. The subparts of the approach used are Narrative Research. **Narrative Research** is a design of inquiry from the humanities in which the researcher studies the lives of individuals and asks one or more individuals to provide stories about their lives (Riessman, 2008). This information is then often retold or restoried by the researcher into a narrative chronology. Often, in the end, the narative combines views from the participant's life with those of the researcher's life in a collaborative narrative (Clandinin & Connelly, 2000)

Observation: Direct observation in the field, visiting to *Cahaya dan Irama Betawi* studio; Direct observation, reviewing the location where the Ondel Ondel was often found.

Interview:

Interview with **Mr. Rudy Haryanto**, as administrator of the development of Betawi culture in LKB; Interview with **Mr. Juwahir**, who was the fourth generation of *Cahaya* studio founder; Interview with **Mr Mulyadi**, who was the founder of *Irama Betawi* studio. The person who first made Ondel Ondel and the originator of Ondel Ondel ngicrik art; Interview with **Waldi**, he was the eldest son of Mr. Mulyadi's, who gave the idea to Mr. Mulyadi to develop the Ondel Ondel and build the Irama Betawi studio

Document Support:

Regulation of the Governor of DKI Jakarta Province No. 11/2017 about Betawi Cultural Icon	
Article 1 paragraph 1	explained that by this Governor Regulation, the Betawi Culture Icon was stipulated. The Betawi Culture icon as referred to in article 1 paragraph 1 consisted of: Ondel Ondel; Coconut Flower; Balang Dental Ornaments; Sadariah clothes; Kerancang Kebaya; Betawi Batik; Kerak telor; and Bir Pletok. The determination of the Betawi Culture Icon as referred to in Article 1 paragraph (1) was intended as a preservation effort through an introduction describing characteristics of the Betawi community and the identity of the DKI Jakarta Province as a tourist attraction (article 2)
Article 2	The Determination of the Betawi Culture Icon as referred to in Article 1 paragraph (1) was intended as a preservation effort through an introduction describing characteristics of the Betawi community and the identity of the DKI Jakarta Province as tourist attraction.

In Article 3,	Determination of the Betawi Culture Icon as referred to in Article 1 paragraph (1), aimed at : a. Increasing sense of belonging and instilling pride in Betawi culture actively among the community, business people and the government in their daily lives; and b. As a means of promoting tourism and encouraging the development of culture-based creative industry
• In article 4, the form / design, philosophy / meaning, function, use and placement of Betawi Culture icons as referred to in Article 1 were listed in the Annex to this Governor Regulation.	**Form of Design :** 1.The male face was red, has thick black eyebrows, mustache and friendly look 2.The female face has fair skin, glazed black eyes, curved black eyebrows, plump eyelashes, red lips, ears with earrings and a crowned forehead. 3.The male Ondel Ondel clothing was dark with pangsi dress, embroidered with Betawi batik motifs with sash and the bottom wore Betawi batik cloth. 4.The women Ondel Ondel wore a long kebaya dress or a flower-patterned baju kurung and the bottom wore Betawi batik cloth with a sash hooked on the left shoulder towards the right waist and used a belt. 5.Hair made of black palm fiber. 6.Headpiece called coconut flower (manggar) amounted to 20 for women and 25 for men.
	True Meaning of Ondel Ondel: It was a symbol of power maintaining security, order, bravery, firm, honesty, and control.
	Function and placement of Ondel Ondel 1.As a completion for Betawi traditional ceremony. 2.As a decoration for ceremonial events of the Provincial Government of DKI Jakarta, festivals, foreign artist performances, exhibitions, shopping centers, Tourism Industry, meetinghouses and public areas that enable aesthetic and public safety. 3.Placement on the right and left side of the entrance, in the lobby as a complement to a photo background, on the stage of a performance or in visual form at LED / Videotron, or in other places according to the aesthetics.

In Chapter I General Provisions, Article 1, in this regional regulation	the definition of : 8. Culture was the whole idea, behavior, and work of human beings and / or groups of people both physical and non-physical, which was obtained through the process of learning and adaptation to their environment. 9. Conservation was an effort to protect, develop and use a dynamic culture. 15. Art was Betawi's traditional art in the form of aesthetic value as a result of creativity, feeling, initiative and works living from generation to generation in the Betawi community
In the second part of the purpose and principle, article 2,	the purposes of the Betawi culture preservation were : a. To protect, secure and preserve the Betawi culture; b. To maintain and develop Betawi tradition values which were identity and as a symbol of pride of the Betawi community in a multicultural society; c. To increase public awareness and understanding of Betawi culture; d. To increase the awareness and aspirations of the community towards the heritage of Betawi culture; e. To raise the spirit of love for the homeland, nationalism, and patriotism; f. To generate motivation, enrich inspiration, and expand repertoire for the community to work in the field of culture; and g. To develop the Betawi culture to strengthen the identity of national culture
In Chapter II of duties and authority, article 4	there were duties of the Local Government in the Preservation of Betawi Culture as follows: a. Develop community participation and creativity; b. Develop and raise awareness of the Jakartans on the Preservation of Betawi Culture; c. Coordinate among the government institutions, the community, and the business world in the Betawi Culture Preservation effort; and d. Coordinate the implementation of Betawi Culture Preservation with the other fields.

Still in article 4, To perform the tasks referred to in paragraph (1)	the Regional Government has the authority for: a. Formulating and establishing policies and strategies for the preservation of Betawi Culture based on national policy; b. Organizing Betawi Culture Conservation according to the norms, standards, procedures and criteria set by the Government; c. Making cooperation between regions, partnerships, and networks in the Preservation of Betawi Culture; d. Guiding and supervising the implementation of Betawi Culture Preservation activities; e. Developing the Betawi cultural area; and f. Facilitating the implementation of Betawi Culture Preservation which organizes the Betawi community.
In Chapter III the Rights and Obligations of the community, article 7 stated	the community has the right of: a. Using all aspects of Betawi culture according to its function b. Providing input to the regional government in organizing the preservation of Betawi culture. c. Participating in the making of Betawi cultural policies, and d. Choosing aspects of Betawi culture for the sake of expressing their experience and aesthetics.
article 8	the community was obliged to preserve Betawi culture and can participate in Betawi Culture Preservation efforts, especially on: a. Inventory of the Betawi cultural tradition values; b. Inventory of cultural assets and exploration of Betawi history; c. Improvement of Betawi Culture Preservation activities; d. socialization and publication of the Betawi cultural tradition values; and e. facilitation for the development of quality human resources in the Betawi Culture Conference
In Chapter IV Implementation of preservation, article 9	Betawi Cultural Preservation was held through: a. Education; b. Protection c. Development; d. Utilization; e. Maintenance; and f. Coaching, monitoring and evaluation

Governor Regulation No.229 of 2016 concerning the implementation of Betawi culture preservation	
In part 2 of art, article 4	preservation of Betawi culture through elements of art, as referred to in Article 3 letter a, was held through : a.Education, b.Skills, c.Competition, d.Festival, e.Performance, f.Awards, g.Providing social security, h.Copyright protection, and, i. Data collection, recording and documentation,

RESULTS

Betawi culture and its development

According to Ridwan Saidi in his book, "Jakarta History and Betawi Malay Civilization", the portrait of Betawi culture nowadays is not encouraging. Gradually, many kinds of art have become extinct because there is no successor, and there is no serious development program. The first art that is extinct, is “Ubrug”. It is traditional poetry and jokes interspersed with bamboo music. The extinction of Ubrug is due to politics. The group of Ubrug often sang in binnenstad Batavia. Because of the traditional poetry containing allusions to the VOC, the Ubrug is expelled. The type of Betawi art which was extinct due to changes in people's tastes was the Harmonium Orchestra, then became a Malay Orchestra because it was less popular than Dangdut.

But not with Ondel Ondel art which is one of the Betawi cultural icons, this is stated in Governor Regulation No. 11/2017 concerning Betawi cultural icons. In the Governor Regulation, it is mentioned several Betawi cultural icons, among others, Ondel Ondel; Kembang Kelapa; Ornamen Gigi Balang; Baju Sadariah; Kebaya Kerancang; Batik Betawi; Kerak Telor; dan Bir Pletok. The Governor Regulation was also supported by the existence of Article 29 of Regional Regulation No. 4/2015 concerning the preservation of Betawi culture, in which the Regional Regulation contained the objectives of preserving Betawi culture, including protecting, securing and preserving Betawi culture; maintain and develop traditional Betawi values which are identity and as a symbol of the pride of the Betawi community in a multicultural society; increasing the awareness, awareness and aspirations of the community towards the heritage of Betawi culture; motivate, enrich inspiration, and expand repertoire for the community to work in the field of culture; and developing Betawi culture to strengthen the identity of national culture. In the regulation, it is also stated about the preservation of Betawi culture can be organized through educational activities, protection, development, utilization, maintenance and guidance, monitoring and evaluation. The Governor Regulation No. 229/2016 is concerning the management of Betawi culture. In the Governor Regulation it is clearly stated how cultural preservation efforts that have elements of art along with its provisions.

With the existence of Governor Regulation and Regional Regulation, this is a form of attitude from both central and regional governments to seriously respond to the problem of cultural preservation and to realize the values of the Betawi culture that need to be preserved together by both the government and the community.

Ondel Ondel Preservation

Ondel Ondel is currently not only Betawi cultural icon but also an icon of Jakarta city. The matter regarding to the preservation of Betawi culture is stated in Governor Regulation No. 229/2016 concerning the preservation of Betawi culture.
In article 1 paragraph 28, it explains that the Betawi Cultural Institute abbreviated as LKB is a Betawi cultural institution from and by Betawi community for preservation of Betawi culture and confirmed by the Governor of DKI.

As explained by Mr. Rudi Haryanto, as the administrator of Betawi culture development at the Betawi Cultural Institute (LKB), concerning the Betawi culture studio under the guidance of LKB. Betawi culture studio is a form of Betawi culture preservation. The Betawi Culture Studio is also an Ondel Ondel art studio. Mr. Rudi also said that the studios under the LKB supervision were studios which were in line with the competencies and standards of LKB to become a cultural studio. As stated in the Governor Regulation No.229/2016 article 7 paragraph 2, the implementation of Betawi art studio as a training center for Betawi art is equipped with facilities and infrastructure and human resources that have standards in accordance with the provisions of the legislation. The studios are obliged to know the knowledge of Betawi culture and art properly and correctly so that it can convey cultural values intact and can be accepted by others well without reducing the value of the culture itself. In addition, the studio must complete the artistic devices' requirements.

Ondel Ondel "Ngicrik" Phenomenon

In the past few years we have often encountered a group of people/communities traveling along the main roads and villages with a set of sound systems to play typical Betawi songs and accompanying one or two giant dolls resembling Ondel Ondel that travel along the road and bring a small bucket that is used to offer people around to donate some money sincerely. Without realizing it, a phenomenon has shifted the function and meaning of an Ondel Ondel cultural art. If we look at the history of Ondel Ondel art, as said by Mr. Juwahir as the Successor of the head of Cahaya studio, Ondel Ondel used to be a giant doll that was used to reject reinforcements or evil things. This giant doll was called "Barongan", and later the name *barongan* changed to Ondel Ondel since the late Benjamin. S. sang Ondel Ondel songs. The figure behind Ondel Ondel "ngicrik" is Mr. Mulyadi, known as father Mul or Papi Mul. He is the first one who made Ondel Ondel. Mr. Mul's residence is in high land, Kramat Pulo, known as Ondel Ondel village. In the region there are many people who work as Ondel Ondel makers. Father

Mul started making Ondel Ondel in 2009. The reason Father Mul made Ondel Ondel was on the encouragement of his oldest child named Bang Waldi. Bang Waldi, who indeed has a background of Betawi art and is adept at playing various kinds of musical instruments, has a desire to preserve Betawi culture, especially Ondel Ondel art and wants to further develop it. Father Mul said that one day his son asked, "Can you make Ondel Ondel as soon as possible?". Father Mul agreed to his son's request. Since then Father Mul has been making Ondel Ondel. At that time, Mr. Mul set up a studio called Irama Betawi Studio. In addition to making Ondel Ondel, Mr. Mul and his son manage the Irama Betawi studio, the studio currently has a total of 14 people who have the task of playing musical instruments for the Ondel Ondel performance. Mr. Mul, who has participated in Ondel Ondel art performances since the 6th grade, really understands the Ondel Ondel art.

The origin of the Ondel Ondel ngicrik was from Father Mul desire to develop Ondel Ondel art, so that many people know more about this. Mr. Mul said that, if Ondel Ondel only appears "Once in a time", it would be very difficult for people to get to know more about Ondel Ondel. The meaning of "Once in a time" is that Ondel Ondel performances can only be seen at special events such as wedding ceremonies or circumcision ceremonies. With that desire, Mr. Mul began trying to display Ondel Ondel performance outside the ceremony. Pak mul's first Ondel Ondel performance received a very good response and was beyond expectations. Seeing such an extraordinary welcome, Mr. Mul and his colleagues continued to carry out the "ngicrik" activity. But now, Father Mul father is no longer doing "ngicrik", but is more focused on making Ondel Ondel because the orders of Ondel Ondel figures are increasingly starting to demand from tourism agencies as well as from corporate institutions and companies. Mr. Mul also said that more and more people came to rent a set of Ondel Ondel "ngicrik" to Mr. Mul. Mr. Mul gave a tariff of one Rp. 50,000 per day. This set of Ondel Ondel ngicrik devices includes carts, amps, speaker, batteries, memory cards that have been filled with instrument songs with typical Betawi musical instruments and also the dolls. At present Mr. Mul has 7 sets of devices for Ondel Ondel "ngicrik" performance. Usually the Ondel Ondel tenants come to pick up a doll at around 12 noon or before Dzuhur and return it at 12 o'clock at night. Mr. Mul also always gives regulatory directions to anyone who rents his Ondel Ondel. Some of the rules that must be followed by the tenants are as follows: Do not chuckle at the red lights, Do not on the green lane or the main lane, and on the road in the village.

At this time, Ondel Ondel is no longer found in mystical ritual repellents; an Ondel Ondel phenomenon comes to the streets, the Betawi people say "ngicrik". Ondel Ondel that comes to the streets is usually played by 1 giant puppet and there are people who bring a music player to play songs to accompany the giant puppet to dance and go around from one place to another. This giant doll resembles Ondel Ondel in general. While the giant doll dances and walks around, someone is in charge of asking/charging for the performance. Ondel Ondel "ngicrik" is often seen not on the main road and we can meet the Ondel Ondel around after 12 o'clock at noon until 12 o'clock at midnight.

The dynamics of Ondel Ondel art

Before it was named Ondel Ondel, this giant doll was called "barongan". The name Benjamin Sueb has a role in popularizing the name Ondel Ondel. Ondel Ondel was originally made to represent ancestors who could ward off evil spirits, but the puppets have evolved to them decorative roles in the Muslim majority country. As Mr. Juwahir said about the origin of Ondel Ondel, he was very aware of this because the studio he currently owns is a hereditary inheritance. In the past Ondel Ondel has always been associated with a magical world, Ondel Ondel was originally a symbol of village guards from all kinds of dangers, threats, and epidemics. That is what then answers the question why the Ondel Ondel face is made so creepy. There is a story circulating in the community, once in a village attacked by an epidemic of diseases such as smallpox, all of the villagers were affected by the disease. To get rid of the outbreak a barongan ritual is needed.

After going through the development of the era, Ondel Ondel is now appearing on traditional ceremonies such as Marriage, and Circumcision. In addition, Ondel Ondel is now present at major events such as Jakarta's anniversary celebrations, on the eve of the year, Indonesia’s Independence Day, etc. Ondel Ondel is also often invited by various institutions both government and private to enliven an event. Indirectly the function of Ondel Ondel art meaning is as entertainment material.

And at the beginning of 2011, a new phenomenon emerged, it is Ondel Ondel art made as a livelihood by a small percentage of the population in Jakarta and outside Jakarta. By only carrying a set of tools such as Amp, Speaker, Storage battery and a memory card that contains typical Betawi instrument songs to accompany one or two giant dolls that resemble Ondel Ondel, walk around along the road then they provide a small bucket for money containers to ask for money to people around the road. Mr. Mulyadi as the originator of Ondel Ondel "ngicrik" and the maker of Ondel Ondel said that he had the desire that Ondel Ondel not only appear on marriage or circumcision but every day Ondel Ondel can be seen by people who want to know how Ondel Ondel art is. This phenomenon is a new thing for Jakarta residents, most of whom are migrants from other cities. In addition, more and more Ondel Ondel studios have risen and have programs to preserve Betawi arts and culture. One of them is Sanggar Cahaya, which is currently chaired by Mr Juwahir, who is familiarly called by Bang Ja'ir. Sanggar Cahaya is a studio that has been established for 4 generations, and has been downgraded to a younger generation, Mr. Juwahir is the fourth generation and currently Mr. Juwahir has begun to inherit his knowledge and expertise to the child.

Judging from the above narrative, there is considerable dynamics in the art of Ondel Ondel in Jakarta and its surroundings. But behind all these developments and changes has one goal, it is to continue to preserve Ondel Ondel art and Ondel Ondel art can still exist along with the development of time and technology.

FINDING

There are several findings from the Ondel Ondel "ngicrik", they are:

Table 1: Finding

REGULATIONS / STATEMENTS	**FINDING**
Statement from Mr.Mulyadi *"Cari kerja sekarang suseh, banyak anak anak muda yang kagak ada kerjaan pade dateng ke aye buat nyewa ondel ondel, daripade Cuma nongkrong. Ade juga yang dulunya tukang copet sekarang jadi tukang ngicrik ondel ondel"*	Ondel Ondel "ngicrik" is a livelihood that improves the lives of people who do not have any job yet, and a positive activity to spend their free time.
Statement from Mr.Mulyadi *"Pembeli ondel ondel buatan saya bukan hanya orang Jakarta, tetapi ada yang dari Depok, Bekasi, dan Bandung."*	Ondel Ondel "ngicrik" performances have help the process of spreading culture to the outside or to areas outside Jakarta. The spread of Ondel Ondel "ngicrik" which is not only in Jakarta but in big city cities outside Jakarta.
Statement from Mr.Rudi *"Sekarang sudah banyak yang mengenal ondel ondel, bukan hanya orang Jakarta karena ondel ondel sekarang berkeliling di mana mana. Gampang sekarang mau lihat ondel ondel dari dekat"*	Ondel Ondel "ngicrik" has been transferring knowledge from one person to another. With the Ondel Ondel performance going around, people in the neighborhood will know about Ondel Ondel art, besides that they also know the typical Betawi instrument songs.

CONCLUSION

There is no doubt on Betawi's Ondel Ondel art still existing today. The emergence of the street Ondel Ondel so called "ngicrik", the art extended beyond Jakarta. Some points needed to be considered in order to carry out the process of knowledge transfer and the spread of Ondel Ondel cultural art properly and appropriately without reducing values of the culture itself. Some of these points were as follows:

1. Preserving the culture of Ondel Ondel art as stated in **Article 29 of Regional Regulation no.4 of 2015 on the preservation of Betawi culture** was right and mutual obligation of both the local government and the community, therefore, we need to pay attention to the existence of street Ondel Ondel "*ngricik*"
2. The government must provide guidance to the communities and individuals performing the street Ondel Ondel "*ngicrik*", gave the right knowledge and values about philosophy and meaning of the Ondel Ondel art itself. Thus, during the knowledge transfer and deployment processes of betawi's Ondel Ondel art, the street Ondel Ondel "*ngicrik*" can transfer and spread it correctly and the knowledge conveyed to the community or other individuals can be accepted properly and correctly.
3. As stated in Article 29 of Regional Regulation No. 4 of 2015 concerning the preservation of Betawi culture in Chapter IV and Governor Regulation No.229 of 2016 concerning the preservation of Betawi culture, it was necessary to provide appropriate place or headquarter for the street Ondel Ondel "*ngicrik*" to perform these activities, so that they will be more structured and well organized. Finally, it will not eliminate its cultural values.

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Towards an informed library decision making using Evidence-Based Librarianship (EBL) practice: incorporation of User Needs and Preferences

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ABSTRACT
This paper attempts to provide evidence on the importance of user needs and preferences in library decision making. Secondly, it reports the influence of user needs and preference evidence to the Evidence-Based Librarianship (EBL) practice. Librarians at present face a critical situation with decision making involving multiple interest groups including users and stakeholders. The current global economic and political crisis forces librarians to integrate pieces of evidence from different perspectives and contexts to ensure a well-informed decision. EBL practice provides a structured evidence model for library decision practically for a collective decision incorporating research evidence, local evidence, and librarians' professional knowledge. However, lack of literature discusses how user needs and preference components are imperative in decision making within EBL practice. To address the gaps, this research investigates 278 librarians from public, academic and special libraries. Data is collected using a questionnaire and analyzed using SmartPLS SEM. This research found a highly correlated and significant relationship between user needs and preference and EBL practice, thus, suggesting that the user needs and preferences be mandated as an element in the evidence-based practice and librarianship studies. Hence, it seconds the finding to incorporate user needs and preference element in the EBL model.

Keywords: User needs and preferences; Evidence-based Librarianship; Library acquisition; Library decision making

INTRODUCTION

Library decision making in the current global economic and political crisis has placed librarians in a very critical position. Librarians encounter multiple challenges in the process which requires them to integrate pieces of evidence from different perspectives and contexts to ensure a well-informed decision. Evidence-Based Librarianship is one of the practices recognized by librarians in library decision making (Choemprayong & Wildemuth, 2009), as librarians collect, analyze and appraise the evidence from the research literature, local context and professional knowledge within the library and information science practice (Booth & Brice, 2004a; Koufogiannakis, 2013a). In securing a collective decision, Eldredge (2014) identifies user needs and preference as an important element in policy and practice of decision making, in which the library needs to encounter users in both decision making process despite other stakeholders.

Since mid-20th to date, researchers in library and information and science has embarked on the topic (Reddy, Krishnamurthy, & Asundi, 2018). Among the historical studies in user needs is providing a new perspective on user accessibility to the library resources (Bernal, 1960). A recent study by Lewter & Profit (2018) focuses on user engagement in social media. The advent of information and communication technology in libraries has influenced the context and trend of user studies from the use of the physical library to the use of the virtual library and recently in decision making. The changes are significantly caused by the introduction of online and electronic forms of the resources as an outcome from rapid development in library technology and user demand. However, studies on library users have acknowledged users as part of decision makers (Connaway, Lanclos, White, Le Cornu, & Hood, 2013; Dunn & Murgai, 2015; Huang, Chu, Liu, & Zheng, 2017). Thus, this research aims to explore the influence of user needs and preference in EBL practice for library decision making. User needs and preference in this research context focus on understanding user's desires while preference refers to the user's likelihood in one resource compared to others (Mitrano & Peterson, 2012).

LITERATURE REVIEW

User needs and preferences

Current research in Evidence-Based Practice (EBP) and Evidence-Based Medicine (EBM) embraces on user empowerment, user engagement, user preferences, and user-centric approaches in recognizing the patients' evidence in health care decision making. The same movement is also reported in library studies (House, 2012; Huang et al., 2017; Luo, 2017). Limited and almost rarely, a user study is reported in EBL. This is the main concern of Koufogiannakis (2013a) when she highlights "even though user needs and preferences are incorporated in the definition, but, there is a conversation on the element end at that point". Researcher investigates user needs and preferences in various contexts such as shared decision making approach (Stiggelbout, Pieterse, & De Haes, 2015), patient engagement (Hawley & Morris, 2017a; Higgins, Larson, & Schnall, 2017) user engagement (Adey & Eastman-Mullins, 2017; Huang et al., 2017; Lewter & Profit, 2018; Luo, 2017), and empowering patient (Hanley, Pinnock, Paterson, & McKinstry, 2018). Qualitatively, Huang et al. (2017) report the direct effect of social media implementation in library reference services, improving health professionals' experience (Rosenbaum, Glenton, & Cracknell, 2008), development of patron-centric management mechanism (Zhou, Song, & Zhou, 2016), and improving patient care (Higgins et al., 2017). In a quantitative research, a positive relationship is reported between user engagement and social media implementation (Lewter & Profit, 2018).

EBL in decision making

EBL is a key practice in decision making, as it provides a structured approach to aid decision making (Brettle, 2017). Koufogiannakis & Brettle (2016) conclude that EBL is a practice that provides a continual cycle of improvement in library decision making by incorporating the evaluation element at the final stage to evaluate the outcome or the whole process. The decision making process according to Cleyle & McKenna (2007) as described by Booth & Brice (2004b), is a process model that consists of six steps; 1. Define the problem, 2. Find evidence, 3. Appraise evidence, 4. Apply the results of the appraisal, 5. Evaluate change, and 6. Redefine problem. The process model practice is a vital step in gathering the best available evidence in the decision-making process. A general understanding has been developed in the library decision-making process, whereas the library and librarians are not independent in making a decision. It is rather a cumulative decision and the library is in a dilemma in facilitating the needs and requirement of the patron and at the same time bearing in mind the other stakeholders' decision. In this situation, EBL decision-making plays an important role in justifying the decision.

EBL Process Model

EBL process model describes the process or steps in the evidence process for decision making using evidence-based practice. Four main models appear in the practice literature including a five-step practice by Eldredge (2000a), five-stage practice (Booth & Brice, 2004b), 5As model (Booth, 2009) and Koufogiannakis' (2013b) model. The models incorporate similar elements in the stages and steps. Some similarities in the process can be found in Stage 2/step 2 "Search", "Find", "Acquire" and, "Assemble" that carry the same meaning process of gathering the evidence. Stage 3/step 3 uses the terms "Evaluate", "Appraise", and "Assess" which refer to the same process of assessing the validity, reliability, and usefulness of the evidence source. Stage 5/step 5 "Evaluate "and "Assess" refer to the same process to evaluate the outcome or the process. Varieties in the term are used by the models such as stage 1 and step 1 as "Formulate", "Identify" and "Ask". Stage 4/step 4 uses the terms "Apply" and "Assess". Differences in the terms used on the stages carry variations in the meaning of the process. Eldredge (2007) dictates that the model is based on the authors' focus. The stages include the formulation of the question (Booth, 2006, Eldredge, 2000a), searching stages (Eldredge, 2000b; Winning, 2004), and appraising stages (Booth & Brice, 2004a; Glynn, 2006). However, Booth and Koufogiannakis share the same elements. Table 1 below describes the selected models and terms used.

Table 1: the EBL process model

	(Eldredge, 2000a)	Booth & Brice (2004b)	(Booth, 2009)	(Koufogiannakis (2013)
Step/Stages	Process			
1	Formulate	Identify	Articulate	Articulate
2	Search	Find	Assemble	Assemble
3	Evaluate	Appraise	Assess	Assess

4	Assess	Apply	Agree	Agree
5	Evaluate	Evaluate	Adapt	Adapt

PROBLEM STATEMENT

Based on the comprehensive study, the literature reveals the need for user evidence in EBL practice. The EBL model is established with three evident components, namely research evidence, local evidence, and professional knowledge. Generally, EBL is defined as a practice that applies the best available evidence and insight derived from working experience, moderated by user needs and preferences in library decision-making. An early study by Rieke & Sillars (1984) classify the wide range of evidence onto anecdotal, statistical, causal and expert. Similarly, Glasby, Walshe, & Harvey (2007) segregate the evidence into a typology with three types of evidence (theoretical, empirical and experiments). These two studies agree that the definition of user evidence needs to be further embraced in various perspectives and contexts. It also encourages exploration in different sorts of knowledge to identify more evidence, which entails a sound decision. At a glance, this discloses that user needs and preferences are left unexplored in EBL research. Thus, it opens for further exploration of evidence on the user needs and preferences to be possibly viewed as part of the EBL model.

RESEARCH DESIGN

This research embarked on a quantitative research approach applying a survey research method. The survey instrument was developed through adapting previous research and literature related to user needs and preferences. The instrument underwent the validity and reliability procedure. The validity and reliability was reported by Mustafa & Abdullah (2017). The detail variables and items are displayed in Table 2: variables and measures.

Table 2: Variables and measures

Variables	Items		References
User Needs and Preferences	UNAP1	I normally consider individual user needs in acquisition decision.	Koufogiannakis (2013b), Booth (2003), Mitrano & Peterson (2012), Eldredge (2016)
	UNAP2	I normally consider user behavior (activity and action) in acquisition decision	
	UNAP3	I normally consider user circulation behavior (pattern of usage) in acquisition decision	
	UNAP4	I normally consider user feedback in acquisition decision.	
	UNAP5	I normally consider faculty/department priorities in acquisition decision.	
Implementation			
Research	RESEV1	I refer to a research report in	Koufogiannakis

evidence		acquisition decision.	(2012) Eldredge (2000a)
	RESEV2	I refer to supplier statistical report in acquisition decision	
	RESEV3	I refer to literature report in acquisition decision	
	RESEV4	I refer to reviews in the acquisition decision *(Example: publisher's review and reader's review).*	
	RESEV5	I refer to systematic reviews in acquisition decision	
	RESEV6	I refer to Bibliometric report in acquisition decision	
Local evidence	LOCAL1	I refer to internal standard *(Standard Operating Procedure)* in acquisition decision	Eldredge (2000a), Sackett et al., (2000), Koufogiannakis (2013b)
	LOCAL2	I refer to the best practice in acquisition decision	
	LOCAL3	I refer to unpublished survey report in acquisition decision	
	LOCAL4	I refer to in-house usage statistics in acquisition decision. *(Example: ILL report)*	
	LOCAL5	I refer to collection analysis report in acquisition decision. *(Example: Circulation report)*	
Professional Knowledge	PROK1	I refer to professional standard in acquisition decision. *(Example: Standard Perpustakaan dan Kolej dan Universiti Awam)*	(Koufogiannakis, 2013b), Todd(2001)
	PROK2	I refer to professional guidelines in acquisition decision. *(Example: IFLA Standard for Information Literacy)*	
	PROK3	I consider professional tacit knowledge in acquisition decision	
	PROK4	I consider my own experience in acquisition decision	
	PROK5	I consider other librarians experience in acquisition decision	
	PROK6	I consider the expert opinion in acquisition decision.	

Research variables

This research explores the relationship between user needs and preferences and EBL practice implementation. The user needs and preferences variable is explained as the ability of librarians to identify personalized information for specific individual or group of users. User needs and preferences are reported in a number of studies (Adey & Eastman-Mullins, 2017; Hanley et al., 2018; Hawley & Morris, 2017b; Higgins et al., 2017; Huang et al., 2017; Lewter & Profit, 2018; Stiggelbout et al., 2015). Based on the significant relationship obtained in previous studies, this research hypothesizes a statistically significant relationship between user needs and preferences with EBL implementation.

The variables of EBL implementation are defined as when the practice is applied in daily use of the librarians. This research adopts the Rogers' IDT Five Stages of the Innovation-Decision Process (Rogers, 1983). The five stages of innovation-decision process are Knowledge, Persuasion, Decision, Implementation, and finally, Confirmation. This research used the *Implementation Stage* to investigate EBL implementation and its relationship with user needs and preferences. Implementation is measured by the three evidence elements of the EBL model namely research evidence, local evidence, and professional knowledge. Implementation is the fourth stage in the innovation-decision model which is used to measure the implementation level of a particular innovation or practice (Rogers, 1983). According to Wani & Ali (2015), the implementation stage involves an obvious "behavioral change", and a dynamic stage which individuals might be affected by the free flow of information during the adoption stage.

Data collection and analysis

This research elects librarians as the unit of analysis, which covers librarians from the public, academic and special library. The selected librarians are members of *Persidangan Pustakawan Universiti dan Negara* (PERPUN), *Kumpulan Kerja Perpustakaan Swasta* (KKPI), and *Perpustakaan Gunasama* under the National Library of Malaysia (PNM). The total population is identified as 1040 and a sample of 278 is determined using Krejcie & Morgan sample size table (Krejcie & Morgan, 1970). The research respondents are identified through proportionate stratified sampling technique. Questionnaires were sent to the respondents which require a reply within 15 days. The response rate was 93.52% (260 returned questionnaires), however, only 89.92% (250 questionnaires) were useable for data analysis. The collected data were analyzed using SPSS v24 and SmartPLS SEM software. Particularly, Path Coefficient Analysis in the SmartPLS Bootstrapping was used to examine the relationship between user needs and preferences and implementation.

RESULTS

Model analysis

The SmartPLS analysis of the research model revealed that the measurement model has achieved internal consistency, convergent validity, and meeting the discriminant validity requirements. Overall, the measurement model analysis for both constructs recorded the Cronbach's Alpha value of 0.880 and 0.960, CR value 0.914 and 0.964, AVE of 0.683 and 0.625. Discriminant validity obtained below than 1 and item cross-loading from 0.710 to 0.916. The internal consistency and composite validity was analyzed using Cronbach's Alpha and Composite reliability value (CR) which requires a cut-off point at >.07 (Gefen, Straub, & Boudreau, 2000), while the convergent validity was assessed using Indicator loading and Average Variance Extraction (AVE) value dictating a cut-off point of >.05 (Hair, Hult, Ringle, & Sarstedt, 2014). The discriminant validity was assessed using Fornell Larcker Criterion which requires a value of less than 0.1 (Chin, 1998) and Item Cross-loading between 0.7 and 0.4, which is acceptable (Hair et al., 2014). The result of the analysis is demonstrated in Table 3: Result of the Measurement Model Analysis (Refer to Appendix 1).

Analysis of the structural model reports the model predictive accuracy as follows: Predictive relevancy (Q2) for implementation is recorded at 0.227 which indicates that it meets the requirement of value >0, effect size, f 2 (0.081), indicating that user needs and preferences has a small effect towards implementation. The collinearity statistic (VIF) 1.606 for user needs and preferences and implementation indicates no collinearity problems arising in the model. The path coefficient analysis of the relationship between user needs and preferences and implementation reveals a value of t ($\beta = 0.280$, t= 3.844, $p<0.01$) indicating a high correlation and a highly significant relationship.

Discussions

This finding confirms the relationship between user needs and preferences and EBL implementation, sufficient evidence is specified. Thus, this indicates librarians do refer to user needs and preferences in their decision making. The concern of user needs and preferences in both EBP and EBL is widely discussed in previous research. A comparable understanding is also highlighted (Fischer, Wright, Clatanoff, Barton, & Shreeves, 2012; Huang et al., 2017), where both studies indicate the importance of understanding and meeting the user needs and preferences in library service offerings. On the other hand, user needs and preferences has been long discussed in the field of library and information science, and among the noticeable movement is the introduction of "user logic" (Harbo & Hansen, 2012; Kuhlthau, 2003) and user-centric concept (Connaway, Hood, Lanclos, White, & Le Cornu, 2013), as these studies investigate ways on how to make the library services logic to them. Users' involvement later appears to attract the users to participate in library activities, and user engagement (Huang et al., 2017; Luo, 2017) contributes towards library content and decision, and shared decision making addressed (Stiggelbout et al., 2015). These are the platforms created to gain more user perspectives and incorporate them as part of EBL in decision making. These study findings are in line with Koufogiannakis & Brettle (2016), as positioning user needs is a component of EBL which is equally important as the patients in EBM. A similar finding in library studies which highlight user evidence in the service offerings (Connaway et al., 2013) emphasizes user influence in the success or failure of services.

This finding also highlights five important elements in user needs and preferences that contribute to the significant relationship. The research investigates a similar element reported to highlight consistent result. Research investigating the first element of individual user needs as an entity in the library and information science decision making has been reported in various approaches. Anttiroiko & Savolainen (2011) have reported on the tracking of individual user needs. The effect of taking individual user needs into account on health decision making has proven to improve healthcare outcomes (Blumenthal-Barby, 2017; Jha et al., 2009). The second element is the dynamic of user behavior which has been discussed by Connaway et al. (2013), mentioning the change in

user behavior that influences their information needs. User behavior is also reported to be influenced by the user experience (Rosenbaum et al., 2008). The third element is circulation behavior. In acquisition of serial collection (O'Connor, Légaré, & Stacey, 2003; Rajendiran, Desphande, Bhushan, & Parihar, 2008; Wennberg, 2014), reporting user borrowing pattern explains the changes required in the collection development practice. The fourth element is user feedback (Bell, 2012; Farnum, Baird, & Ball, 2011; Lewter & Profit, 2018, and Robison & Connell, 2017). User feedback in social media (Facebook and twitter) confirms its use to gather user feedback in library marketing (Adey & Eastman-Mullins, 2017). The fifth element in user needs and preferences is priorities. Priorities refer to privileges given to faculty or departments to contribute to acquisition decision in a form of suggestions to purchase.
This collaboration between libraries and department/faculty is important in assessing the true value of the library resources (Adey & Eastman-Mullins, 2017). This collaborative effort was earlier introduced in healthcare practice with the term "shared decision making" (Veatch, 1972). The underlying philosophy behind the shared decision-making approach highlighted by Stiggelbout et al. (2015) is as an engaging patient in the decision making of their own preference-sensitive (high in risk) decision.

Research reporting the importance of the user evidence shows underutilization of library self-service facilities which is the result of ignoring users' needs and requirements (Zhou et al., 2016). This is further aided by Reddy et al. (2018) that the library service design is determined by the user needs. Thus, this suggests that users' needs and preferences are mandated as an important evident component in the evidence-based practice and librarianship studies. Hence, it seconds the finding to incorporate users' needs and preference evidence in the EBL model.

CONCLUSION

User needs and preferences have proven itself to be an important evidence in library decision making. User evidence, in general, plays a significant role in finalizing decision especially pertaining to a decision involving the user. These signal librarians to be sensitive to individual needs as well as the group needs. Failure may cause a decline in library visit, resources, and service usage. This will further tarnish or damage the professional image of librarians. This research defines an informed decision in EBL as the decision made my librarians after consulting the evidence components from research, local, professional knowledge, and user needs and preferences. Overall, this research provides insight into the importance of user needs and preferences evidence in library decision making. Thus, the findings contribute to the new EBL model for library decision making with the introduction of the user needs and preferences evidence.

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Appendix 1

Table 3: Result of the measurement model analysis.

Construct	Item	Loading	Cronbach's Alpha	CR	AVE
User Needs and Preferences			**0.880**	**0.914**	**0.683**
	UNAP1	0.719			
	UNAP2	0.866			
	UNAP3	0.896			
	UNAP4	0.916			
	UNAP5	0.710			
Implementation			**0.960**	**0.964**	**0.625**
	RESEV1	0.761			
	RESEV2	0.809			
	RESEV3	0.752			
	RESEV4	0.798			
	RESEV5	0.859			
	RESEV6	0.818			
	LOCAL1	0.779			
	LOCAL2	0.781			
	LOCAL3*	**0.327**			
	LOCAL4	0.807			
	LOCAL5	0.841			
	PROK1	0.848			
	PROK2	0.848			
	PROK3	0.735			
	PROK4	0.677			
	PROK5	0.750			
	PROK6	0.758			

**Item deleted due to low loadings*

Towards an ontology model for Malay Manuscripts

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ABSTRACT

This paper proposes an ontology-based conceptual framework for descriptive and content knowledge of Malay manuscripts in the University of Malaya Library. The purpose of this ontology framework is to provide a knowledge base that represent invaluable information contained in Malay manuscripts and enhance semantic search and retrieval. Currently manuscripts are kept in digital format. The digitized manuscripts in the image format can only be downloaded and read through the digital library without any mechanism to access knowledge contained in it. The current approach to make them accessible is using metadata. It is insufficient to describe the semantics of documents and to search knowledge by using metadata alone. The library also provides very little information regarding the semantics and subjective aspect of the manuscript. It is infeasible to describe content simply using words. Manuscripts contains more important information that are invaluable for retrieval purposes such as the transliteration work and annotation added by experts or users and how each manuscript link with others across subjects such as history, folklore, and legends. Additionally, the data of the historical documents are often heterogeneous, semantically rich and highly interlinked. Users may desire knowledge from a combination of facts found in multiple sources. Therefore, there is a demand for a powerful and efficient system which allow users to access and explore the content of the manuscript in depth and make all the information data searchable by direct queries. The main reference of the model is, Simple Event Model (SEM) and BIO ontologies. The scope of this study is concerned with a Malay manuscript information retrieval system which exploits a domain-specific ontology and open knowledge-based sources. The domain is restricted to the Malay manuscripts domain, and the ontology was built by referring to existing manuscripts ontologies. This study contributes to the development of semantic technology model for Malay manuscripts. The model supports organizing and integrating diverse knowledge contained in the manuscripts and could enable better understanding of the domain and provide more effective ways of discovering useful and unique knowledge contained in the manuscripts.

Keywords: ontology; Malay manuscript; digital library; cultural heritage

INTRODUCTION

Malay manuscripts are invaluable documentary records of the past which must be preserved because they are irreplaceable. These handwritten documents reflect the rich cultural heritage and documentation of high intellectual accomplishments of the Malays. The manuscripts cover a wide range of subjects, such as history, religion, law, culture, folklore, and legends. Some of these works were later republished in printed format when printing was introduced first in Java then Penang, Malacca, and Singapore in the 19th century.

Today, manuscripts are presented in digital format using metadata. Although the use of extended Dublin Core (DC) metadata scheme for manuscripts collection is useful to represent the semantic resources of the manuscript such as title, category, dimension, language material, and condition (Zainab, Abrizah, & Hilmi, 2009), manuscripts however contains many more important information that are invaluable for retrieval purposes such as the transliteration work, annotation added by experts or users and how each manuscript link with the others across subjects such as history, folklore and legends. Therefore, knowledge representation of the manuscript content could be enhanced using ontology-based schema taking advantage of semantic technology to improve content descriptions, knowledge organization and later retrieval of the digital collection.

There is a need to discover the knowledge contain in the manuscript. Ontology is said to be the best way in representing, organizing and sharing the knowledge. According to Chandrasekaran, B., Josephson, J. R., & Benjamins, V. R. (1999), ontologies are "… content theories about the sorts of objects, properties of objects, and relations between objects that are possible in a specified domain of knowledge. They provide potential terms for describing our knowledge about the domain."(Chandrasekaran, Josephson, & Benjamins, 1999). According to Sowa (2000), ontology is a discipline that is part of the knowledge representation field. It is an important tool for the organization and contextualization of knowledge, particularly in well-bounded contexts, such as scientific research, or within individual organizations (Brewster & O'Hara, 2007). It also can provide an interface to the content, and the combination of a concept ontology and associated content can be used to generate a separate content representation (Boyce & Pahl, 2007). This ontology is needed to improve access to a mass of information and for development of better search, retrieval, and organization (Lin & Liang, 2005).

This paper presents the conceptual framework on event ontology-based approach to Malay manuscript content annotation and retrieval. An event is used to represent the content of the manuscript because the event contains information about people, place and time.

RELATED RESEARCH

There are a lot of studies that have been done in developing ontology models for various fields. The ontology-based retrieval can be classified into 4 which are: vector space model, probabilistic model, context-aware model, and semantic-based approach. The semantic model can be further divided into semantic similarity, semantic association, and semantic annotation. Among these three models, semantic association and Semantic similarity method retrieve more relevant documents (Sakthi Murugan, Bala, & Aghila, 2013). The main objective of any semantic annotation activity should be to produce an annotation of the resources in the underlying digital collection that satisfies all the requirements of accuracy, completeness, and adequacy posed by the intended uses of the collection (Juan Cigarrán-Recuero, 2014). Semantic annotation has been used in retrieving Digitized Museum Artifacts by combining ontological concepts, visual and textual features automatically extracted from images and their textual descriptions. (Sharma & Siddiqui, 2016).

There are two types of knowledge representation which are descriptive knowledge and content knowledge. Descriptive knowledge is information about the characteristics of the document which do not involve its content (or its aboutness) (Diakite & Markhoff, 2015). It is also known as formal metadata or bibliographic metadata (Weller, 2010) or standard ontology (Noah et al., 2010).

Content knowledge is knowledge about the content of the document or what the document is talking about, also known as domain ontology (Noah et al., 2010). There are several major domain ontologies which are general concept ontologies, actor ontologies, place ontologies, time and period ontologies, event ontologies and domain nomenclatures or terminologies (Hyvönen, 2012).

According to Hyvonen (2012), event ontology is useful for indexing historical cultural heritage content. Events are the semantic glue that associates actors, objects, places, and time together. He found that the event-based approach can be used in annotations for interoperability, as a search object of their own and provide the end-user with insightful semantic recommendations with explanations. (Hyvönen, Alm, & Kuittinen, 2007).

Ramli, Azman, and Noah (2016) have developed an event ontology for the historical domain. They constructed the competency questions to verify whether sufficient information is available in order to achieve the goals and scope of ontology and reused the existing Simple News and Press ontologies (SNaP). They followed the 101 Method as their guide in developing the ontology and used METHONLOGY to perform the analysis in the conceptualization process.

In 2016, Zhitomirsky_Geffet and Prebor proposed an event-based ontological model for Hebrew Manuscripts. This model includes 4 main classes, which are: i) manuscript biographic events (e.g. creation, printing, acquisition, copying, storing, censoring, dedication etc.), ii) Historical manuscript, Manuscript agent, and Historical figure. The model was built based on the existing ontologies in the field of cultural heritage and facilitate the classes and properties. The model was analyzed by constructing several queries in SPAQL (Zhitomirsky-Geffet & Prebor, 2016).

OMOS, Ontology for Western Saharan Manuscripts was proposed by Diakite and Markoff (2015). This ontology has two different levels of knowledge which are descriptive knowledge and content knowledge. The descriptive knowledge is derived from existing metadata in the library, whereas the content knowledge is about what the manuscript is talking about (Diakite & Markhoff, 2015).

Event information is important for cultural heritage because it is central to understanding heritage information (Doerr, 2009). Even entities can also represent the relationship between object and person (Kakali et al., 2007) and be regarded as a type of concept or type of relationship, for example event “teach” is always regarded as a relation between “teacher” and “student” (Liu, Liu, Fu, Hu, & Zhong, 2010).

PROPOSED FRAMEWORK

The proposed framework uses the event ontology domain to create a knowledge base for manuscript content. Figure 1 shows the proposed framework for Malay Manuscripts ontology. The framework consists of four modules; knowledge development, knowledge enhancement, knowledge evaluation, and knowledge enrichment. Below are details about each module.

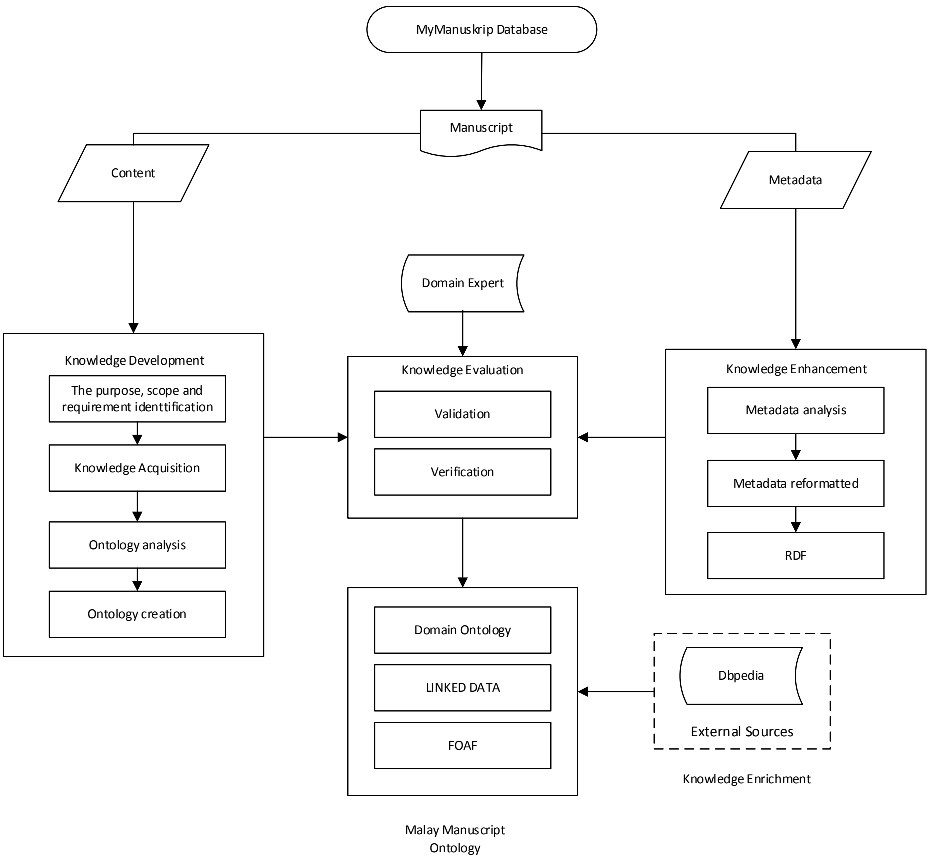

Figure 1: Proposed Knowledge Base Framework for Malay Manuscripts Ontology

Knowledge development. The knowledge development refers to building the domain knowledge for Malay manuscript content. Manuscript content covers a wide range of subjects, such as history, religion, law, culture, folklore, and legends. There are various methods proposed by scholars in developing the domain ontology.

Knowledge enhancement. The knowledge enhancement is to develop descriptive knowledge for Malay manuscript. This is done by reformatting the existing Malay manuscript metadata into Resource Description Framework (RDF). This metadata comes from the MyManuscript Database records. The metadata will be reformatted into subject-predicate-object statements.

Knowledge Evaluation. The knowledge evaluation is to prove the correctness, consistency, completeness, and conciseness of the ontology. Knowledge evaluation is done by domain experts.

Knowledge Enrichment. The knowledge enrichment refers to integrating domain ontology with an external source which is Dbpedia.

ONTOLOGY CONSTRUCTION

The Malay manuscripts ontology will be built based on descriptive knowledge and content knowledge as shown in Figure 2. The descriptive knowledge is metadata of the manuscript and content knowledge is what the manuscript is talking about. The development of the Malay Manuscripts ontology is to design and implement an ontology representing knowledge embedded in the manuscript and to improve information discovery. This process requires a formal representation of concepts and their relationship.

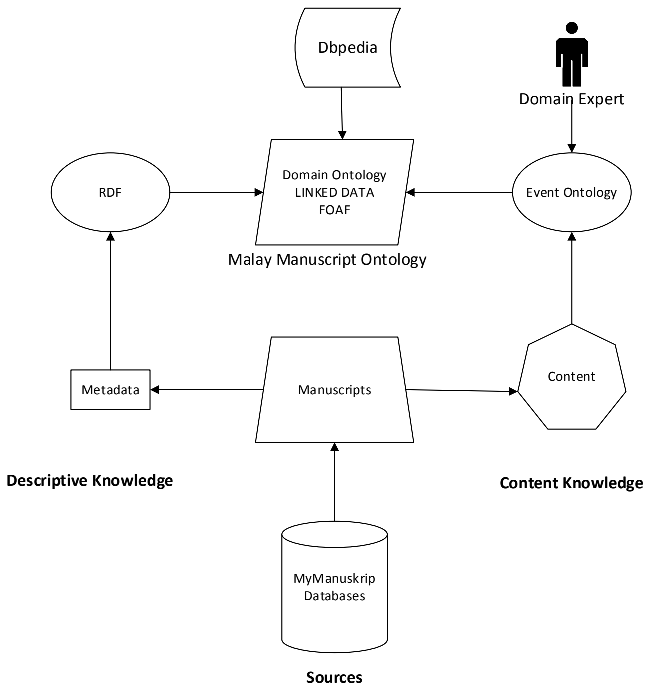

Figure 2: Conceptual architecture of Malay Manuscript Ontology Model

Content Knowledge

Content knowledge is knowledge coming directly from the manuscript's content. Content knowledge is considered an unstructured document. In this research, content knowledge will be represented using an event ontology. As mentioned above, an event ontology is important to understand the information of historical documents, because it can represent the relationship between object, person, time and place. According to Doerr (2009), information contained in cultural heritage is event centric, things, people and ideas connect and relate via events.

There are several models that have been proposed for representing event such as Event Ontology (Raimond, Yves, Abdallah, 2007), LODE (Shaw & Hardman, 2009), Simple Event Model (Van Hage, Malaisé, Segers, Hollink, & Schreiber, 2011), CIDOC CRM, BIO, and Event Model-F (Scherp, Franz, & Staab, 2010). In this study, we reused the existing SEM and BIO ontologies as our main reference.

During the experiments, we used a Malay manuscript which was already published in romance script Sulalatus Salatin. In this study, researcher manually wrote down all events mentioned in the text of the manuscript. For example, “mangkat”, “kelahiran”, “berperang”, “membuka negeri baru” etc. We also listed all persons’ name, time, objects and places which were related to the event as well as the causes of the event.

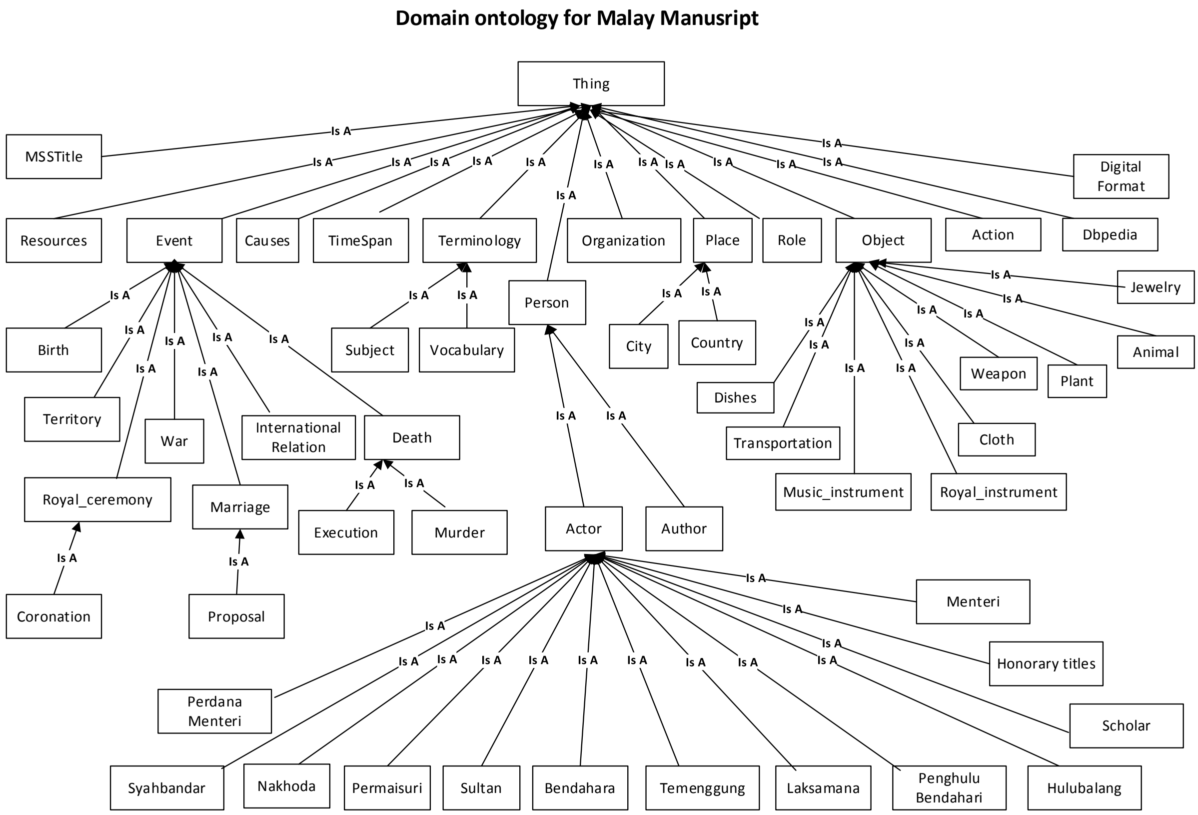

Figure 3: Event ontology for manuscript contents

After all events and related terms have been listed, we clustered and identified all these events into concepts. These concepts are identified based on basic classes in Simple Event Model ontology. Among the basic classes that are matched and appropriate for Malay manuscript ontology are event, actor, object, place, role, and time. Then we expanded the model by adding some classes which are causes and actions. The class causes are added to define factors or causes that make the event happen and action class is to define actions taken by a person in the event. In this research, an "is-a" relation is used to represent the class hierarchy. This means that class A is a subclass of B, and every instance of A is also an instance of B. This relationship indicates a generalization/specialization relationship between two concepts. Below are details for each class and subclasses.

1. Events are something that happens and to describe "what" is happening. This class has seven subclasses:
    i. Birth: The event of a person entering into life.
    ii. Territory: The event of opening new country by war or agreement
    iii. War: The event of an armed conflict between different countries or different groups within a country.
    iv. Royal ceremony. It has one subclass:

   v. Coronation: The event of crowning
   vi. International relations: The event of making international relations with other states.
   vii. Marriage. It has one subclass:
   viii. Proposal: The event where one person in a relationship asks for the other's hand in marriage
   ix. Engagement: The event of engagement
   x. Death. Death divided into two:
   xi. Execution: The event of a person's life ending.
   xii. Murder : The event of murder

2. Causes. Causes or factors that make events happen
3. Object. It has nine subclasses:
    1. Animals
    2. Plants
    3. Cloth
    4. Weapon
    5. Dishes
    6. Jewelry
    7. Music instrument
    8. Royal instrument
    9. Transportation
4. Person: It has two subclasses:
    1. Author: Author name for the manuscript
    2. Actor. Refers to actor involved or participate in the events. Actors are divided into thirteen subclasses based on their positions and honorary titles.
        i. Perdana Menteri
        ii. Syahbandar
        iii. Nakhoda
        iv. Permaisuri
        v. Sultan
        vi. Bendahara
        vii. Temenggung
        viii. Laksamana
        ix. Penghulu Bendahari
        x. Hulubalang
        xi. Scholars
        xii. Honorary titles
        xiii. Menteri
5. Terminology. Divided into two:
    i. Vocabularies: Vocabularies for old Malay language
    ii. Subject: Subject Heading for manuscript

6. Place. Place of events are divided into two subclasses:
    1. City
    2. Country
7. Time Span
8. Organization
9. Role:
10. Action
11. Dbpedia: A link of ontology to Dbpedia
12. Digital Format: Page of the source in digital format
13. Resources: Name of resources
14. MSS Title: Title of the manuscript

Each class will have its own instances. The relationship between instances is called properties. These properties represent the relationship and define the characteristics of the class. There are two types of properties; object properties and datatype properties. Object properties link between two individuals, whereas datatype properties link an individual to an XML Schema Datatype value or an RDF literal. They describe relationships between individual and data values. There is also annotation properties, which is used to add information to classes, individuals and object/datatype properties. For object properties, it may have a corresponding inverse property.

In the context of Malay manuscript ontology, properties are developed in order to provide detailed information for each class. We analyzed several relevant event ontology model object properties to learn whether and how they can be reused and matched with Malay manuscript ontology. These ontology model are BIO, CIDOC-CRM, SEM, LODE, and Event Ontology.

Descriptive knowledge

Descriptive knowledge is developed from the exploitation of the existing metadata in MyManuskrip database. The manuscript description is intended to facilitate the recording of the important physical features of a manuscript. The existing metadata is Dublin Core. In order to make the existing metadata to be presented as a linked data, a description of resources must be presented as a set of statements, with each statement giving a value which describes a specific aspect of the resources (Dunsire, 2012). The value is as objects, the aspects as its predicates or property and the resource itself as a subject, also known as triple form: subject-predicate-object. This set of statement expresses the semantic relationship (predicate) between two concepts (subject and object).

The description of a manuscript might include information about title, writer, subject, and information about the physical characteristics of the manuscript. The description of a digital manuscript usually stored as fields as shown in Table 1.

Table 1: Fields and values for a simple description of a manuscript

Field	Value
Record ID	MSS1
Title	Sulalatus Salatin
Subject	Melayu--Sejarah
Shelf Mark	MS93

Each record usually required a unique value to act as an identifier for the set of statements. The identifier for this record is MSS1. This information was then reformatted into a subject-predicate-object statement as shown in Table 2.

Table 2: Description formatted as a set of statement

Record ID	Attribute	Value
MSS1	hasTitle	Sulalatus Salatin
MSS1	hasSubject	Melayu--Sejarah
MSS1	Shelf Mark	MS93

In this research, DM2E model is analyzed to learn whether and how their properties can be reused and matched with Malay manuscript ontology. The DM2E model is a specialization of the EDM for the domain manuscript.

Table 3 below shows a list of properties for descriptive knowledge which is used to convert and extend the data catalog records representing the manuscripts into linked data and integrate them with domain ontology.

Table 3: Properties used for descriptive knowledge

Properties	Definition	Property type
hasTitle	Title of manuscript	Object property
alternativeTitle	Alternative Title of manuscript	Object property
Identifier	Unique number for the manuscript	Data property
Creator	Creator of the manuscript i.e. Author	Object property
Copyist	Name of the copyist	Object property
Date	Date of the manuscript	Data property
Descriptions	A summary of the content and topics of the collection	Data property
hasPart	Any other document contained within the current manuscript i.e. pages of manuscript in digital format	Object property
Language	Language of the manuscript, Malay, Java	Data property
hasSubject	Subject of the manuscript based on LCSH	Object property
shelfMark	Shelf mark number	Data property
callNumber	Call number of manuscript LCC	Data property
Incipit	First 3 lines text of manuscript	Data property
explicit	Last 3 lines text of manuscript	Data property
Script type	Type of script if manuscript written in Jawi, e.g Naskh,	Data property
inkColor	Color of ink written	Data property
noOfLine	Average line of text per page	Data property
pageNumber	Number of pages	Data property
Watermark	Description of watermark if any	Data property
manuscriptDimension	Dimension of manuscript	Data property
writtenAreaSize	Dimension of written area	Data property
pageDimension	Dimension of page	Data property
writtenAt	Place where the manuscript was written	Object property
publishedAt	Place where the manuscript was published	Object property
currentLocation	Holding institution	Object property

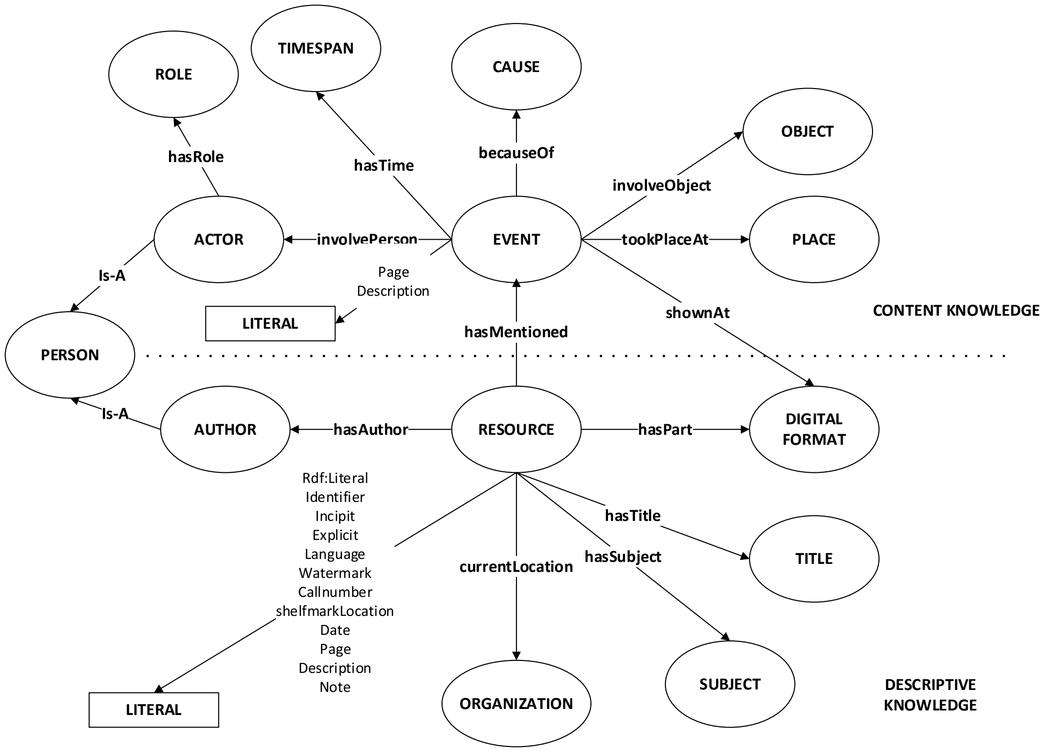

Figure 4: Linkage between Content and Descriptive Knowledge

Figure 4 shows the linkage between content and descriptive knowledge. Descriptive and content knowledge are integrated into building the Malay manuscript ontology.

Input from domain expert is essential to ensure the correctness of the ontology, consistency, completeness, and conciseness. Finally, the Malay manuscript ontology will be integrated with DBpedia to enhance and enrich the domain ontology. There are two activities in this process: first, we will collect and extract automatically external knowledge from Dbpedia such as person, places, event, and object. Second, the external knowledge will be integrated with Malay manuscript ontology by using owl: sameAs. For example, the person with the name Tun Perak is an instance of an actor, and he participated in one event in the resources. There is limited information about Tun Perak in this resource, so in order to give more details about him, we enrich by adding owl: sameAs: http://dbpedia.org/page/Tun_Perak. As a result, the information about Tun Perak will be enhanced and enriched.

CONCLUSION

In this paper, the conceptual framework for Malay manuscripts ontology was proposed. The proposed framework uses an Event ontology to represent the content of Malay manuscripts and uses Dublin Core metadata to represent the descriptive knowledge. This framework will contribute to the creation of knowledge-based information that contains data on Malays history, culture, and civilization and interlinking different individual content in Malay manuscripts using RDF. Development of a prototype model of an ontology-based system with a high level of semantic granularity which is an ontology that reflects the various cultural riches and intellectual aspect stored in Malay manuscripts. This will enable systematic research of the knowledge embedded in the manuscripts and make it widely and easily accessible by everyone.

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User satisfaction survey: A case study of library users of Saint Louis University Libraries, Baguio City, Philippines

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ABSTRACT
Satisfaction of library users is of paramount in libraries. Attaining this requires the library dimensions of service, personnel and infrastructure to be all excellent. Library services entail first and foremost a collection that is both in print and non-print formats and that supports the curricular offerings of the university. To ensure that these materials are maximized by the users, library personnel are needed. Comfortable infrastructure that includes furniture and equipment facilitates the library's role as partner in the university's offering for quality education. As users are now the focal point of library work, feedback mechanisms must be in place. Satisfaction-survey must be done regularly, covering the three dimensions. A complaint handling program must also be in place to enable librarians to dutifully, speedily and uniformly respond to user complaints. The presence of complaint handling program in Saint Louis University libraries would make its librarians better trained and be more adept in handling complaints. The librarians can positively look at user complaint as a manifestation of a user's dissatisfaction and as a form of positive feedback to improve performance. This would make users look at the library truly as a "heart" that every student couldn't live without, not as an "addendum" to their academic life.

Keywords: User Satisfaction/Dissatisfaction; Library dimensions; Complaint handling

INTRODUCTION

A society is composed of groups of people working together to achieve common aims and satisfy basic needs. Just as human beings need information for making decisions, so do the social agencies that implement the aims and objectives of institutions. They need libraries for information, for recording decisions and solving problems. Libraries are seen as safe and friendly places. They are embedded in communities and are easily accessible to all. People enjoy staying in a library especially if it is a well-guided one where the serendipity factor plays a rewarding part in human learning; better still, if this learning takes place in a structured, secure and aesthetically pleasing environment (Feather & Sturges 2003).

Traditionally, libraries center on the acquisition, collection, organization, and storage of library materials making size as the dominant value. For example, focusing on how large is the library collection, how large is the library building, how large is the population of library staff, and how large is the library budget. Very clearly, the focus is not on the users. With the ushering of the 21st century, there is now a paradigm shift from pre-occupation with the housekeeping of information packages to the concern for the users of information.

The paradigm shift in libraries and information profession aims to bring contentment or user satisfaction. User satisfaction according to Miller (2004) simply means how good users feel after dealing with a library which may include their likelihood to return to that library when they next need information. It also includes their perception of how well the experience answers their information problem, improves their productivity or the quality of their own output.

LITERATURE REVIEW

On the other end of the spectrum is user dissatisfaction evidenced by a complaining behavior, described by Day (1980) as motivated by a desire to affect the future behavior of a seller or the intention to dissuade other consumers from purchasing from the seller. Babin and Harris (2016) elaborate that complaining behavior occurs when a consumer actively seeks out someone (supervisor, service provider, etc.) with whom to share an opinion regarding a negative consumption event. According to Crie (2003), consumer complaint behavior consists of all potential consumer responses to dissatisfaction in a purchase encounter. The source of dissatisfaction could originate before, during or after the purchase of a product or service.

User dissatisfaction in libraries are usually a result of service failures and can be viewed as a direct or indirect request for service recovery and improvement (Su 2012). Suki (2010) adds that users' complaints can be a powerful resource for the library management to use in making strategic and tactical decisions that can prevent users from switching services or abandoning the library and stop utilizing library services.

User dissatisfaction has likewise been documented by different libraries in the international scene. Most students often complain about shortage of group study spaces or lack of workspace in the university library hall during busy periods, or demand for more quiet spaces and comprehensive access to more full-text articles (Messengale, Piotrowski & Savage 2016; Imamoglu & Gurel 2016; Yelinek, Neyer, Magolis, & Bressler 2005; Fagan 2014).

Oh (2004) and Su (2012) describe the complaint attitudes and behavior of academic library users in South Korea and Taiwan respectively. Oh (2004) points out that the complaining ratios of the university library users are lower than those of users of commercial services and products. Su (2012) on the other hand reports that users are tolerant of library failures and do not normally complain unless they are highly dissatisfied with the service.

According to Nguyen (2015) academic librarians in Vietnam say that user's complaints are on the noise in the university libraries. And in a similar research, in the Federal

Territory of Labuan in Malaysia, library users' complaints are due to the dissatisfaction of services such as time and effort in filling out forms, no set complaint procedures and guidelines, and personnel maltreatment (Suk, 2010).

From the foregoing statements, complaints are normal occurrences in service organizations like libraries. As presented by Oh (2003) complaining behavior in the commercial world may likewise be applicable in the context of library services where it is subdivided into "exit", "negative word-of-mouth", "voice complaints" which was subdivided into direct and indirect, and "third party complaints." These complaining behaviors identify which library services the library users will most likely complain about should they encounter service failure or dissatisfaction. This then requires handling complaints to be an integral part of the library's service program since complaints are inevitable and that patrons have all the right to complain. More importantly a complaint-handling program does not identify who is at fault but clarifies the cause/s of dissatisfaction and eventually leads to the elimination of the cause. According to Woodward (2009) the best approach for the 21st-century library is to focus on the total experiences of users and to find ways to enhance them. In this way the library would be able to provide the highest possible satisfaction to users.

Knowing customers' needs is a vital step in satisfying customers. Needs of users can be known through surveys, or through complaints, more so when complaints are viewed as feedbacks to help solve service problems and improve performance and service quality. Treating complaints as such does not only improve customer satisfaction but also secures customer loyalty to the library. In the words of Suki (2010), knowledge of consumer complaining behavior and complaint handling can be useful in determining ways to increase customer commitment to the library, building and maintaining customer loyalty, and finally, satisfying customers.

A very good way of asking feedback from library users as presented by Todaro and Smith (2006): a) print or online customer response cards which offer the ability to gather data from a large number of customers at all times or specific times; b) follow-up surveys (phone, print, and online) that are direct, personally asking customers their opinion of the service they received in order to capture the immediacy of the reaction, record longer answers, capture specific interaction and assessment and have the opportunity to ask follow-up questions; c) workers' (in break rooms) and customer suggestion boxes invite comments, both signed and anonymous, that presumably make respondents more willing to be honest in their appraisals; d) customer and staff complaint form is necessary for situations when the user wants to challenge a library policy or procedure and that concern must be routed up the chain of command; e) in-person "clipboard" surveys for exiting customers; f) focus groups for library workers or customers where users can relay information about needed services and how to improve existing services; g) public service/worker dialogue to include requests for customers to participate in response programs like in-depth interview to assess their levels of satisfaction with the customer service they received; h) forms and processes for public service staff to systematically capture verbal customer comments in online or print, by writing/response or by fax or telephone.

Though library complaints are often times brought out in fora and conferences, the present study was pushed by the dearth in literature and empirical studies about this in the Philippines. The results of the study would be beneficial not only to the cause of research, and to the SLU libraries, but also to other libraries who intend to maintain a high level of user satisfaction. Specifically the findings would promote a sense of seriousness of librarians in inculcating a culture of assessment among their services. The findings will also provide a platform for library users to voice their complaints in a systematic manner and be assured that their concerns for the improvement of the library services will be addressed properly. And lastly, the findings will provide an avenue for libraries to create or enhance existing complaint behavior programs.

RESEARCH DESIGN

The study aims to determine what SLU libraries' users satisfied/dissatisfied about and what their complaint responses are. It also sought to find out how librarians respond to these complaint behavior. The concepts of Oh (2003) on complaining behavior and the LibQUAL+ theory are the bases of this research. These two bring out the very essence of the study i.e. classification of complaining behavior and areas in libraries where users' satisfaction/dissatisfaction are based (Affect of service, Information control and Library as place).

SLU have an average of 26,364 student population. The respondents of the study were the top actual library users who have the highest circulation count for the past three academic years and the librarians of the reader services of the SLU libraries.

The library users as respondents indicate the areas of their satisfaction/dissatisfaction (Library services, Library personnel, and Library infrastructure) and their complaint responses: Exit, Negative word-of-mouth, Direct voice, Indirect voice, and Third-party complaints. The librarians as respondents indicate their manner of complaint handling according to the complaint responses indicated in the latter.

RESULTS

What library users are satisfied/dissatisfied about

There is a need to identify the SLU libraries' users level of satisfaction based on three (3) dimensions namely library services, library personnel, and library infrastructure.

Library services as used in this paper pertains to the provision of resources in a different format and the tools for easy access to the said resources.

The library users say that they are very satisfied with the services of the SLU libraries, as indicated by their over-all mean of 3.30. This implies that the libraries can provide sufficient and outstanding services to the library users. The result can be attributed to the voluminous collection of the libraries that complements the course offerings of the university. As of date, the university libraries house 111,633 titles of books, 249 journal titles, 366 complimentary journals, 130 research publication exchanges, fifteen (15) subscribed to major electronic databases with corresponding remote access, and an approximately 4000 multimedia collections. The university libraries likewise maintain its website and social media platform where patrons can post queries and access the latest update about the services and the university libraries as a whole.

Table 1: Level of Satisfaction of Library Users on the Library Services

NO.	ITEMS	MEAN	INTERPRETATION
1	The libraries' electronic resources are accessible even outside the campus	3.14	SATISFIED
2	The Library website enables me to locate information on my own	3.35	VERY SATISFIED
3	The library has print materials I require for my studies	3.40	VERY SATISFIED
4	The library has electronic journal collections I require for my studies	3.23	SATISFIED
5	The library has enough electronic and print materials I need for my studies	3.13	SATISFIED
6	The library resources are easily accessible	3.49	VERY SATISFIED
7	The library has easy-to-access tools for independent study	3.43	VERY SATISFIED
8	The library has modern equipment that lets me easily access needed information	3.25	VERY SATISFIED
	OVERALL	**3.30**	**VERY SATISFIED**

However, among the items, three (3) of which garnered an interpretation of satisfied only, these are items 1, 4 and 5 respectively. As found by Ambloza (2015) low usage of e-journals is due to lack of awareness about the e-resources or due to the ineffective channels of communication in the campus. It can likewise be associated with what Price and Havergal (2011) say the influx of the internet a platform of full texts and reports are disseminated freely. Coupled with this are documents enhanced with graphical, audio and video elements. Students can easily access them for free and within the comforts of their homes. The satisfied rating of item 1 may be due to the users' lack of skills in using such resources. They are either not interested enough or might have neglected to acquire these skills when these were possible. Another implication of the satisfied rating of this item is the librarians' failure to link the e-resources with the library users. The librarians are unable to provide sufficient training and instructions of the accessibility of the electronic resources the university libraries are subscribing to (Cloonan & Sanett 2005). It is also possible that marketing of the said resources is insufficient. The satisfied rating of having enough electronic and print materials they need for their studies can be due to the imbalance of the libraries' collection. The libraries have more print materials than e-resources. But it must be remembered that the print materials have been in existence long before the introduction of e-resources. Another reason is due to the print exposure of most of the library users. That is, many still prefer print materials over the non-print materials. It is also an indication of the expectations of a hybrid library. Library users expect that their information needs are met through an equal combination or mixture of print and e-resources. This further implies that the university should have more budget allocation for e-resources, as this is now the trend.

Library personnel refers to the workforce in the university libraries that work hand in hand to provide quality service to the library users and to achieve the vision-mission of the university. Library personnel are normally categorized as either professional or nonprofessional workers.

Table 2: Level of Satisfaction of Library Users on the Library Personnel

NO	ITEMS	MEAN	INTERPRETATION
1	The library personnel instill confidence in users	3.30	VERY SATISFIED
2	The library personnel give users individual attention	3.13	SATISFIED
3	The library personnel are consistently courteous	3.39	VERY SATISFIED
4	The library personnel are ready to respond to user's questions	3.43	VERY SATISFIED
5	The library personnel have a knowledge to answer user questions	3.35	VERY SATISFIED
6	The library personnel deal with users in a caring fashion	3.30	VERY SATISFIED
7	The library personnel understand the needs of their users	3.32	VERY SATISFIED
8	The library personnel are willing to help users	3.44	VERY SATISFIED
9	The library personnel are dependable in handling users' problems	3.29	VERY SATISFIED
	OVERALL	**3.33**	**VERY SATISFIED**

Professional workers are the librarians defined as an individual who is a bona fide holder of a Certificate of Registration and Professional Identification Card issued by the Professional Regulatory Board for Librarians and by the Professional Regulation Commission (R.A. 9246) of the Philippines. The professional librarian performs the professional tasks such as selection and acquisition of library materials in varied formats, cataloging and classification, development of information systems, the establishment of library systems and procedures, dissemination and rendering of information, reference and research assistance among others. The non-professional workers include the clerks and library working scholars. They normally perform repetitive tasks that usually do not require decision making and supervisory acumen.

The library users say that they are very satisfied with the library personnel which indicates that the library personnel are helpful to the users in meeting their needs. There are fifteen (15) library personnel and thirty-eight (38) student assistants referred to in SLU as library working scholars. These library working scholars are selected due to their academic standing and dire economic needs. Their cultural background, gender, course, age, or religious and political views are not taken into account. Since the library working scholars are of the same age as those of the library users, they bring comfort to the library users. It is also possible that since they speak the same language as the library users, they are not somebody to be feared or who lord over the library users. They likewise have the direct establishment of positive relationships with users of library services as they are the first individuals seen by the library users. This may be due to the strategic location of the library personnel. They are visible to the library users and their proximity requires not much difficulty in users approaching them. It is also indicative of the effort of library personnel in establishing a positive relationship with the users.

Though *Library Personnel* dimension has an overall qualitative interpretation of 'Very Satisfied' item 2 has a qualitative interpretation of 'Satisfied'. Although visible, librarians are often seen seated on their desk, concentrated on their computer or engrossed with paper and technical works accumulated on their table. This sight hampers the library users from further inquiry, convinced of little attention to be given to them. The barriers such as big tables and cabinets may also be attributed to the lower degree of satisfaction of users on item 2. These become an obstruction for the library users to feel that their inquiry may be too trivial that individual attention is quite impossible to reach. Another implication might be because of the limited number of librarians. Currently, there are fifteen (15) library personnel, but there are only thirteen (13) professional librarians who are deployed as librarians in different libraries. From these pool of professionals, two (2) are assigned at the Technical Section performing the acquisitions and technical processing of library materials and two (2) perform administrative and management work (Director of Libraries and Assistant Director of Libraries) leaving only nine (9) to do the reference work as librarians in-charge of the "Reader Services." Their number does not suffice to meet the needs of the 20,000+ population of SLU.

Library infrastructure in the context of this research refers to the basic physical and organizational structures and facilities needed for the operation of the library services. This includes the reading room, innovation lab, digital hub, architectural design, and lighting.

Table 3: Level of Satisfaction of Library Users on the Library Infrastructure

NO	ITEMS	MEAN	INTERPRETATION
1	The library provides discussion room/place for group learning and group study	3.31	VERY SATISFIED
2	The library reading area inspire study and learning	3.44	VERY SATISFIED
3	The library has cubicles for individual activities	2.77	SATISFIED
4	The library is centrally located	3.21	SATISFIED
5	The library is well lighted and conducive for study learning and research	3.49	VERY SATISFIED
	OVERALL	**3.24**	**SATISFIED**

The library users say they are just satisfied with the physical environment of the libraries. This suggests that there is something lacking in the library infrastructure. Maybe there is something that the students are looking for that the physical structure of the SLU libraries does not have. Items 1, 2 and 5 garnered a very satisfactory interpretation. This can be attributed to the combination of artificial lights and natural lights coming from the wide panel of glass windows surrounding each floor of the libraries' building. Montgomery (2017) points out that thermal comfort among students where extreme temperature and lack of ventilation make them feel tired, unmotivated, negative about the space and overall not conducive for learning. It can also be surmised that because of the wide panel windows proper lighting does not worry students, during summer and the rainy seasons when days are shorter or days are longer. A well organized and well-distributed library furniture gives an impression of a well balance space and lighting. The libraries' shelves are distributed around the perimeter of the windows with at least a meter of space from each other and from the window panel to have an improved equal lighting from natural and artificial lights. Tables in the reading areas are likewise well distributed giving the impression of more spaces and allowing light to come in. Khan (2009) stipulates that as a general rule, readers like to work in natural light and that some options should be considered like placing reading tables in well-lit areas, avoid air conditioning if possible because of environmental considerations, and maximize natural ventilation in public areas. The university libraries likewise provide a wide study space at the mezzanine floors and the main reading areas. As pointed out by Gonzalez (2013), there is a greater demand for study spaces conducive to individual learning and studying as well as group study following the changing library landscape. The evolution and availability of library space are brought about by the transformation of collection due to the change in the library user's needs. Users need quiet space, collaborative space and comfortable space (Montgomery 2017). Space planning is essential in library design and contributes to the success of the efficiency of library services. The SLU libraries are able to meet this need by providing discussion rooms that are situated near the libraries' collection for students' easy access to resources should they need them in their group work. The discussion rooms provided have a productive atmosphere where students collaborate as they work as a team.

Considering the overall result, the students are satisfied with items 4 and 3. The library building is centrally located as it could be accessed from any point of entry from the different buildings. But the towering six-story library building may have contributed to the "satisfied" only rating of this item. Moreover, that the elevators are no longer operational. Hence, students who are intimidated by the flight of stairs have to traverse to consult, borrow or read books and other library materials, would definitely not give a rating of "very satisfied." Cubicles offer a sort of blinder to block out anything else going on in the library so the library users can focus on their research or library works (Wignall 2018). But the cubicles in SLU libraries are not high enough to visually isolate users from the surroundings, likewise with its limited number, can be a reason for the "satisfied" rating. Students want that if they would like to do individual study and reading, a study carrel is available. This need has a basis as more and more academic libraries are now offering individual study carrels or individual study offices (Bordonaro 2014; Staines 2012).

Library user complaint responses

Library dimensions of which users normally complain about are library services, library personnel, and library infrastructure. Complaint responses could either be exit, negative word-of-mouth, direct voice, indirect voice, and third-party complaints (Oh 2003). Table 5 presents the complaint responses of the SLU Libraries' users. This table is not a contradiction of the earlier tables where the SLU Libraries' users indicated that they are either very much satisfied or satisfied with the dimensions of library service, library personnel, and library infrastructure. As Oh (2003) cites not all dissatisfied users complain and some users who are not dissatisfied may complain.

Table 4 shows that when students have complaints about either the library services, library personnel or library infrastructure, they would rather write down and use the suggestion box to bring this out. In other words, they would use indirect voice. This is when patrons register their complaints via telephone call, email, complaining cards via feedback receptor, etc.

Table 4: SLU Library Users Complaint Responses

LIBRARY DIMENSIONS	**RESPONSES**	**RANK**
SERVICES	Exit	*4*
	Negative word-of-mouth	3
	Direct voice	**2**
	Indirect voice	**1**
	Third-party complaints	*5*
PERSONNEL	RESPONSES	RANK
	Exit	*4*
	Negative word-of-mouth	3
	Direct voice	**2**
	Indirect voice	**1**
	Third-party complaints	*5*
INFRASTRUCTURE	RESPONSES	RANK
	Exit	*4*
	Negative word-of-mouth	3
	Direct voice	**2**
	Indirect voice	**1**
	Third-party complaints	*5*

This reaction of students may be culture-bound. That is, a typical culture of the Filipinos is not being confrontational. Filipinos fear that to directly confront someone is to put themselves in an embarrassing situation. This is supported by the blog Diversify (2013) when it states that as with the rest of Asia, the concept of saving face is very important to the Filipinos.

Filipinos are generally very patient and tolerant. Thus poor or wanting library services, library personnel's lack of attention or uncomfortable library facilities are tolerable to them. But to criticize, reprimand or scold a Filipino in front of others is intolerable. They can retaliate and be the worst critic. Filipinos are likewise fond of complaining anonymously. They would not want to reveal their names or identity when they raise certain issues. This finding is similar to the finding of Su (2012) where most users are concerned about privacy, accountability, and transparency of complaint patron handling, fearing that once their identity is exposed complaint handling will not be favorable to them. Similarly in the study of Badghish, Stanton, and Hu (2015) where they compared the complaining behavior of Saudi Arabians with Filipinos. It is found out that Saudis are characterized as notably more aggressive as they impose strength of confidence in social and economic advancement and that being aggressive can effect change. While Filipinos consider themselves soft, quiet, calm, polite, and considerate. Such behavior is born out of respect for others which is part of Filipino culture and values.

The above statements could be in furtherance of the Filipino being Asiatic. In the studies of North (2000) and Araki and Wiseman (1996) on the complaining culture of Japanese and the Americans, they say that “the United States is a culture of complaint while Japan is a culture of restraint. In Japan’s culture of empathy, people are obliged to put themselves in the position of those to whom they would complain. But Americans are quick to complain at the first hint of unfairness and demand immediate solution with a directness that Japanese find unsettling. Americans generally are more reactive and verbally expressive with their emotions than Japanese’s respectively.” Being Asian, a tinge of Filipino can be seen in the complaining behavior of Japanese.

The user respondents rank direct voice second in their complaint response. Confidence in the complaint may be attributed to this. If the patron has confidence that the complaint is essential for the general improvement of the libraries’ operations, he/she will directly voice out his/her complaints. Another reason is, if the patron believes that the service, attention or library environment are unsatisfactory and can be corrected or improved by immediately making a complaint. More so if they are to bring out the issue that they are paying for the library services. Library users who directly voice out their complaints should be valued by the library personnel. Another option of the users is the negative word-of-mouth where they will just tell friends about their bad experience in the services of the libraries, the manner by which they are treated by the personnel and even the “poor” facilities of the libraries. They will convince their friends not to use the same service again, not to trust the library personnel or spread rumors about the library personnel’s behavior and magnify poor library facilities that they see. By so doing, they would feel that they are not alone with the unhappy experience. After all, peer influence determines the ideas, values, and behavior of students. As Merrick and Omar (2007) state “this evolved out of peer networks pressuring individuals to conform.” The negative word of the mouth as a third complaint behavior response of the SLU Libraries’ users is attributed to the tendency of Filipinos to sour grape. Instead of clearing an issue like whose fault is the failure of the service, they conclude that if they cannot have their way with the library service, it must be bad. “Never mind going back, it is not worth it anyway,” this is what the attribution theory says as the locus dimension.

Exit is ranked fourth in the complaint response behavior of the SLU Libraries’ users. This is actually a very negative complaint response, since it entails a vow never to use the "offending" library nor its services. The lower rank given by the SLU Libraries' users imply a positive trait of Filipino users. As pointed out earlier, they are tolerant, hence they could give a second chance to an "offending" library. Though they may talk ill about the "offending" library, they will not totally abandon it. This finding reminds the SLU librarians that users have choices to stay or leave the libraries for their information needs. It further implies that the SLU libraries need to constantly study user needs and complaints to better serve and deliver their services. In the words of Suki (2010) "knowledge of consumer complaining behavior and complaint handling can be useful in determining ways to increase customer commitment to the library, build customer loyalty and finally consistently satisfy customers. They must also be constantly aware that they project the image of the library, an image that should reflect courteous, friendly, and helpful service.

Item 5 is ranked last. This item speaks of the library users' response of publishing their complaints in the newspaper/social media about the bad experience they had with the library services, personnel and infrastructure. This can be interpreted as students do not exert effort in asserting their complaints so much so that they believe that publishing their complaints in the newspaper/social media is a pathetic gesture. Though social media is a very ideal platform for complaints entailing shorter time and effort to post/publish one's complaints, there is still the possibility that the after effect of complaints is unpredictable. Though it is possible that the circumstance will be on the users' favor where their complaints will trend and be the voice of all, there is also a similar percentage of chance that they will earn bashers if other people find the complaints very trivial. Another reason why this is the last option of the users is because they are aware that SLU libraries do not answer or reply on a similar platform.

Librarians' manner of addressing user complaints

Episodes of service failure are inevitable but putting a solution to them is possible. It is essential that library personnel know how to deal with them. Just as there are varied needs of users, so do are the varied complaint responses. Librarians are asked how they address user complaints based on the five (5) complaint responses.

Table 5: SLU Library Users Complaint Responses

COMPLAINT RESPONSES	MANNER OF ADDRESSING
Exit	Refer it immediately to the superior Talk it out with colleagues
Negative word-of-mouth	Talk it out with colleagues Refer it immediately to the superior
Direct voice	Deal with the issue without bias Focus on the problem and not the complainant
Indirect voice	Refer it immediately to the superior Apologize to the complainant
Third-party complaints	Refer it immediately to the superior Talk it out with colleagues

Among the manner of addressing the complaint responses of library users is a stand out of 'referring the matter immediately to the superior'. It confirms that the position of the leader/superior is very much important for they are the overall deciding body and that librarians do not have the power and authority to make decisions right away. This also shows that librarians are dependent on the decision and on how their superior will address such issues. This is probably because there is no complaint handling program being implemented as to what should be the appropriate action. Robinson (1984) once again reiterates that "the manager presents a role model of considerable importance. The manner in which the complaint is handled by managers, remarks made to colleagues and staff members, and the resolution of the complaint provide both crucial measure of interests and a series of cues which are likely to be known throughout the library and imitated by staff at all levels."

Another stand out is 'talking it out with colleagues'. Langley, Gray, and Vaughn (2003) declare that "teamwork often produces better results than trying to accomplish everything individually. Communication is also of the essence in receiving and understanding information from patrons and colleagues. It pays to heed the advice of colleagues, especially in matters dealing with patrons in handling office politics." Librarians likewise value their colleague's opinion and possible advices. It is reassuring that they get sympathy and affirmation from colleagues if their decision fails or succeeds.

It can likewise be observed that the only complaint responses that they will not refer immediately to their superior is when the complaint is voiced out directly, This is so because they are left with no choice but to deal with the matter accordingly. Good to note that they will deal with the issue without bias.

For all the complaint responses, the solutions that the librarians take the least are: "Lift out the problem to God", "Put the blame on others who might have caused the behavior", and "will not do anything because I don't care." Given that SLU is a Catholic institution and that divine providence is deemed important, it is surprising that these are the least solutions to the complaint responses of users. But when taken in the context of reality, these are not the best actions of a rational, thinking 21st-century middle manager. For the 21st-century manager is pragmatic and realistic not fatalistic to leave everything to God. Putting blame on others is being unprofessional. This also connotes being tactless and undiplomatic in times of complaint handling. The librarians likewise say that they least take the action "Will not do anything because I don't care." This shows that even though librarians do not make decisions right away, they still care for their patrons and that they are affected by the dissatisfaction of library users. This supports the interpretation that librarians uphold themselves as professionals who are service oriented and that utmost care for their users is necessary to bring back trust and establish a positive relationship with them.

CONCLUSION

The adage that an academic library is the heart of the university comes into fruition when it gives full satisfaction to its users. Attaining this requires the library dimensions of service, personnel, and infrastructure to be all excellent. Library services entail first and foremost a collection that is both in print and non-print formats and that supports the curricular offerings of the university. To ensure that these materials are maximized by the users, library personnel are needed. Comfortable structure that includes furniture and equipment facilitates the library's role as partner in the university's offering for quality education and experience.

As users are now the focal point of library work, feedback mechanisms must be in place. A satisfaction-survey must be done regularly, covering the three dimensions. And librarians must be given more leeway to face complaints, and make decisions pertaining their sections. Aside from this, a complaint handling program must also be in place to enable librarians to dutifully, speedily and uniformly respond to user complaints. This complaint handling program, if drafted and implemented in Saint Louis University libraries, would make its librarians better trained and be more adept at handling complaints. Using all types of media to air complaints is to be encouraged. The librarians can positively look at user complaint as a manifestation of a user's dissatisfaction, and as a form of positive feedback to improve performance. When this happens, they would be part of the few librarians who try understanding their users and who attempt building a closer relationship with them. In essence, they would be building customer loyalty rather than debilitating draining away of users (Gorman 2013). More importantly, this would make users look at the library truly as a "heart" that every student couldn't live without, not as an appendix that is just an "addendum" to their academic life.

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User satisfaction with information searching and library services among medical professional in Malaysia

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ABSTRACT
The library is one of the supporting departments of an institution in providing various information resources and services to their users. Since users are the key person to the library, therefore, it is important to make them satisfied with the library services. The study aimed to determine the satisfaction level towards the searching information and library services among medical professionals in Malaysia. A survey method was conducted among 336 medical professionals in twenty medical institutions with libraries throughout Malaysia from November 2016 until April 2017. The respondents comprised of medical officers, medical lecturers and postgraduate medical students. Only medical practitioners who are legitimately registered with Malaysian Medical Council and under professional training in the university were included in the study. The respondents were excluded if they were public members, general practitioners and dental practitioners. Questionnaires were distributed to the respondents in respective institutions. Descriptive analysis was used to report the results. The mean (standard deviation) age of the respondents was 36.42 (7.98) years with the age range between 24 and 71 years old. Majority of the respondents were Malay (72.5%), female (61.3%) and had a Bachelor degree of education (52.4%). Most of them claimed that they not encountered any difficulty using the library services (78.7%) and they found the needed information in the library (81.4%). Among the sources of information in the library, the respondents were very satisfied with surfing the internet (35.9%). In response of satisfaction towards library services, the majority of respondents were very satisfied with services provided by the librarians in answering specific queries (97.9%).

Keywords: Satisfaction; Library services; Information searching; Medical professional

INTRODUCTION

The library acts as one of the supporting departments of an institution since it provides the services and information needed to its students and staff (Padmavathi, Ningaiah, and Biradar 2017). Particularly, in the academic library, there is a responsibility to preserve scholarly communication as well as the primary resources (Ahmad, Romle, and Mansor 2015).

User satisfaction was based on the quality of services provided by the library. The quality in the library sector is outlined as permanent user satisfaction and based on the customers' perspectives. Only users who regard the services as being of high quality from their subjective point of view will remain a satisfied library user in the long run (Ahmad, Romle, and Mansor 2015).

The inability to recognize the specific use of a library's services due to the development of new technologies and problem to access information sources contribute to user dissatisfaction towards library services (Kassim 2017). Hence, library managers need to find a better way to enhance the quality of the library service and user satisfaction to maintain the users' loyalty. The library should implement a more strategic approach since the creation and delivery of service satisfaction for their users play an important role in the library's existence (Padmavathi, Ningaiah, and Biradar 2017).

Satisfaction studies are mainly based on users. Thus, understanding user needs is important in providing information services in the library. Relatively, it is imperative to focus on the users and make them satisfied with the services. Hence, the present study aimed to determine the satisfaction level towards the searching information and library services among medical professionals in Malaysia.

It is realized that medical librarians need to clearly understand the medical community's level of awareness of information resources and services available through the library. Adequate understanding of the information needs and information-seeking behaviour among medical professionals is also necessary for proper planning and improved collection building, as well as the formulation of value-added services and facilities of medical libraries. Henceforth, it would be important and appropriate to study information seeking behaviour among medical professionals in Malaysia.

OBJECTIVES

The objectives of the study are:

a. To ascertain the characteristics of medical professionals attending the libraries to search for information
b. To determine their level of satisfaction towards library services
c. To verify their satisfaction level in searching information

RESEARCH DESIGN

A cross-sectional study was conducted among 336 medical professionals in twenty medical institutions throughout Malaysia from November 2016 until April 2017. The twenty institutions consisted of four research universities, eight non-research universities and eight private universities.

Table 1: List of institutions and population numbers

No.	INSTITUTION	TYPES	TOTAL MEDICAL PROFESSIONAL
1	UKM	Research University (RU)	356
2	UPM	Research University (RU)	286
3	USM	Research University (RU)	484
4	UM	Research University (RU)	450
5	IMU	Public University (Non-RU)	48
6	UIA	Public University (Non-RU)	100
7	UiTM	Public University (Non RU)	148
8	UMS	Public University (Non-RU)	66
9	UNIMAS	Public University (Non RU)	56
10	UniSZA	Public University (Non RU)	68
11	UPNM	Public University (Non-RU)	55
12	USIM	Public University (Non-RU)	83
13	AIMST	Private University	28
14	Cyberjaya	Private University	55
15	IJN	Private University	80
16	IMR	Private University	100
17	MSU	Private University	45
18	Newcastle	Private University	48
19	PU	Private University	52
20	USCI	Private University	40
TOTAL			**2,648**

For this study, an estimated number of 2,648 medical professionals are identified as a possible population. Raosoft Sample Size Calculator (http://www.raosoft.com/samplesize.html) was used to calculate the minimum recommended sample size. Using a 5% margin of error and a confidence level of 95%, it is recommended that this study has a minimum of 336 respondents in order to get the critical value for normal distribution.

The respondents at the respective institutions were selected based on simple random sampling. The respondents comprised of medical officers, medical lecturers and postgraduate medical students. Only medical professionals who are legitimately registered with the Malaysian Medical Council (MMC) and under professional training in the university were included whereas public members, general practitioners and dental practitioners were excluded from the study.

The librarians at the selected institutions distributed the questionnaires to the respondents based on predetermined selection criteria. Detailed information of the study was provided in respondents' information sheet. Eligible respondents who voluntarily entered the study were requested to fill in an informed consent form and signed it. The respondents took 10 to 15 minutes to answer all the questions. Once completed, the questionnaires were collected and submitted to the researchers. All information was kept confidential and individual data had no identification of the respondents. The questionnaire was divided into four sections: section A detailed on demographic profiles, section B investigated on information and research needs, section C on methods for acquiring needed information and section D on satisfaction with information services.

Data entry and analysis were conducted using the IBM Statistical Package and Social Sciences (SPSS) version 24. Descriptive statistics were applied to present the findings. For numerical data, results were presented by the mean and standard deviation (SD) for normally distributed variables, median and interquartile range (IQR) for skewed data. For categorical data, frequency and percentage were applied.

RESULTS

The sociodemographic profile of 336 medical professionals was summarised in Table 2. The mean (SD) age of the respondents was 36.42 (7.98) years with the age range between 24 and 71 years old. Majority of the respondents were Malay (72.5%), female (61.3%) and had a bachelor degree of education (52.4%). Out of 336, 161 (48.6%) were medical officers, 121 (36.6%) were medical lecturers and the rest were postgraduate medical students (14.8). The highest number of respondents is from research universities with 52.7%, followed by public universities in 30.1% and private universities in 17.3%.

Table 2: Profile of medical professional (n=336)

	Frequency (%)
Age (years)*	36.42 (7.98)
Gender	
Male	129 (38.7)
Female	204 (61.3)
Ethnicity	
Malay	243 (72.5)
Chinese	45 (13.4)
Indian	34 (10.1)
Other	13 (4.0)

Academic Qualification	
Bachelor	175 (52.4)
Master	135 (40.4)
Doctorate	24 (7.2)
Job Position	
Medical officer	161 (48.6)
Lecturer	121 (36.6)
Postgraduate student	49 (14.8)
Length of working (years)*	5.94 (5.36)
Institution	
Research University	177 (52.7)
Public University	101 (30.1)
Private University	58 (17.3)

(a) Characteristics of medical professional attending the library (n=336)

As shown in Table 3, the majority of respondents (55.7%) visited the library in the afternoon, followed by those who came in the morning with 46.7% respondent and 38.7% visited the library at night. Most of them claimed that they did not encounter any difficulty using the library services (78.7%) and they found the needed information (81.4%). However, among the respondent who encountered the difficulty using library services (21.1%), they indicated that collection and technical were the type of difficulty they encountered when using the library services.

Findings revealed that the majority of the respondents visited the library in the afternoon. Besides, 3.8% of the respondents visited the libraries every day, 22.5% visited the library once a week, 37.5% visited the library once in a month and 4.1% of the respondents had never visited the library at all. The lower number of respondents visited the library building due to job requirement as medical practitioners, as well as the development of new technology, databases and more innovative systems to access the information through any hand-held devices.

Table 3: Characteristics of attending the library among medical professional (n=336)

	Frequency (%)
Time visiting library	
Morning	157 (46.7)
Afternoon	187 (55.7)
Night	130 (38.7)
Find the material needed	
No	62 (18.6)

Yes	272 (81.4)
Encounter difficulty using library	
No	263 (78.7)
Yes	71 (21.3)
Type of difficulty using library	
Collection	45 (63.4)
Technical	33 (46.5)
Facilities	12 (16.9)
Library staff	5 (7.0)
Services	3 (4.2)
Frequency visiting library	
Never	13 (4.1)
Once a month	120 (37.5)
Once a week	72 (22.5)
Few times a week	76 (23.8)
Everyday	12 (3.8)
Others	27 (8.3)

(b) Level of Satisfaction in searching the information

Table 4 summarised the satisfaction level in searching the information. Each item needed a response based on a measure from a five-point Likert scale, where "1=very dissatisfied" to "5=very satisfied" (Brown 2010). Among the stated sources of information in the questionnaire, the respondents were very satisfied with surfing the internet (35.9%) for searching purpose.

The respondents were very satisfied with surfing the internet to search for information. Previous literature highlighted that the Internet is mostly used in searching reliable information on a specific issue due to the diversity, tremendous and huge volume of information contained (Chen et al. 1998). Dike (2000) indicated that instant access to information from a multiplicity of choices was one of the reasons why users prefer digital technology (Dike 2000).

Furthermore, most institutions provide free internet connection where the respondents can access the internet in the easiest way, similar to the previous studies which indicated that their respondents were using the internet often since all faculties in their organizations provided internet connection. The respondents searched for the information through the internet since the university library had provided access to various databases and online journals for all the students and staff (Asemi 2005).

Sivaraj and Esmail (2007) studied on the use of the internet and the result found that the internet is being used by the respondents to collect a variety of information and gain more knowledge as part of their learning, teaching and research activities (Sivaraj and Esmail 2007). Other studies also found that the respondents used the internet to access online journals, teaching materials and dissertations, as well as for communication through e-mail and other tools (Attama 2005, Lal et al. 2006, Mutula 2003, Ohakwe and Okwuanaso 2004). The respondents did not only use the Internet to search for materials resources but also used it to collect resources to supplement curricular offering (Adomi, Okiy, and Ruteyan 2003).

Besides, the library users in the current study were also satisfied with the independent search at the library. Using suitable sources to search for the information in the library helped the respondents to strengthen the quality of their work. The library provided various choices and easier for the users to search the information such as textbooks, hardbound theses, newspaper, e-books and others. They also can ask the librarian to get interlibrary loan services if the needed books were not available in their library. Now, it becomes easier for the users to search the information since they also can consult other medical practitioners in their workplace if they did not have time to go to the library. Furthermore, they can get a consultation with other medical practitioners in other institutions if they want.

Table 4: Satisfaction in searching the information (n=336)

	Frequency (%)				
	Very dissatisfied	**Dissatisfied**	**Unsure**	**Satisfied**	**Very satisfied**
Independent search at library	6 (1.8)	21 (6.3)	77 (23.2)	185 (55.7)	43 (12.8)
Consult librarian	12 (3.6)	14 (4.2)	134 (40.6)	124 (37.6)	46 (14.4)
Surf the internet	1 (0.3)	3 (0.9)	20 (6.0)	190 (56.9)	120 (35.9)
Consult medical practitioner at workplace	6 (1.8)	13 (3.9)	80 (24.0)	190 (57.1)	44 (13.2)
Consult medical practitioner at other research institutions and universities	12 (3.6)	19 (5.7)	124 (37.3)	145 (43.2)	32 (97)

(c) Level of Satisfaction in the library services

In response of satisfaction towards library services, Table 5 indicated that the majority of respondents were very satisfied with answering the specific queries by the librarian (97.9%).

In response to the satisfaction of the library services, the majority of respondents were very satisfied with the services provided by the library especially with answering the specific queries by the librarian. The library provided numerous resources to allow users to keep searching the needed information. Thousands of reference sources were available in the library that covered practically in every subject. Reference sources provide answers to specific questions such as brief facts, statistics, technical instructions, provide background information; or lead to additional information sources. The current study had several limitations. The result of this survey may be subject to respondents' attitudes and the degree to which they responded accurately to the questionnaire. Also, the result of the study may not be generalizable to all medical professionals in Malaysia.

Table 5: Satisfaction of library services (n=336)

	Frequency (%)				
	Very dissatisfied	**Dissatisfied**	**Unsure**	**Satisfied**	**Very satisfied**
Printed resources	1 (0.3)	22 (6.6)	83 (24.9)	194 (58.3)	33 (9.9)
Electronic resources	2 (0.6)	20 (6.0)	32 (9.6)	200 (60.2)	78 (23.6)
Current awareness services	1 (0.3)	20 (6.0)	114 (34.2)	168 (50.5)	30 (9.0)
Inter library loan service	1 (0.3)	8 (2.4)	166 (49.8)	126 (37.8)	32 (9.7)
Answers to specific queries	9 (2.7)	121 (36.8)	161 (48.9)	38 (11.6)	329 (97.9)

CONCLUSION

The study concluded that the respondents were very satisfied with searching the information via surfing the internet as the internet was the major source of information. Also, due to the availability of internet access, they can easily access the information since there are plenty of information resources over the internet. University library provided good services since the majority of respondents were very satisfied with answering the specific queries.

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What Made Us to the World's Top 50 Universities for Library & Information Management?

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ABSTRACT

In the QS World University Ranking (QSWUR) by subject for Library and Information Management that was introduced for the first time in 2018, University of Malaya (UM) is ranked in the top 50, positioned 24th and 31st in 2018 and 2019 respectively. This makes UM the highest-ranked institution to come from a periphery country, that is less developed than the four semi-periphery and 12 core countries listed in this ranking. Understanding what made UM ended up in that particular position is interesting to ensure that universities in the peripheral world maintain global competitiveness. Since UM could rise to the top ranking and need to make effort to be maintained in the academic reputation system, the objective of the paper is to understand the possible conditions that has made UM ended up in the top 50. The paper focuses on two QSWUR's indicators of research impact i.e. citation per paper and h-index since we have the publication data at our disposal, which is sourced from Scopus. Research impact in Library and Information Management subject was studied based on articles published in the Library and Information Sciences journal category indexed in Scopus. The data were temporally filtered from 2013 to 2017 and 2014 to 2018, and only articles, articles in press, and review affiliated with "University of Malaya" were considered. The paper has identified at least three possible conditions that facilitate the university's journey to top 50 i.e. (a) Publication in Quartile 1 Scopus-indexed journals that are also Web of Science (WoS)-indexed; (b) International collaboration and co-authorship; and (c) Publisher of a Library & Information Science journal that is both Scopus and WoS-indexed. The ranking highlights the leading research and teaching of UM's Department of Library & Information Science (DLIS) which is based at the Faculty of Computer Science & Information Technology (FCSIT). The faculty offers a library and information science postgraduate program at both masters and doctoral degree program which accommodate high research activity in line with the status of UM as a research-intensive university. About 51% of the publications that may be used in the ranking exercise based on Elsevier's Scopus came from the department of LIS, and 82% came from FSCIT as a whole. Findings also indicates that the journey to the top 50 subject ranking is not a solo journey, but it is a collective effort from other related fields at UM especially information systems, that contribute to the Library and Information Management discipline which is becoming more interdisciplinary.

Keywords: Research performance; World university ranking; Library and Information Science; University of Malaya; Malaysia.

INTRODUCTION

Performance of a university in a global view is assessed through university ranking systems such as QS World University Rankings (QSWUR), Times Higher Education (THE) Rankings, CWTS Leiden Ranking and Academic Ranking of World Universities (ARWU). The emergence of these global university rankings was triggered by the globalisation of higher education and the expectations towards internationalization (Tan and Goh 2014). Depending on the systems, the ranking indicators can be highly influential to benchmark the academic quality, research excellence and reputation of a university compared to their global counterparts. Consequently, university ranking has also become a marketing tool for institutions, which could help in attracting students from not only the university's own country but it also helps prospective international students to narrow down their choice of institutions. Moreover, this serves as a tool to increase accountability and transparency among universities, leading to a stronger strategic management system to claim advantage in the global competition (Jöns and Hoyler 2013).

QSWUR is one of the prominent ranking in the world at present, which has been designed to to assess performance according to what is believed to be key aspects of a university's mission, namely: teaching, research, nurturing employability, and internationalisation. It was introduced in 2004, with the aim of helping "prospective students identify the world leading schools in their chosen field in response for high demand for subject-level comparisons" [3] . It ranks universities by academic discipline organized into five broad categories, namely Arts and Humanities; Engineering and Technology; Life Sciences and Medicine; Natural Sciences; and Social Sciences and Management. Since 2011, the ranking system has extended to report the world's top universities in individual subjects areas. In 2018 for the first time, QS has included Library and Information Management in the QSWUR by subject which currently make up 48 subject categories. Four components are combined to produce the overall results for each of the subject rankings: academic reputation; employer reputation; research citations per paper; and h-index. A worldwide survey of academics and employers is used to assess institutions' international academic and employer reputation respectively. Research impact is assessed based on research citations per paper and h-index in the relevant subject using data gathered from Elsevier's Scopus database within 5 years' time span. However, different threshold and weightings were adapted for each discipline to best reflect prevalent publication and citation patterns in a given discipline.

In the QSWUR 2018 and 2019, the University of Malaya (UM) has been ranked in the top 50 for Library and Information Management subject area, positioned 24th and 31st respectively. This makes UM the highest-ranked institution to come from a periphery country, that is less developed than the semi-periphery (e.g. Singapore, China, South Korea and Taiwan) and core countries (e.g. United States, Canada, United Kingdom, Ireland, Australia, New Zealand, Belgium, Finland, Germany, Italy, Netherlands, Spain) that are listed in the ranking. Understanding what made UM gain that particular position

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[3] QS World Ranking University Methodology, available at https://www.topuniversities.com/subject-rankings/methodology

is interesting because as mentioned by Tan and Goh (2014), leading universities in Malaysia have failed to be included in league tables for the longest time, indicating that "Malaysian universities are lagging behind in terms of global competitiveness" (p.10). Universities in Malaysia have struggled to be on top of the world ranking list through the years. For this reason, the then Ministry of Higher Education (MOHE) has devised a way to encourage the establishment of research universities. In here, MOHE aimed (a) to increase research and development as well as commercialisation activities; (b) to increase the number of postgraduates and postdoctoral students; (c) to increase the number of lecturers with doctorate degrees; (d) to increase the number of international students; (e) to strengthen the centres of excellence; and (f) to strengthen the rankings of the public universities (KPT 2012). This strategy and the objectives were instrumental in prompting rigorous knowledge production and dissemination within the Malaysian public higher education. Tan and Goh (2014) argue that the sixth objective – to strengthen the rankings of public universities – is 'perhaps the most thought-provoking'. Given these objectives, MOHE has not given up in its objectives and one public university, namely UM – the oldest university of the country – was able to perform excellently. Some notable factors that led to this boost is the number of international and local postgraduate students, as well as the research and publication reputation of the various schools, aside from its strategic position being located at the centre of Malaysia. This success however is understudied and it is important to look into the best practices of UM to attain the goals of MOHE through the various universities in the country to maintain global competitiveness (Altbach et al. 2010; Anderson-Levitt 2003).

A few studies have been conducted in relation to how the QSWUR and many university ranking systems provide concrete benefits (Soh, 2015; Vernon, Balas and Momani, 2018) or are flawed in various aspects (Usher and Savino, 2006; Hazelkorn, 2007; AUBR, 2010; Wildavsky, 2010; Saisana et al., 2011; Bowen and Casadevall, 2015; Soh, 2015). Similarly, some papers also discuss particularities in the methodology used by the various ranking systems. For instance, Merisotis and Sadlak (2005) mention that university rankings involve data collection (including existed data or newly compiled data), selection of the types of rankings and variables, selection of indicators, weighting shares, and execution of the analysis. It is seen that the most significant key factors of the ranking process, throughout these particular actions, were the decisions for indicators and weightings (Buela-Casal et al., 2007; Van Raan, 2005; Hosier and Hoolash, 2017). Despite differences in the process of assessing performance indicators though, Marginson, 2007; Sin, 2014; Evans et al., 2017) claims that higher education institutions are inclined to adopt institutional policies and strategies that will eventually optimise their position in ranking systems. This has however become a challenge for universities in the periphery countries such as Malaysia. Since UM could rise to the top ranking and need to make effort to retain itself in the system, the objective of the paper is to understand what made UM gain in the top 50 position. It is in this sense that this paper is important in showing how a university in Malaysia made it to the top 50 through the years.

University of Malaya's Position in the Library Science and Information Management University Ranking

The QSWUR utilizes articles from the Scopus database. The four key performance indicators used in the QS ranking have different weights (Top Universities, 2019). An equation for calculating the overall performance score (P) is shown in Equation 1. The academic reputation (AR) has 40% of the score in the overall ranking. It is measured based on a global survey in which active academics are required to give an opinion on the universities producing the best work in their field of expertise (Pietrucha, 2018). The second indicator which is the employer reputation (ER), consists of 20% of the overall performance score. The employer reputation is measured based on another survey in which employers indicate the universities which they perceive has the best graduates (Gopal and Shitan, 2015; Pavel, 2015).

$$P = (0.4 \times AR) + \ (0.2 \times ER) + (0.2 \times CPP) + (0.2 \times HC) \qquad Equation\ 1$$

The citation per paper (CPP) is the third performance indicator and it consists of 20% of the overall performance score. In order to obtain the score for CPP, the performance of academics is calculated as the ratio of the number of citations. The h-index citations (HC) comprise another 20% of the overall performance score. To yield the HC score, by considering a set of the most cited in a specific faculty and the number of citations received by those publications. This metric attempt to measure both the productivity and citation impact of the faculty (Top Universities, 2019). Table 1 presents UM's position in the QSWUR by Subject for Library and Information Management in 2018 and 2019, and its rank based on the four indicators.

Table 1: University of Malaya's Position in the QSWUR
by Subject for Library and Information Management in 2018 and 2019

Ranking indicators	2018	Rank	2019	Rank
Overall score	72.8	24	65	31*
Academic Reputation (AR)	67.4	32	58	37
Employer Reputation (ER)	89.7	4	76.7	20
Citations per paper (CPP)	81.1	21	83.1	22
H-index (HC)	90.0	11**	85.6	13

* Ranked both with UCL
** Ranked with McGill and Syracuse

Overall, UM ranked 24th in 2018 but went a notch down in 2019 at 31. This is also based on the data showing some indicators that went down a couple of ranks. Nonetheless, one indicator - CPP - though it went one notch down, showed a higher percentage of citations per faculty (81.1 to 83.1). This may mean that there were more researchers who have cited the publications of UM academics. However, this does not automatically mean that UM's Library and Information Science (LIS) faculty have become more productive in 2018, but they have become more visible and they have reached more researchers outside their close academic circle.

The table also indicates that there is a relative decrease in the performance of UM based on the four indicators and the overall score. With this data, the ranking or UM in this specific subject also went down seven points from its position in the past year. Nevertheless, the decrease in the ranking of UM in all indicators and its overall score is only at a minimum. This means that there is still a great chance that UM LIS researchers can help in strengthening the aforementioned indicators for the 2020 QSWUR. However, it would be quite of a hurdle for UM LIS to intensify its employer reputation because of the 13-point difference from 2018 to 2019. This may also be attributed to how employers look at the performance of UM graduates in their organizations. However, one reason regarding the decline could be a decrease in the number of graduates who were employed by companies or the number of companies included in the evaluation of the employer reputation indicator. Nevertheless, it is clear that UM accomplished to be in the top 50 for two years because of the research and citations, since the score is high and UM is ranked in the top 25 in both categories.

Materials and Method

In order to understand what made UM positioned in the top 50, we focused on two indicators of research impact i.e. citation per paper and h-index since we have the publication data at our disposal, sourced from Scopus database. Data were gathered on 1 March 2019 for 2013 - 2018 publications. First, a total of 195 journal titles categorised under the Library and Information Science subject category were identified from Scimago Journal and Country Rank (SJR) that includes the journals and country scientific indicators developed from the information contained in the Scopus database (Figure 1). Next each journal title was search using ISSN journal number in advanced search from Scopus, and the data were filtered using University of Malaya affiliation with publication from 2013-2018 (Figure 2 and 3). From the advanced search result, the data is carefully inspected to exclude documents belonged to University of Malaya but are not fall under LIS journal category. The data were filtered again from 2013 to 2017 and 2014 to 2018 following the methodology used by QS subject ranking which only considered data from the past 5 years of the evaluation year. The data used for further analysis include only articles, articles in press, and review which includes 156 articles from 2013 to 2017 and 154 articles recorded for 2014 to 2018. Since a minimum publication threshold is set for each subject to avoid potential anomalies stemming from small number of highly-cited papers, we assume that UM has achieved the minimum publication threshold set for the subject category spanning over 5 years' period. The total number of publications from 2013 to 2018 analysed to address the research objective is 184. Out of the 184 for 2013-2018, documents gathered from Scopus, 168 were articles, 8 were articles in press and 8 were reviews.

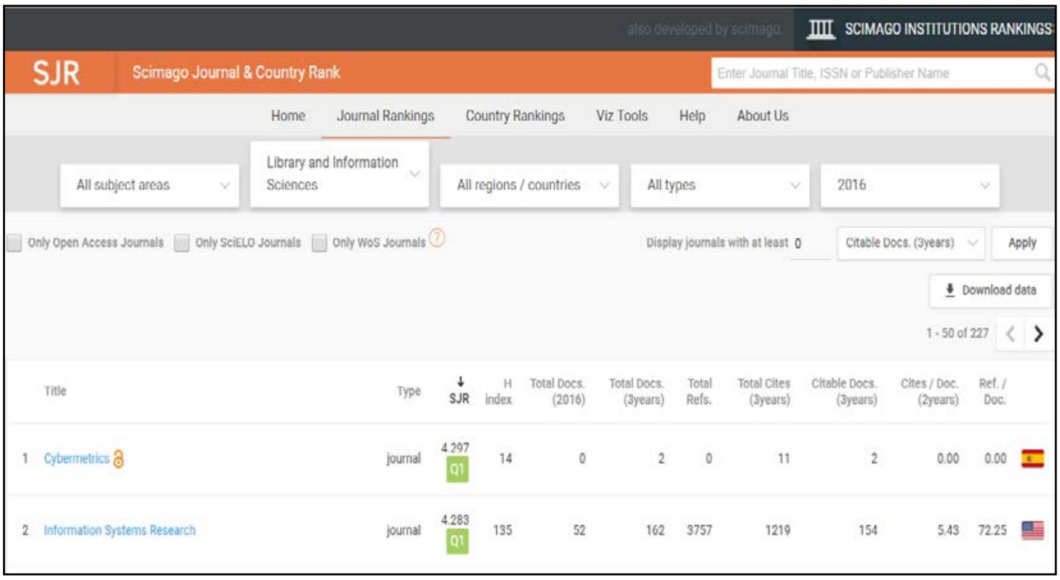

Figure 1: Library and Information Science Subject Category from Scimago Journal and Country Rank (SJR)

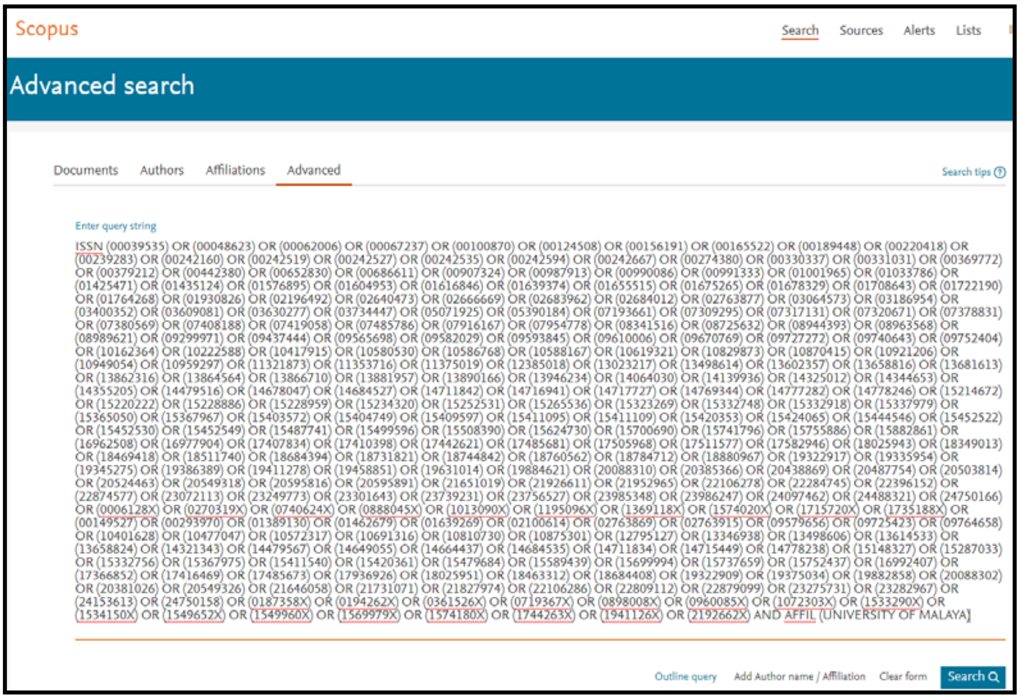

Figure 2: Advanced Search from Scopus

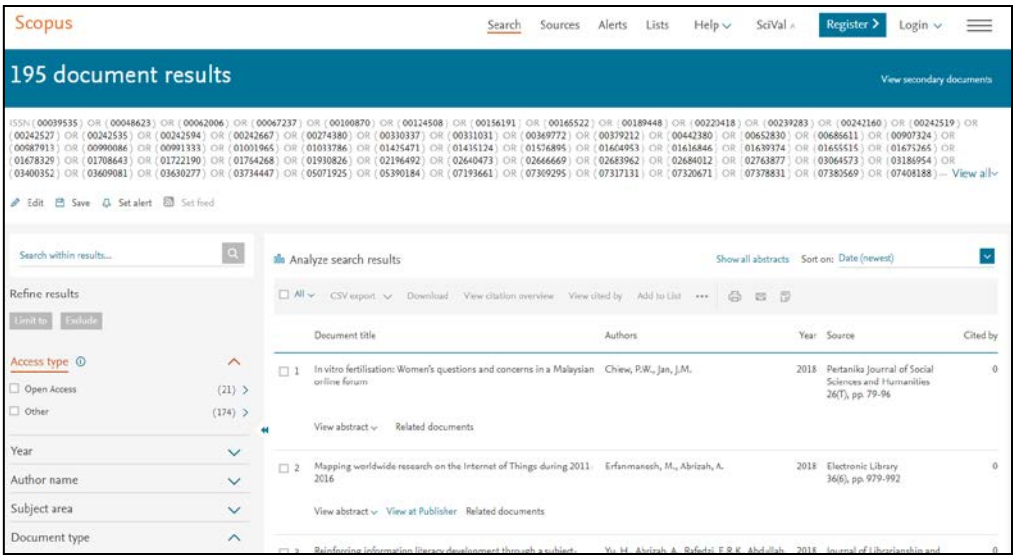

Figure 3: Search Results from Scopus

Figure 4 shows the number of publications gathered from 2013 to 2018 with a total of 184 papers and 1181 citations. The highest number of publications is in 2016 with 39 papers , followed by 35 articles in 2014. The highest citation garnered is 127 from an article published in 2016 in the *International Journal of Information Management* entitled *The role of big data in smart city*. Table 2 details the top 20 articles that are most cited, reflecting the h-index of UM's LIS research i.e. 16.

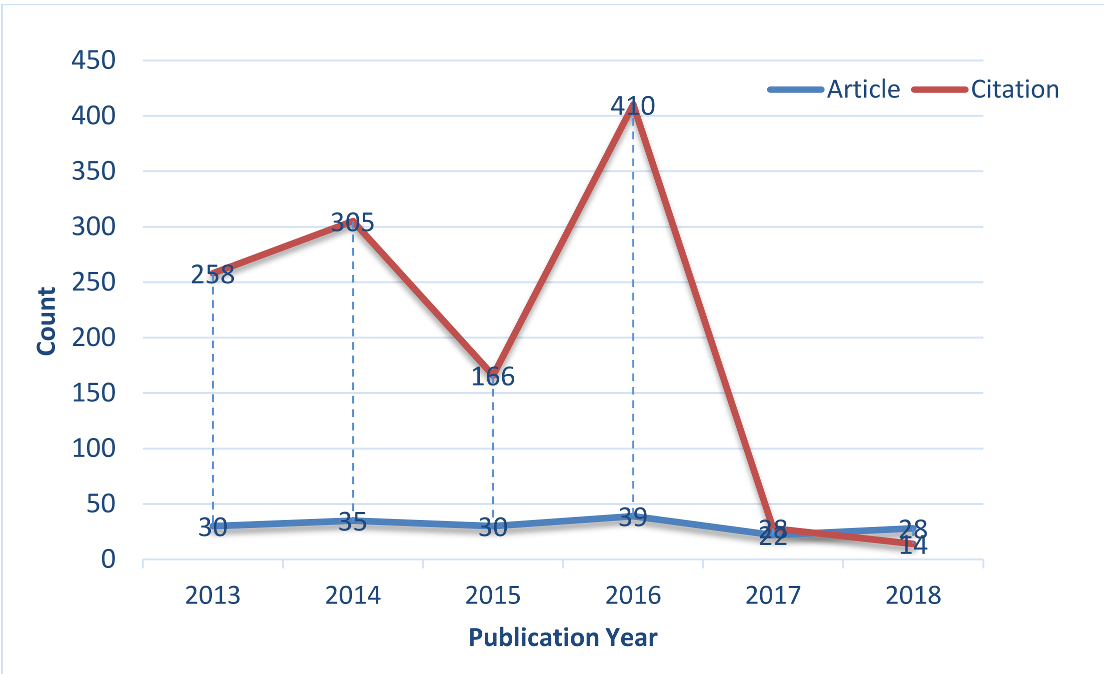

Figure 4: Number of Articles and Citations for 2013-2018

When analysed by productivity at the meso (institution) level (Table 3), the 184 papers were affiliated to various faculties across UM, predominantly from the Faculty of Computer Science and Information Technology (139 papers) followed by Faculty of Business and Accountancy (15 papers) and Asia-Europe Institute (11 papers respectively). There are 32 articles affiliated with other public and private universities in Malaysia that shows collaborative research work at the national level. When further analysed at the micro (department) level for the papers affiliated to the Faculty of Computer Science and Information Technology,findings show that the major contributor came from the Department of Library and Information Science (DLIS) (93 papers, 62%) and the other 57 papers came from the other four departments, with significant contribution from Information Systems. These articles were shown as a collaborative research work of LIS and other departments from the faculty at some point.

Table 2: The Top 20 Most Cited Articles

No.	Article Title	Source Title	Year	Affiliation	Citation
1	The role of big data in smart city	International Journal of Information Management	2016	Centre for Mobile Cloud Computing Research, Faculty of Computer Science and Information Technology, University of Malaya, Lembah Pantai, Kuala Lumpur, 50603, Malaysia; Xi'An Jiaotong Liverpool University, Suzhou, China; Federal College of Education (Technical), School of Science, Department of Computer Science, Gombe, Nigeria	127
2	Social media effects on fostering online civic engagement and building citizen trust and trust in institutions	Government Information Quarterly	2014	Department of Operations and Management Information Systems, Faculty of Business and Accountancy Building, University of Malaya, 50603 Kuala Lumpur, Malaysia	71
3	Big data: From beginning to future	International Journal of Information Management	2016	Centre for Mobile Cloud Computing Research (C4MCCR), Faculty of Computer Science and Information Technology, University of Malaya, Lembah Pantai, Kuala Lumpur, 50603, Malaysia; Lulea University of Technology, Sweden	56
4	LIS journals scientific impact and subject categorization: A comparison between Web of Science and Scopus	Scientometrics	2013	Department of Library and Information Science, Faculty of Computer Science and Information Technology, University of Malaya, Kuala Lumpur, Malaysia; Malaysian Citation Centre, Ministry of Higher Education, Putrajaya, Malaysia; Department of Artificial Intelligence, Faculty of Computer Science and Information Technology, University of Malaya, Kuala Lumpur, Malaysia	49
5	Big data reduction framework for	International Journal of	2016	Faculty of Computer Science and Information	45

	value creation in sustainable enterprises	Information Management		Technology, University of Malaya, Kuala Lumpur, 50603, Malaysia; Suzhou Business School, Xi'An Jiaotong Liverpool University, Suzhou, China; Department of Computer Science, Iqra University, Islamabad, Pakistan	
6	Mapping research collaborations in the business and management field in Malaysia, 1980-2010	Scientometrics	2013	Asia-Europe Institute, University of Malaya, 50603 Kuala Lumpur, Malaysia; University of Malaya, 50603 Kuala Lumpur, Malaysia	31
7	Major trends in knowledge management research: a bibliometric study	Scientometrics	2016	Department of Management, Malek Ashtar University of Technology, Tehran, Iran; Department of Engineering Design and Manufacture, University of Malaya, Kuala Lumpur, Malaysia; Aalborg University, Aalborg, Denmark; Department of Management and International Business, Merrick School of Business, University of Baltimore, Baltimore, MD 21201, United States	29
8	Co-authorship networks: A review of the literature	Aslib Journal of Information Management	2015	Asia-Europe Institute, University of Malaya, Kuala Lumpur, Malaysia	27
9	Knowledge management practices and performance: Are they truly linked¿	Knowledge Management Research and Practice	2013	Faculty of Business and Accountancy, University of Malaya, Lembah Pantai, Kuala Lumpur, Wilayah Persekutuan 50603, Malaysia; University of Lethbridge, Canada; Universiti Sains Malaysia, Malaysia	20
10	Research collaboration networks of two OIC nations: Comparative study between Turkey and Malaysia in the field of 'Energy Fuels', 2009-2011	Scientometrics	2014	Asia-Europe Institute, University of Malaya, 50603 Kuala Lumpur, Malaysia; University of Malaya, 50603 Kuala Lumpur, Malaysia	20
11	Sixty-four years of informetrics research: productivity, impact and collaboration	Scientometrics	2014	University of Malaya, Kuala Lumpur, Malaysia; Depatment of Library and Information Science, Shahid Beheshti University, Tehran, Iran;	20

12	Identifying ISI-indexed articles by their lexical usage: A text analysis approach	Journal of the Association for Information Science and Technology	2015	Statistical Cybermetrics Research Group, University of Wolverhampton, Wolverhampton, United Kingdom Faculty of Computer Science and Information Technology, Department of Artificial Intelligence, University of Malaya, Federal Territory of Kuala Lumpur, Kuala Lumpur, 50603, Malaysia; Fraunhofer INT, Appelsgarten 2, Euskirchen, D-53879, Germany	18
13	Towards knowledge modeling and manipulation technologies: A survey	International Journal of Information Management	2016	Faculty of Computer Science and Information Technology, University of Malaya, Kuala Lumpur, 50603, Malaysia; Computer and Information Systems Department, Public Authority for Applied Education and Training, Kuwait; International Business School Suzhou, Xi'An Jiaotong Liverpool University, Suzhou, China	18
14	Information fusion in social big data: Foundations, state-of-the-art, applications, challenges, and future research directions	International Journal of Information Management	2016	Centre for Mobile Cloud Computing Research, Faculty of Computer Science and Information Technology, University of Malaya, Lembah Pantai, 50603 Kuala Lumpur, Malaysia, Malaysia; Xi'an Jiaotong Liverpool University, Suzhou, China, China; Department of Electrical and Computer Engineering, North Dakota State University, Fargo, ND 58108-6050, USA, United States	18
15	MapReduce: Review and open challenges	Scientometrics	2016	Faculty of Computer Science and Information Technology, University of Malaya, Kuala Lumpur, 50603, Malaysia; School of Software, Dalian University of Technology, Dalian, 116620, China; NDSU-CIIT Green Computing and Communications, North Dakota State University,	18

				Fargo, ND 58108, United States	
16	Academic librarians and their social media presence: A story of motivations and deterrents	Information Development	2014	University of Malaya, Malaysia	16
17	Can the impact of non-Western academic books be measured? An investigation of Google Books and Google Scholar for Malaysia	Journal of the Association for Information Science and Technology	2014	Department of Library and Information Science, Faculty of Computer Science and Information Technology, University of Malaya, Kuala Lumpur, 50603, Malaysia; Malaysian Citation Centre, Ministry of Education Malaysia, Putrajaya, 62200, Malaysia; Statistical Cybermetrics Research Group, School of Technology, University of Wolverhampton, Wulfruna Street, Wolverhampton, WV1 1LY, United Kingdom	16
18	Automatic summarization assessment through a combination of semantic and syntactic information for intelligent educational systems	Information Processing and Management	2015	Department of Artificial Intelligence, Faculty of Computer Science and Information Technology, University of Malaya, 9, B. Vahabzade Street, Kuala Lumpur, 50603, Malaysia; Institute of Information Technology, Azerbaijan National Academy of Sciences, 9, B. Vahabzade Street, Baku, AZ1141, Azerbaijan	16
19	Trend and impact of international collaboration in clinical medicine papers published in Malaysia	Scientometrics	2014	University of Malaya, Kuala Lumpur, Malaysia; Department of Biomedical Imaging, University of Malaya, Kuala Lumpur, Malaysia; Department of Applied Statistics, University of Malaya, Kuala Lumpur, Malaysia; University of Malaya Library, Kuala Lumpur, Malaysia	15
20	Trajectories of science and technology and their co-evolution in BRICS: Insights from publication and patent analysis	Journal of Informetrics	2015	Department of Science and Technology Studies, Faculty of Science, University of Malaya, Kuala Lumpur, 50603, Malaysia; UNU-MERIT, Keizer Karelplein 19, TC Maastricht, 6211, Netherlands	15

Table 3: No of Articles Affiliated to the University of Malaya

University of Malaya	**No of Articles**	**No of Citation**
Faculty of Computer Science and Information Technology	139	850
Faculty of Business and Accountancy	15	125
Asia-Europe Institute	11	103
Faculty of Science	8	54
Faculty of Languages and Linguistics	6	70
Faculty of Education	5	16
Faculty of Engineering	4	36
University of Malaya Library	4	29
Faculty of Arts and Social Sciences	4	4
Faculty of Medicine	3	18
Institute of Research Management and Monitoring (IPPP)	3	6
Faculty of Economics and Administration	2	15
Faculty of Law	2	0
Faculty of Dentistry	1	5
Academy of Islamic Studies	1	3

* The data consist of overlapping publications

Table 4: No of Articles Affiliated to the
Faculty of Computer Science and Information Technology (FSCIT)

Faculty of Computer Science and Information Technology	**No. of Articles**	**No. of citation**
Department of Library and Information Science	93	404
Department of Information Systems	25	131
Department of Artificial Intelligence	15	135
Department of Computer System and Information Technology	12	261
Department of Software Engineering	5	14
Total	**150**	**945**

* The data consist of overlapping publication from various departments at FCSIT

RESULTS

What made UM to the World's Top 50 Universities for Library and Information Management? The paper has identified three possible conditions as described in the following sections.

Publication in Quartile 1 Scopus indexed journals that are also WoS-indexed

Table 5 shows journal titles that published articles in Library and Information Management subject area affiliated to UM, 43 percent (20 journals) are ranked in Q1 of SJR. About 28 percent (13 journals) are from Q2, 22 percent (10 journals) from Q3 and 7 percent (3) from Q4. The highest number of articles was from *Malaysian Journal of Library and Information Science* ranked in Q2 in SJR with 31 articles, followed by Scientometrics, ranked in Q1 in SJR with 22 articles. When compared to Journal Citation Ranking by WoS, the articles were also published in the higher rankedjournals in JCR.

Table 5: Journal Titles and Quartile Ranking

No.	Journal Title	No. of Articles	SJR (Scopus)	JCR (WoS)
1	Malaysian Journal of Library and Information Science	31	Q2	Q4
2	Scientometrics	22	Q1	Q1
3	Information Development	13	Q1	Q2
4	Electronic Library	14	Q1	Q3
5	International Journal of Information Management	11	Q1	Q1
6	Aslib Journal of Information Management	7	Q1	Q1
7	International Journal of Information Science and Management	6	Q4	-
8	Journal of Academic Librarianship	6	Q1	Q1
9	Journal of Librarianship and Information Science	5	Q1	Q1
10	Serials Review	5	Q3	Q3
11	Information Research	4	Q2	Q2
12	Intelligent Systems Reference Library	4	Q3	-
13	Journal of the Association for Information Science and Technology	4	Q1	Q1
14	Libri	4	Q3	Q3
15	Education and Information Technologies	3	Q2	Q2
16	Information Processing and Management	3	Q1	Q1
17	Journal of Information Science and Engineering	3	Q3	Q3
18	Journal of Informetrics	3	Q1	Q1
19	Journal of Enterprise Information Management	2	Q1	Q1
20	Journal of Information Science	2	Q1	Q1
21	Library and Information Science Research	2	Q1	Q1
22	Library Philosophy and Practice	2	Q3	-
23	Library Review	2	Q2	-
24	Online Information Review	2	Q1	Q1
25	Pakistan Journal of Information Management and Libraries	2	Q3	-
26	Program	2	Q2	-
27	Social Science Information	2	Q3	Q3
28	Bottom Line	1	Q4	Q4

29	Education for Information	1	Q2	Q2
30	European Journal of Information Systems	1	Q1	Q1
31	Evidence Based Library and Information Practice	1	Q2	Q2
32	Government Information Quarterly	1	Q1	Q1
33	IFLA Journal	1	Q2	Q2
34	Information Communication and Society	1	Q1	-
35	Information Discovery and Delivery	1	Q3	Q3
36	Information Systems Management	1	Q1	Q1
37	Information Technology and People	1	Q1	Q1
38	Journal of Cheminformatics	1	Q1	Q1
39	Knowledge Management Research and Practice	1	Q2	Q2
40	Language Resources and Evaluation	1	Q3	-
41	Library Hi Tech	1	Q2	Q2
42	Library Hi Tech News	1	Q3	-
43	Library Management	1	Q2	Q2
44	Notes and Queries	1	Q4	Q4
45	Social Science Computer Review	1	Q1	Q1

b) International Collaboration

The data show the collaboration pattern of the research works in Library and Information Management field. In total, 76 articles include international collaboration works with 31 countries, while 108 articles were without international collaboration. Table 6 show the highest collaboration was with Iran with 17 articles, followed by China with 16 articles and US with 11 articles.

Table 6: International Collaborative Countries

Country	No. of Article	No. of citation	Country	No. of Article	No. of citation
Iran	17	91	Azerbaijan	1	16
China	16	279	Canada	1	20
United States	11	83	Denmark	1	29
United Kingdom	9	60	France	1	11
Nigeria	8	132	Greece	1	0
Australia	5	2	Indonesia	1	1
Pakistan	5	59	Japan	1	0
Hong Kong	4	15	Netherlands	1	15
Italy	3	12	New Zealand	1	1
Bangladesh	2	8	Poland	1	11
Germany	2	19	Saudi Arabia	1	3
Jordan	2	7	Spain	1	11
Kuwait	2	18	Sri Lanka	1	3
Singapore	2	4	Switzerland	1	6

Sweden	2	56	Vietnam	1	0
Taiwan	2	23			

When analysed based on authorship pattern (Table 7), findings show that articles were dominated by multiple authorships with 94.7 per cent indicating collaboration works among researchers in LIS sub-areas.

Table 7: Authorship Pattern

Authorship Pattern	No of Papers	Authorship Pattern	No of Papers
Single author	11	Five author	17
Two author	48	Six author	7
Three author	61	Seven author	3
Four author	37	Eight author	3

c) Publisher of a Library and Information Journal that is both Scopus and WoS-indexed

Analysis on the journal titles shows that the highest number of articles were published in the *Malaysian Journal of Library and Information Science* (overall 31 and 27 from the DLIS). As expected, the LIS publishes in LIS journals, Information Systems mainly published in informations systems and information management journals, and Artificial Intelligence published more in information sciences journals.

Table 8: No of Articles in Journal Publication

	No. of articles
Department of Library and Information Science	
Malaysian Journal of Library and Information Science	27
Information Development	12
Electronic Library	9
Scientometrics	8
Journal of Academic Librarianship	6
Journal of Librarianship and Information Science	5
Serials Review	5
Libri	4
International Journal of Information Science and Management	2
Journal of the Association for Information Science and Technology	2
Library and Information Science Research	2
Library Philosophy and Practice	2
Pakistan Journal of Information Management and Libraries	2
Education for Information	1
European Journal of Information Systems	1
Evidence Based Library and Information Practice	1
IFLA Journal	1
Library Hi Tech	1
Library Management	1

Program	1
	93
Department of Artificial Intelligence	
Information Processing and Management	3
International Journal of Information Management	1
International Journal of Information Science and Management	2
Journal of Cheminformatics	1
Journal of Information Science	1
Journal of the Association for Information Science and Technology	1
Language Resources and Evaluation	1
Malaysian Journal of Library and Information Science	2
Program	1
Scientometrics	2
	15
Department of Computer System and Information Technology	
Education and Information Technologies	1
Electronic Library	1
Intelligent Systems Reference Library	2
International Journal of Information Management	7
Journal of Information Science	1
Language Resources and Evaluation	1
Library Hi Tech	1
Scientometrics	1
	15
Department of Information System	
Aslib Journal of Information Management	5
Electronic Library	3
Information Development	1
Information Research	4
International Journal of Information Management	2
International Journal of Information Science and Management	1
Journal of Information Science and Engineering	3
Journal of Informetrics	1
Journal of the Association for Information Science and Technology	1
Libri	1
Malaysian Journal of Library and Information Science	2
Scientometrics	1
	25
Department of Artificial Intelligence	
International Journal of Information Management	2
Information Discovery and Delivery	1
Library Hi Tech	1
Online Information Review	1
	5

* The data consist of overlapping publication from various departments of FCSIT

DISCUSSION AND CONCLUSION

The paper analyses publication data and delimit the analyses for the research performance possibly used in the QSWUR and provides evidence on what makes UM to the top 50 the subject ranking in Library and Information Management. The ranking highlights the leading research and teaching of the UM's Department of Library and Information Science, which is based at the Faculty of Computer Science and Information Technology. The faculty offers a library and information science postgraduate program at both its master's and doctoral degree program which accommodates high research activity in line with the status of UM as a research-intensive university. About 51percent of the publications used in the ranking exercise based on Elsevier's Scopus came from the department, and 82percent came from FSCIT as a whole. About 15percent of the publications appeared in the *Malaysian Journal of Library and Information Science* (MJLIS), an impact-factored journal published by UM. It is important to note that having a national journal that has an international standing in global citation databases such as Web of Science and Scopus helps us a lot in shaping our academic reputation. In addition, the LIS researchers made the right decision to focus publishing their precious research in the right journals, particularly in journals of their very own subject discipline, which is library and information science in order to contribute more to the research areas and impact. The faculty has also played an important role in mandating the DLIS academics, just like their computer science counterparts, to publish in WoS-indexed journals which have its merit in terms of visibility and quality. Most of the papers are from WoS-indexed journals, which are also indexed in Scopus' Q1 and Q2 journals in terms of impact. The journey to the top 50 however is not a solo journey but it is a collective effort from other related fields in UM that contribute to the discipline that is becoming more interdisciplinary.

For many years the LIS at UM has had a worldwide reputation for the quality of our research and teaching and it is a pleasure that this has been recognised in not only QSWUR, but also in ARWU (ranked 49th and 51-75 respectively in 2017 and 2018 in the ShanghaiRanking's Global Ranking of Academic Subjects 2018 for Library and Information Science). These rankings reflect our outstanding academic reputation established over two decades, possibly our strong contribution to research publications and the number of citations our papers achieve, as well as the impact of our research outside of the academic community and probably our excellent reputation among employers. Our research fundamentally explores the power of information in the digital world, and examines how individual, organisations and society use information to shape and influence our increasingly dynamic and complex world. The department has excellent well-established research that has been developed over 20 years, for example in scientometric, digital libraries, information behavior and scholarly communication. Our new areas of research have emerged from rapid advances in the information world, such as in data science, health informatics and digital humanities. We would love to move to artificial intelligence in libraries soon. UM's position in the 87th ranking further cements its international reputation for high quality, innovative learning and teaching, delivered by staff that are committed to providing an outstanding student experience.

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