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Information Governance: Trends, Challenges and Future

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FOREWORD

Bismillahirahmanirrahim.

Assalamu'alaikum warahmatullahi wabarakatuh.

The World Congress of Muslim Librarians and Information Scientists (WCOMLIS) was formerly known as the Congress of Muslims Librarians and Information Scientists (COMLIS) and it was first held in 1982 in the United States. Following that in 1986, the second conference took place in Kedah, the third was in Istanbul, Turkey (1989), and the fourth was in Tehran, Iran (1995). Later in 2008, the 5th WCOMLIS conference took place in Kuala Lumpur, Malaysia and recently in 2011, the International Islamic University Malaysia (IIUM), hosted the 6th WCOMLIS conference.

The Faculty of Information Management, Universiti Teknologi MARA, Malaysia, is being given the opportunity to host the 7th WCOMLIS on 25-26 February 2014 in Shah Alam. The theme '*Information Governance: Trends, Challenges and Future*' is among the emerging concerns in today's Islamic world.

At its heart, information governance is about setting a high standard for the handling of information and giving organizations the tools to achieve that standard. The ultimate aim is to demonstrate that an organization can be trusted to maintain the confidentiality and security of personal information, by helping individuals to practice good information governance and to be consistent in the way they handle personal and corporate information.

The WCOMLIS received a total of 120 abstracts submitted by authors from 5 countries. However, after full papers were reviewed by the External and Internal Paper Reviewers, 34 papers have been accepted under the following sub-themes: Research on Libraries and Information Professionals Development, and ICT in Information Services, Knowledge Management and Records Management.

We honestly appreciate the support and professional contributions extended to us by the External and Internal Paper Reviewers who have devoted their valuable time to review the papers. Finally, we would like to thank each of the contributing authors for their insight, their research and writing, and their patience. Without their contribution, this conference would not have been possible. May Allah S.W.T. grant all of us His deserving rewards in this world and in the hereafter.

Thank you.

Wassalamu'alaikum warahmatullahi wabarakatuh.

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Information Professional Communication: Interaction and the Problem between Information Professionals in Governance

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I. BACKGROUND OF THE STUDY

Nowadays, information professional communication becomes one of unique issues in the field of Library and Information Science. In the lifecycle of information, information professionals have to be able to work together with other information professionals. To work together, they should be well-communicated one to another. Good communication among information professionals will become the successful key of effectiveness and efficiency of the information management of information in the organization. In the article of *The Knitting Together of Communication in the book of Library Communication : The Language and Leadership*, the writer explained if the organization must has information professionals who has willing to communicate each other in order to achieve the goal of the organization.[1] Its communication called with term of organizational communication.

As Information professionals, they have to be able to comprehend the organizational communication holistically. It is important to them to make sure all instructions from all level of professional information could be comprehend and implemented in the case of information management which will support job efficiency and effectiveness. Based on the journal of *Basics of Business and Professional Communication,* there are three components of organizational communication that information professionals should have. Those are downward communication, upward communication and horizontal communication. [2]

Downward communication is the ability of higher level of information professional for directing the job description to the low level information professionals. It usually contains of several instructions of the job to be solved. Second, upward communication is the ability of low level of information professionals to give several ideas or recommendations to the high level information professionals. This activity usually happens when something does not work in the management of information so that they will inform their ideas to the high level information professionals for asking the right decision. Third, horizontal communication is the ability of information professionals in the same level to communicate each other relating to the job that they should do.

The weakness of information professionals, such as record manager to understand and to implement those types of organizational communication, becomes the critical issues that should be taken into account in the field of library and information science. This issue becomes more critical to be viewed along with the emerging of communication problem in the information institution. Usually, the communication problem emerges in both upward communication and downward communication which both high level and low level have several boundaries to communicate each other. This problem usually occurs because of the different level of social status and unfairness of responsibilities of information professionals to manage the information. Besides that, it usually occurs because of the different level of information professionals' academic background. There are so many information professionals who come from outside of library and information science field that make the ability of information professionals are untrained. These factors definitely become the hypothesis of this problem occurs.

II. LITERATURE REVIEW

To construct a good analysis to the studies, authors try to collect and select some appropriate literatures within communication and interaction topic. These literatures were chosen in the library of University of Indonesia. By collecting some literatures, authors will have a deep perspective on how to measure interaction and problem within communication topic.

The first book which constructs useful information about communication in information institution is *Library Communication The Language of Leadership*. This book provides several introduction and suggestion to the professionals including us as researchers on how to develop communication in the institutions. The second book, is *Social Groups in Action and Interaction*. This book provides us an example on how to measure group interactions. Other books which support us to conduct the studies are *Investigating Communication: An Introduction to Research Methods* & *Assessing Organizational Communication*. These last two books will help us to conduct a good research within this topic.

III. SIGNIFICANT

The findings of this research will help us as an information professional to comprehend the governance communication phenomenon that explains the process and value of communication in the information management. By understanding those issues, we will know the leadership character that shown by information professionals while having organizational communication. The weak ability to communicate between high level and low level information professionals will represent the bad interaction that will disturb the information management in the organization. On the other way, open minded communication and clear job direction will represent a good leadership communication among the information professional that grow in the organization.

Good organization will always be able to alter the bad organization culture through effective leadership communication. Effective leadership communication will be achieved by creating a new culture where organization sows a value in every information management activity. To sow a value, organization can propose several ideas such as 1) building a trust, 2) building an organization history, 3) building an organization vision, 4) implementing transformation by empowering information professionals. [3] Those ideas are organizational communication which has purposes to increase the productivity of information professional.

The successful key of good organization depends on among information professional that has willingness to know organizational structure and the role of their job. By knowing this, they will having organizational interaction that push them to work effectively by clear instruction through message communication both from high level to low level. A good organizational interaction has always a clear sense or objective interpretation by staff which next will influence spirit to work and mutual understanding among information professionals.

The Ministry of Foreign Affairs has a great amount of information professionals. There are total 120 information professionals work intellectually and technically to the organizational in the case of information management. Their role and responsibility is to manage the organization's archive and data since its appraisal to disposal. In the new age of information management at the organization, it is important to know how they facilitate communication among record managers. By knowing the interaction and the problem authors wish to give a suggestion to develop an effective and efficient communication.

Keywords- Information; Information Professional; Communication; Indonesia

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The Role of Information Professionals in Academic Libraries in Malaysia

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I. BACKGROUND OF THE STUDY

The role of information professionals in providing effective library and information services in academic libraries is highly recognized by the community to cope with the current situation where information is dispersed and scattered. People nowadays tend to access the information from anywhere and everywhere, in line with the rapid growth in Information Communication Technology (ICT), added with the enforcement of the Government's policy, Multimedia Super Corridor (MSC) in Malaysia has made the information professionals' task even more challenging. According to Parul, Mahesh and Pankaj (2009) "*the adoption of ICT should not be considered as a luxury, but as an added tool to provide the information services, effectively to fulfill the complex needs of the users.*" In other words, the role of information professional is totally different in this ICT's age. They must equip themselves with updated and advanced information's skills and technology in order to deliver a much interesting service to users.

With regards to the rapid growth of electronic information system together with the spread of information in electronic form, an information professional has multi dimensional responsibilities which are not limited to the Library's four walls. The role of Information professions is not only focused to gathering data, cataloging and categorizing but rather more to administration, specialization and global electronic information circulation.
Other than large budget development, an academic library as a valuable knowledge and advanced asset to the country is viewed in terms of its infrastructure, collection and management. There are libraries with large development and developed specifically in faculties and university's branches all over the country. The libraries which are developed in university branches and faculties are significant in order to fulfill the need for teaching activities, learning purposes and research.

II. PURPOSE OF THE STUDY

This article discusses the role of information professionals in academic libraries in Malaysia. It begins with the clarification on the concept of information professional and then it highlights the main role of the information professional in enhancing the academic library services in Malaysia. This article also highlights the responsibilities of information professionals in the electronic era. Information professionals nowadays need to adapt to the changes and know the significance of information technology in order to support the process of teaching, learning and research. It also highlights the role of an academic librarian in providing effective reference and efficient information services which would contribute to the learning, teaching and research in higher learning institutions.

III. LITERATURE REVIEW/ANALYSIS

A. Information Professionals in Libraries

Information professionals are people who specialize in tasks that involve selecting, organizing, storing, conserving and spreading information. They are required to have a certain academic qualification, ability and specific skills in order to be able to carry out the task and responsibilities. There are various names for the position of information professionals. Other than being known as information professional, information expert and information science expert are the names that are used to classify the position of the information professionals. While, in an academic library, 'librarian' is the name of the position used to refer to the information professionals.

In order to be a librarian in an academic library, one must fulfill the requirements set by recognized organizations globally. In the Malaysian context, the higher learning institutions are authorized organizations which are responsible to train professional librarians. Institutions such as Universiti Teknologi MARA (UiTM), University of Malaya (UM), Universiti Kebangsaan Malaysia (UKM) and International Islamic University (UIA) are among the institutions that have been actively carrying out the effort. Authorized qualifications, given to those who have successfully finished the course in any recognized institutions, will either be a Bachelor Degree with Honors in Information and Library Science or a Bachelor Degree in Information and Resource Center. Through the acquirement of these qualifications, one is already considered qualified to carry out the tasks required or to position oneself as a professional librarian.

Table 1: Government's Approved Scheme of Service

LIBRARIANS' SERVICES SCHEMES	
Classification : Social Services	
Group of Services : Management & Professional	
Enforcement Date : Jan 1, 2006	
GRADE	**METRICS SALARY TABLES**
S41	P1T1 - P1T27 RM1468.60 - RM4033.80 P2T1 - P2T27 RM1550.88 - RM4275.80 P3T1 - P3T27 RM1636.79 - RM4538.37 P1T1 - P1T14 RM2587.85 - RM4286.69 P2T1 - P2T14 RM2864.94 - RM4705.35
S44	P1T1 - P1T14 RM2587.85 - RM4286.69 P2T1 - P2T14 RM2864.94 - RM4705.35
S48	P1T1 - P1T8 RM3780.91 - RM5017.53 P2T1 - P2T8 RM4156.01 - RM5494.27
S52	P1T1 - P1T8 RM4256.44 - RM5493.06 P2T1 - P2T8 RM4660.58 - RM5998.84
S54	P1T1 - P1T8 RM4486.34 - RM5839.12 P2T1 - P2T8 RM4883.22 - RM6373.94

Table 1 shows the approved scheme of service by the Public Service Commission of Malaysia. It clearly stated the requirement to be a professional librarian. The potential candidate must fulfil the following requirements :-

(a) Malaysian citizen
(b) Age is not more than 18 years old

A candidate must hold a Bachelor's Degree (Hons) (specialisation in Library Science) recognised by the Government from any local institution of higher learning or equivalence or a Bachelor's Degree (Hons) (specialisation in Resource Centre Management), recognised by the Government from any local institution of higher learning or equivalent qualification or anAdvanced Diploma in Library Science from UiTM, recognised by the Government or equivalent qualification.

Additionally, Bachelor degree holders from other fields with a Post-graduate Diploma or a Masters degree in Library Science would also have the opportunity to become a professional librarian. The required qualifications mentioned above, would enable these information professionals to be equipped with the required knowledge and are expected to be committed in providing effective services to the users. Table 2 below shows the number of information professionals in academic libraries in Malaysia

Table 2: Number of Librarian in Public Universities and University Colleges

Institutions	Number of Information Professionals
Universiti Malaya (UM)	49
Universiti Kebangsaan Malaysia (UKM)	49
Universiti Sains Malaysia (USM)	54
Universiti Teknologi MARA (UiTM)	126
Universiti Putra Malaysia (UPM)	59
Universiti Utara Malaysia (UUM)	24
International Islamic University Malaysia (IIUM)	53
Universiti Malaysia Sabah (UMS)	20
Universiti Malaysia Sarawak (UNIMAS)	15
Universiti Pendidikan Sultan Idris (UPSI)	20
Universiti Teknologi MARA(Shah Alam only)	70
Universiti Malaysia Kelantan (UMK)	7
Universiti Teknologi Malaysia (UTM)	44
Universiti Malaysia Pahang (UMP)	13
Universiti Malaysia Perlis (UniMAP)	15
Universiti Malaysia Terengganu (UMT)	17
Universiti Pertahanan Nasional Malaysia (UPNM)	6
Universiti Sains Islam Malaysia (USIM)	15
Universiti Sultan Zainal Abidin (UniSZA)	11
Universiti Teknikal Malaysia Melaka (UTEM)	18

Table 3: Number of Librarian in Private Universities

Institutions	Number of Information Professionals
Universiti Teknologi Petronas (UTP)	6
Universiti Tenaga Nasional (UNITEN)	7
Open University Malaysia (OUM)	8
Universiti Kuala Lumpur (UNIKL)	2
Multimedia University (MMU)	10

Source: As listed in http://perpun.upm.edu.my/myTO/.

Table 3 shows the number of Information Professionals reported to be working in Public Universities' libraries as of June 2013. From the information gathered, it shows that among the universities that were established for more than 2 decades, such as Universiti Teknologi MARA (UiTM), Universiti Malaya (UM), Universiti Utara Malaysia (UUM), Universiti Kebangsaan Malaysia (UKM) and Universiti Teknologi Malaysia (UTM) have employed much higher number of information professionals rather than those universities established later, such as Universiti Malaysia Sabah (UMS) and Universiti Malaysia Sarawak(UniMas) that exist not more than 16 years. This figure also revealed the number of collections provided by the academic library. As for example, the Tun Abdul Razak Library, UiTM has 600,000 sources of information with 126 information professionals.

B. Information Professionals and Challenges

As information professionals in this information age, there are many challenges that have to be faced. An Information professional is not only the person who identifies, organizes, process, evaluates or delivers the information, but he or she also performs the task aggressively. As such, Campbell (1993) suggested that, "library and information science faculties must press the frontiers of the field to prepare the librarians of the future. A smattering of computer courses is simply not sufficient. Increasingly, librarians need deep technical proficiency. Without it, we are a step removed from being able to conceptualize, design and re-engineer the information and knowledge delivery systems of the near future. We must rethink library education." Here, it is evidenced that an information professional must be technologically literate in order to 'survive' in this information age.

In an academic library, the importance of information professionals in providing an effective services to students, lecturers, faculty, administrators, staffs and researches is apparent. The major role of these professionals is to ensure that information is organized in a proper manner and to keep the users frequently updated on services offered. Other than that, they also ought to be actively using the updated technologies and to diversify the sources in order to fulfill users' maximum satisfaction.

The information professionals must therefore ensure that their level of service offered should satisfy every party that uses the academic library. According to Knox (1989, 373), "People outside each profession also have an interest in the quality of professional performance, because they are greatly affected by the decision made by professionals. Such decisions reflect, among other things, traditions, state-of-the-art, guidelines for practice within each nation, and the interest some people have in influencing the quality and distribution of professionals practice."

One of the major challenges faced by the information professionals is the rapid changes and revolutions in the technology. Holmes D. (1990) stated that information technology is a matter that explains about the technology which allows us to record, store, process and to gain back and send the information. It also explains about modern technology, such as the computer, fax machine, transmission, micrographic, telecommunication and microelectronic.

The wide and rapid expand of information technology (IT) has become a part of our life. A massive use of information technology in higher learning institutions especially in academic library have proven that the number of academicians and students are expanding. Therefore, IT is crucial as a source for information and cannot be taken lightly and IPs must be equipped with the required skills to enable them to use them effectively.

Graduates of library schools are expected to possess professional and technical skills, interpersonal skills, computer technology skills, and so forth. To ensure that these graduates meet the demands of the job market, they must be equipped with the relevant ICT competencies. These skills are essential in adding value to the librarian's professional roles as shown in figure 1.

Librarians' Role
1. Collaboration
2. Dissemination
3. Innovation
4. Organization
5. Collection

Figure 1: Librarians' Role

As librarians and information professionals in academic libraries, skills in using information technology to understand the students or users to access materials quickly and accurately as desired, are needed. Therefore, there is a need to understand students or users through information technology. There are some issues identified that need to be resolved. The issues are:

a. The need for sophisticated ICT should be emphasized;
b. The need to cope with the level of difficulty and complexity of ICT;
c. The need to redesign the information system by using new technology in the libraries;
d. IPs' need to monitor information on the increasingly sophisticated information network;
e. Legal implications of the activities of information exchange among the network will have an impact and awareness among IPs and users of information;
f. The roles of IPs are to instruct and shape users to master the use of ICT.

Programs, such as providing library's guideline tutor for users, orientation of the library or library information skills courses are some solutions to the issues mentioned. Other than that, the use of optical-fiber, the digital networks' development and utilization also play an additional part in overcoming the stated issues as well as to support the above efforts.

Bell and Shank (2004) defined an academic librarian as a "blended librarian" who combines the traditional skill set of librarianship with the information technologist's hardware/software skills, and the instructional or educational designer's ability to apply technology appropriately in the teaching-learning process. Basically, "blended librarian" is a concept which encourages academic librarians to grasp the significance of technology and has the strategies and techniques to deliver and are capable to support the teaching-learning process. Bell and Shank stated 6 principles of blended librarianship:

i. Taking leadership positions as campus innovators and change agents is critical to the success of delivering library services in today's information society
ii. Committing to developing campus-wide information literacy initiatives on our campuses in order to facilitate our ongoing involvement in the teaching and learning process is necessary
iii. Designing instructional and educational programs and classes to assist users in using library services and learning information literacy is absolutely essential to gaining the necessary skills (trade) and knowledge (profession) for lifelong success
iv. Collaborating and engaging in dialogue with instructional technologist and designers is vital to the development of programs, services and resources needed to facilitate the instructional mission of academic libraries.

v. Implementing adaptive, creative, proactive, and innovative change in library instructional can be enhanced by communicating and collaborating with newly created instructional technology/design librarians and existing instructional designers and technologist
vi. Transforming our relationship with the faculty requires that we concentrate our efforts to assist them in integrating technology and library resources into courses. A traditional role should also be used to improve student learning and outcome assessment in the areas of information access, retrieval, and integration.

Reference and information services are crucial in helping users in seeking information for specific purposes such as research and learning. Users will be assisted and taught how to obtain or seek information, use OPAC, indexes, abstracts and guideline to do research. Through this, it enables the users to optimize the use of information resources directly and maximizing the access to information.

Sumpeno (1994) stated that the reference and information services are the services which provide instructions or guidance. While Katz (2002), clarified that the reference and information services as a service to answer questions in an effective and efficient manner. Reference and information service is a service that has the element of providing direct assistance and professionalism. Services provided have some specific purposes, namely:

- to assist consumers in gaining the information
- to ensure that users are capable to exploit resources
- to customize the atmosphere in the library for much conducive environment for users
- to demonstrate the proper ways to make use of the library

Therefore, reference and information services can be described as services which provide assistance for users in information gathering process, whether for learning or research purposes. It is a service that requires the IPs to deal and communicate directly with users to ensure the required information is able to be retrieved quickly and accurately. This service covers any assistance to users in searching and retrieving or accessing the information. This process includes assistance for information gathering where users will be given intensive guidance to address topics such as cataloging, bibliography, indexes and abstracts; how to execute research in the library and material gathering from external sources in order to give maximum exposure to the users to optimize the use of information resources in the library.

This assistance can be categorized into 2 types; direct assistance and personal assistance. These references and information services are designed to assist users in obtaining information; ensure that users are able to exploit sources of information available in the library by; customizing the library's atmosphere and to educate users the right way to use the library and the resources therein. The Types of reference and information services is shown in figure 2.

Types of Reference and Information Services
1. Material Gathering
2. Compiling of Bibliographies
3. Indexing and Abstract Material
4. Time Information Services
5. Reader Advisory Services
6. Community Information Services
7. Educational Programs such as Library Orientation

Figure 2: Types of Reference and Information Services

In order to encounter the above matter, several important factors need to be addressed. These factors involve the users' understanding in 'answering question', 'gathering strategy and searching process', 'the personal qualities' as well as 'the ability to communicate well.' The approach for the librarian in fulfilling the users' needs may vary according to the users' background. Kluegel K. (n.a.) stressed on the theory that the need to create a user friendly system in meeting the expectations of users is crucial. Kluegel later mentioned that, "In an era when business enterprise are increasing their marketing efforts to sell information directly to users over the World Wide Web and the Internet, libraries that do not meet users' expectations of ease of use may step in ensuring a dynamic and vital future for librarians, libraries, and the users who rely on them." Wilson T. (n.a.) suggested that some forms of assistance should be given to consumers. He said, "I suspect that the books and journals will play a lesser role and the role of the librarians will be to provide a learning support system for the complex computer-mediated interactions that will take place among scholars and between teachers and learners."

C. Roles and responsibilities

The new roles and responsibilities of IPs can be summarized as follows:

i. Proactive in providing quality'reference and information services' to users. A reference librarian does not have to wait for someone else to give orders whenever the users ask for help.

ii. Enquiries or suggestions must be put forward to the administration's top level of libraries and information centers in meeting the needs of the users in consideration for budget and development of collection policy, in line with new electronic information resources;.

iii. Educational and training programmes at various levels to ensure that staff and patrons acquire the skills needed. "Modern Information Professional" helps people to work intelligently.

iv. Librarians need to acknowledge their users information seeking behavior;

v. Develop and use new assessment methods for electronic materials. The evaluation methods currently available may no longer be suitable in the future due to the rapidly growing information resources;

vi. Reference librarian as mediator or facilitator and not only the "intermediary" as today. Personal assistance provided is not only in a direct manner but rather expanding in terms of distance through communications networks as Internet via Web pages (World Wide Web).

vii. Provides information to help the settlement of consumer problems and not just answer to consumers' questions.

Abdoulaye and Majid (2000) conducted a survey among academic libraries in Malaysia entitled, "Use of Internet for reference services in Malaysian academic libraries." In this study, a large percentage of respondents agreed that as reference librarians with better computing and internet skills were likely to perform better than those lacking such skills. This was probably because a skillful librarian often needs less time and effort in providing internet-based services compared to unskilled staff. In fact, having good internet skills is important for all library professionals as more and more library operations are performed more effectively by using the internet.

A Reference librarian should be prepared to get information electronically. This skill ought to be made on hand either at 'pre-service stage' or 'in-service stage' as a result of the shifting forms of information to electronic. Konrad (1998) wrote that librarians need to be equipped with the necessary computer competencies in order to make intelligent decisions about what library users need to know, and with effective strategies for teaching those skills.

In academic libraries, the role of professionals in providing effective information services to students, lecturers and all users is vital. With the education and training provided, information professionals play a major part, not only as information managers but also as information provider for those who need it. Hence, information professionals need to first make an assessment on all aspects of planning before the implementation of integrated information systems and technology-based services materials and information gathering. These aspects include;

a. Environmental and related information in it.
b. Strategic Planning
c. Marketing / promotion
d. Economic information
e. Community Analysis

f. Conduct research in the library (library research)

Subsequently, higher learning institutions that offer programs related to information management should play an important role in providing skilled graduates in this. On the other hand, the organizations must also come out with an initiative to provide training for using and managing resources and information technology equipment to staff. For example, training should be made available for not only the information professionals, but also other staff as well, such as library assistants and clerks by the employer. This is important for the users as in case if the information technology professionals are not available for other tasks.

Demonstrations on the use of information technology should be arranged so that every party, either from management or information professionals are able to assess as well as to learn the skills to handle the latest technology. Through this, IPs have the advantage of making inferences and will be provided with the general idea about the benefits of information technology equipment and software before the services are rendered to the users. This is because IPs are key agents in these areas of services. Therefore, their comments and feedback should be taken seriously and followed by immediate action by the library management.

Training facility in the use of ICT for all IPs should be well planned, not only from the vendor of information technology systems and equipments, but also by the IPs and library management systems and equipments so that the information technology can be used to the maximum. Training should be focused by a set of specific outcomes or objectives established prior to the training. It focuses on a specific set of skills or knowledge and the trainer designs a tightly structured sequential set of learning experiences to direct participants to achieve the outcomes in the timeframe prescribed (Killion and Simmons, 1992, pp.2-3)

Apart from that, the use of IT in academic libraries requires the adjustment of work culture which needed to be adapted by the staff in any circumstances. On the other hand, the management should take charge in reviewing the work sheets and look upon relational matters. The adjustment requires revision and the organizational restructuring. For an academic library, the restructuring of the organizational structure is based on a concept model which consists of three components which are as follows: -

- **Information management**
  The first component manages a variety of collection and handling of information in several formats, while most activities focused on printed materials, information also conducted by using on-line, microfiche, CD-ROM, on-line databases and multimedia.

- **Designing an access system**
  This second component is designed to provide access to the system which focuses on the files related to the carrier of information, including electronic information file and the design of electronic networking to facilitate user access to reference materials and others.

- **Assess needs and provide consumer services**
  These components are associated with the use of the technology and user information as the main focus. For example, this component is built with user profile and it will be incorporated into the system to retrieve information. Most IPs and librarians need to be located in this section.

In general, information professionals are involved in the handling of information and access system. Information professionals who deal with the process of providing and evaluating services would often face problems. By working in the form of service group with respective user group, it may help the services to be handled in a systematic way.

Information professionals who are sensitive to their user group will produce a better quality of service because they are dedicated to a specific user. For example, Tun Abdul Razak library (PTAR) UiTM, the Automation Division focuses on the flow of information systems while Information Services Division gives its attention on the preparation and retrieval of information.

Users of information technology in academic libraries require information professionals to deal with computers in relatively long period during services. Therefore, to ensure the health of the employees, ergonomic

aspects of care and safety hazards at work (occupational safety and skin and eyes) should be taken into account. They should also be given a special time to relax the eyes while in the course or use of a computer.
In terms of the necessity of information technology equipment, it is proposed that each information professional is given a micro-computer with on-line access system in every workstation to be used for local job. For example, the connection with the local university networks systems, SIRIMLINK, and others. At local level, the workstations are connected to CD-ROM networking and operate as a terminal to the library computer system.

From the workstation, it can create a connection within the campus and nationwide. IPs can also access external data library and data exchange as well as to communicate through electronic mail (e-mail) within and outside country. Therefore, information professionals will be able to enhance creativity and their work quality through fast access to business data and information. However, autonomy given should be used wisely by the academic information professionals. Abusive manner should not be overlooked as it will present a bad personality as a professional. Regular surveillance at the workstation could avoid this abusive manner to happen.

Information professionals need to ensure that the appropriate position in placing the terminals, such as OPAC (Online Public Access Catalogue). Similarly, the position of Internet, multimedia, and databases are placed in a suitable location. Additional channels in the library are supposed to enable the cables to be attached with the use of information technology. Installation of additional cable outside the building should be added as to function for networking process with rural areas. Information professionals must also provide a back-up generator during power failure. UPS system should be made available as to function in avoiding data loss.

Important issues that often arise in the academic library involve the capability of the students to use the information technology equipments. This causes problems to the students, other users and the information professionals themselves as it could cause damage to the equipments. As a matter of fact, there are users who may find material or information gathering using information technology equipment practical. Since they are not equipped with the skill, the tendency of incomplete data gathering may happen. Other than that, it will also cause damage towards the computer software. Therefore, professional guidance by the information professionals is required. However, large amount of unskillful users at the same time, will burden the officers in charge to solve their problems. Therefore the duty officer in charge should seek for information professionals' helps or guidance in dealing with the users. Apart from the factors discussed, there are some additional factors which can lead to unavailability of information as follows: -

i. Irresponsible users tend to modify or use configuration to access pornographic material. This could cause damage and access failure to computer systems and information.

ii. The lack of ability to use on-line services..

iii. The lack of skills in identifying the precise keywords, method, index search or Boolean search.

iv. The lack of ability in using Multimedia which could also cause inaccessibility to the information and system failure.

IPs can be summarized as follows:

v. Proactive in providing quality 'reference and information services' to users. A reference librarian does not have to wait for someone else to give orders whenever the users ask for help.

vi. Enquiries or suggestions must be put forward to the administration's top level of libraries and information centers in meeting the needs of the users in consideration for budget and development of collection policy, in line with new electronic information resources;.

vii. Educational and training programmes at various levels to ensure that staff and patrons acquire the skills needed. "Modern Information Professional" helps people to work intelligently.

viii. Librarians need to acknowledge their users information seeking behavior;

ix. Develop and use new assessment methods for electronic materials. The evaluation methods currently available may no longer be suitable in the future due to the rapidly growing information resources;

viii. Reference librarian as mediator or facilitator and not only the "intermediary" as today. Personal assistance provided is not only in a direct manner but rather expanding in terms of distance through communications networks as Internet via Web pages (World Wide Web).

ix. Provides information to help the settlement of consumer problems and not just answer to consumers' questions.

IV. CONCLUSION

The role of information professionals in academic libraries is essential in line with the status of the higher learning institution itself as a center of excellence for various areas of knowledge. Information professionals, particularly librarians must equip themselves with adequate knowledge and competencies in order provide excellent services. Academic libraries in higher learning institutions are recognized as the back bone in providing information resources through various media, such as in print and electronic. As a result, this requires skilled information professionals, especially in the field of ICT in order to ensure that the flow of the information is at top speed and precise to the users for it to become a reality.

Keywords- Information; Information Professional; Academic Library and Malaysia.

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The Relevance of KOHA Open Source Software (KOHA OSS) for Teaching and Learning of Library and Information Science

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I. BACKGROUND OF THE STUDY

Historically, Library education in Malaysia dates back as early as 1955. It started with the formation of Malayan Library Group (MLG). At the time where there were no formal library education programmes established, MLG took responsibilities in organizing classes in librarianship to fill the gap and to enhance the library and information services in Malaya.

Formal library education in Malaysia only started in 1968 with the establishment of the Faculty of Information Management, Universiti Teknologi MARA, Malaysia. The faculty has been the main provider of manpower needs for the library and information science profession in Malaysia. In 1973 a new curriculum for a three-year course for a Diploma in Library Science was introduced by the faculty. In 1998, the faculty's Library Science programmes were revamped and have been given a new name, i.e: Library and Information Management. With this development, Universiti Teknologi MARA has become a very dominant institution in providing the education and training for the library and information science professionals in Malaysia that ranges from the diploma to bachelors, masters, and the doctoral degree levels.

KOHA is integrated library management software and was created and developed in 1999 by Katipo Communication for the Horowhenua Library Trust in New Zealand. Its first installation went live in 2000 and then started to get support from companies and evolved to be what it is now. KOHA has many features for managing all types of libraries and it is scalable from large to small academic libraries which are suitable for cost constraints situation among the small libraries and information centers. KOHA as an integrated library management software has a very comprehensive modules including basic and advanced modules. This is because of the fact that, KOHA is being built and maintained by a community of open source which consists of experts who are interested in the advancement of the software. Among the modules available are Acquisition, Cataloguing, Public Access Catalogue, Circulation, Serial Control and Systems Maintenance.

II. PURPOSE OF THE STUDY

The purpose of the study is to determine and describe the relevance of KOHA software for the teaching of library and information science programmes in the Faculty of Information Management of Universiti Teknologi MARA, Malaysia. Therefore this study will demonstrate the elements of library and information science that are embedded in the KOHA software that could support the teaching of library and information science concepts to the students. This study is deemed timely because of the availability of KOHA as open source software that could be acquired for free hence should be exploited for the benefit of the library and information science educators, students, libraries, and the profession at large.

III. METHODOLOGY

By leveraging the in house experts, the adoption of open source integrated library management system into the teaching and learning of library and information science program in the Faculty Information Management has been implemented in three phases over three years. The adoption started in 2009, where KOHA version 2.2.9 was installed at the faculty. In 2010, an Experimental Library for the faculty was physically formed and equipped with the collection of books and other types of materials. Subsequently in 2011, the Experimental Library installed KOHA version 3 as its integrated library management system. The system has been upgraded few times and presently the Experimental Library is using KOHA version 3.08.01. The Web Opac of the Experimental Library can be accessed at http://koha.uitm.edu.my and to date, 780 items have been cataloged and therefore can be accessed through the Web Opac. With this development, the researchers utilized and examined all the features available in KOHA software and consequently mapped them with all the content of the courses offered in the Bachelor of Science in Library and Information Management prgram offered by the faculty.

IV. FINDINGS

It is found that many of the courses offered in the Bachelor of Science in Library and Information Management program could be taught in relevance to KOHA software as the tool for teaching and learning. Most of the concepts of library and information science can be realized to the students by demonstrating the relevant features found in the KOHA software. This to mean that, features in KOHA software are designed and built with library and information science concepts. The concepts could be identified in the courses taught and trained in most of the library and information science schools, particularly in the Faculty of Information Management of Universiti Teknologi MARA, Malaysia. Some of the concepts are found in courses that are directly related to the utilization of KOHA software such as courses like the Digital Library, Information Technology in Library and Information Centers, Computerized Cataloging, and Computerized Textual Information Management. There are also many of the concepts found in the courses that are not directly related to the utilization KOHA software such as courses like the Indexing and Abstracting, Information Storage and Retrieval, and Reference Services. With this, the study has evidently shown the relevance of KOHA software for the teaching and learning of library and information profession and therefore library and information schools should capitalize on KOHA software as not only a tool for the teaching and learning of library and information science but also for its utilization as an integrated library management system to manage library of any types and sizes with minimal cost.

V. SIGNIFICANT/CONTRIBUTIONS

KOHA software as its nature as open source software should be exploited by library schools for teaching and learning because of its suitability as a tool to realize all the concepts of library and information science embedded in the courses offered. Students would be able to clearly comprehend how concepts are applied in out-of-class situation. As a spin-off, library community could be made to realize of the importance and the quality of open source software that can be very beneficial to their professional tasks in managing their libraries and information centers.

Keywords: Information Science and Library Programme; Integrated Library System (ILS); open source library system; higher learning institutions - case study; KOHA library system

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Strenghtening Leadership In Librarianship: A Case Study Of Asia-Pacific Region

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I. BACKGROUND OF THE STUDY

Traditionally a university library plays a significant role in supporting learning and research activities of a university. This fundamental role has remained unchanged but the way of handling those roles are changing accordingly. Despite, university libraries also have to complement other new roles in line with transformation of university vision, mission and environments. University library recently, become an important unit of university's information infrastructure and an active participant in the learning process of the particular study program (Norliya, 2011). Moreover, university library face higher pressure to demonstrate proven results in order to rationalize continued funding, particularly as university budgets reduce and economic conditions fall (Lynch, 2007). University library must prove that students and faculties utilised the infrastructure so that later they can justify the cost of library staff, facility, maintenance, and the resources to expand both physical and electronic collections (Hiller, Kyrillidou and Self, 2008; Lakos, 2007; Russell, 2008).

As the role of university libraries has changed, the role of information profession especially library director has gone through a similar transition. Library director have to learn, adjust and bring their organization successfully to the new environment according to university and stakeholder demand. Library director must become the star of the library to the institution they serve. Their duties also augment; they have to be strategic planner, strategic partner, fundraiser, defender of library value, library expert, politician, entrepreneurs, spokespersons and other skills beyond the traditional library school education (Long and Schonfeld, 2010; Dewey, 2005). Certainly, library director must acquire strong leadership personality and skills that could successfully manage the constant change as mentioned by Jordan (2012), that the pressures of having potential leader to run university library that can continue to be successful in the future and to cope with a threatened present are increasing. Without strong, dynamic and necessary leadership characteristics, library are certain to drift backwards into the future (Riggs, 2008).

However, in the university library world today there is a global issue on lacking of leadership among librarians. Jordan (2012) suggests that the lacking of leadership in university library is contributed by several factors such as retirement of baby boomer generation, who currently hold most of the leadership positions in libraries. Their retirement leads to vacancy as most senior librarians are not ready to be a leader (Mullins and Linehan, 2005). In fact O'Connor (2007) argues that professional librarians are not the best people to act as leaders within their profession. In addition, there are many researches which reported that senior librarians are lacking of several skills such as management and leadership (O'Connor, 2007) and even personal quality (Young, 2003). As the result, there has been much discussion about the role of the library and about what leadership characteristics needed by library leaders to successfully transform, propel, or at the very least, sustain the university library.

II. PURPOSE OF THE STUDY

This paper seeks to examine the leadership issue and perceived importance of leadership characteristics for university library director to determine the core leadership characteristics. The objective of this paper is to identify leadership characteristics that represent effective leadership for university library director. This is done by exploring and analyzing relevant literatures as the actual research is still at infancy stage.

III. METHODOLOGY

In order to provide a comprehensive background to understand the issue and current knowledge that highlighted on a particular topic, review of published evidence was commenced. Sources reviewed were published in academic journals, book chapters, peer-review studies, non-peer review studies, conference papers also theses and dissertations. In addition, authoritative web sites were also examined to provide an overview of the issue research.

To ensure current knowledge and evidence being used in this paper, the year of publication of the empirical paper and web site information must be from the year 2000 onwards. However, researcher also captured significantly relevant research or empirical papers which were published earlier than the year 2000. The literature review process is summarized in Figure 1 below.

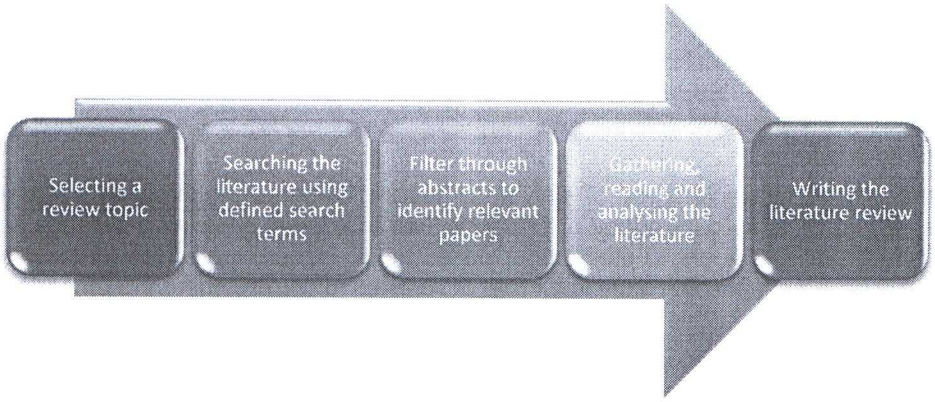

Figure 1: Literature Review Process

IV. FINDINGS

Thirty five empirical literatures have been reviewed and the finding showed a long list of characteristics required by library leaders in order to be an effective leader. It is also discovered that there are some consistent set of leadership characteristics established and needed by current and future library leaders. Most of the literatures reviewed suggest that effective library leaders must possess diverse personal traits qualities and utilize a wide range of skills and abilities if they hope to adjust and bring their organization successfully to the new environment according to university vision and mission. In personality: physical fitness, individual traits, experience and value are characteristics that influence the effectiveness of library leaders. The literatures also suggest there are several skills requires such as managerial skills, cognitive ability, strategic skills, interpersonal skills, business skills and emotional intelligence.

V. SIGNIFICANT/CONTRIBUTIONS

Effective leadership is vital in every organization in order to sustain and more importantly to remain relevant in a constantly changing expectation and highly competitive industry. Success will naturally and necessarily follow if we can just get the right person, the right leader, in the right job (Al Gini and Green, 2013). Therefore, by investigating the leadership characteristics for director of university libraries, researcher will develop a significant set of leadership characteristics based on literature and current professional opinions in the context of Asia-Pacific region countries. The significant of this study will be divided into three categories, namely:

A. Contribution to research

The literatures reviewed revealed that many libraries in the world are facing with leadership crisis. This is also applicable to our country. In the process of becoming a developed country by the year 2020, the role of university libraries is crucial in preparing knowledge worker. A strong leadership is essential for this purpose. This research would instigate more research on leadership in librarianship as tertiary education is an industry in Malaysia.

B. Practical Contribution

Understanding and knowing the characteristics of leader is the foundation of leadership (Al Gini and Green, 2013). Therefore, librarians must be able to identify the core leadership characteristics that are required in order to enable libraries' functions are aligned with the university's vision and mission. The research-informed set of significance leadership characteristics will be used as a guideline and foundation for current library leaders to identify and train their future leaders in continuing professional development programs and also can be used as conclusive information by university administrators when making hiring decisions. Hopefully, this study also will contribute to new findings that can be used by other types of libraries and organizations in preparing their future leaders.

C. Contribution to academic

By knowing the set of characteristics of university library leaders, teaching and learning institutions and professional bodies would be able to introduce or enhance their academic or training syllabus so that the new set of crucial leadership quality will be taught to students or participants. Hence, more effective leaders among librarians will emerge, which is vital in ensuring the significant role of libraries in underpinning the universities' goals continues.

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Measuring Service Quality of Universiti Teknologi MARA Puncak Perdana Library Using LIBQUAL

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I. BACKGROUND OF THE STUDY

This study focuses on library students as a yardstick for determining the level of service quality offered by the library. Academic libraries are facing two major challenges, namely global digital environment, and the increasing competition. Alternative approaches to measure quality emerge in the business sector. Specifically, through marketing research the SERVQUAL has evolved as an instrument in measuring service quality and what customers value as important. Modification of SERVQUAL model applied to measurements LibQUAL the quality of library services.

II. PURPOSE OF THE STUDY

The main objective of this research were to identify the level of service quality at Perpustakaan Tun Abdul Razak (PTAR) Puncak Perdana Library from customers' perspective and to determine most desired and critical dimension of quality services.

III. METHODOLOGY

LibQUAL was developed as an instrument to measure quality services by Zone of Tolerance. This instrument determines customers' expectations with the two-gap measures, the gap between the perceived service levels with the minimum service level (Service adequacy gap) and the gap of the perceived service level with the desired service level (Service superiority gap). Total number of 327 respondents participated, including a sample of 238 postgraduate and 89 undergraduate students of the Faculty of Information Management. The data revealed the different of minimum expectation, perception and expectation existed. The findings of this research was determined by the dimension that the "library as the place" as the most critical factor required for improvement across all the three dimensions of "LibQUAL" instrument, namely services affect, information control and library as place.

VI. LITERATURE ANALYSIS

Assessment of library service quality has been a questionable agenda as, according to (Kennel, 1995 in Nitecki, 1996) traditional measures of collection size, counts of use; number of staff and size of budget was no longer applicable. Niyecki (1996) believed that, measurement of libraries based solely on collections has become obsolete. Library managers should now assess service quality with a new approach that considers users' needs because the library's goal is to meet users' expectations (Calvert, 2001). Applying the customer-oriented instruments becomes increasingly very important.

One of these instruments was LibQUAL, derived from the Gap Theory of Service Quality, and the SERVQUAL instrument. According to Cook, Heath, Thompson and Webster (2003), grounded in the constructs of discrepancy theory, the SERVQUAL protocol itself applied a singular rule: through a series of 22 questions and the SERVQUAL instrument undertakes to measure the delivery of service quality across the following five dimensions:

i. reliability
ii. assurance;
iii. empathy;
iv. responsiveness; and
v. tangibles

It has been established as defining the service quality construct (Cook et al., 2003), LibQUAL was a web-administered library service quality assessment protocol that has been used around the world in hundreds of different types of libraries (Thompson et al., 2006). Specifically SERVQUAL measurement (developed by A. Parasuraman, Valarie A. Zeithaml and Leonard L. Berry, 1988) was widely adopted by academic libraries in the USA (Nitecki and Hernon, 2000). The other popular library service quality measurement tool was LibQUAL, developed using the SERVQUAL methodology (Lincoln, 2002) and widely used in the USA, Canada and Europe. Meanwhile, according to (Voorbij,2012) who reviewed the European research libraries found that almost half of the libraries which used an alternative instrument for user survey indicated that they would consider using LibQUALþ in the future. The main reasons for not using LibQUALþ earlier are the unavailability of a translation in their own language and unawareness of LibQUALþ. A research focus on whether LibQUAL take into account for student loyalty to a university college library?.(Helgesen, and Nesse, 2011) found that Library as a place was the most influential antecedent with respect to Loyalty, followed by Affect of service and finally Information control.

In this study, LibQUAL was used to examine the library service quality in the dimensions of service affect, information control and library as place of TunAbdul Razak Library(PTAR) Puncak Perdana. PTAR Puncak Perdana was established in 2009 and have developed it's infrastructure and mangemed by three professional librarians. However, services provided by library was less adequately satisfied by users, based on a number of complaints related to service quality that the university provided. For example, in Grinnel College Library (2007), there was complaint, regarding staff not giving professional services, particularly at the counter "help desk," the failure staff to provide timely information as required and those staff who were not approachable and helpful towards users in meeting their information needs. Additionally, library users were also less satisfied with the collection of journals, books, audio visuals, as well as the CDs and unsatisfactory Inter Library Loan (ILL), and ibrary websites were not user-friendly. Jean & Alexander (2002) stated that the position of library was not strategic as it is not accessible to encourage users to go to library. The aim of the PTAR Puncak Perdana library is to support library and information services to the UiTM community and it plays important roles in meeting the institutional goals which are education, training, and research. Hence, this study acts as catalyst to measure the quality of library services based on the expectation of its intended users based on LibQUAL instrument.

As LibQUAL is based on the Gaps Model and described by Hernon (2002) as a way to measure customer perceptions of service quality by identifying gaps, or differences between customer expectations and customer perceptions of service. According to Zaherawati & et al. (2009) stated that the service quality is very important to be practiced in academic library services because the users' satisfaction are based on the quality of service that they receive. The concept of service quality in a library was defined as the difference between library user's expectations and perceptions towards service performance (Mehran and Mostafa, 2008). Several studies, however, questioned the applicability of SERVQUAL dimensionalities to library services. For example, Edwards and Browne (1995) suggested that SERVQUAL's five dimensions may not hold for information services in a university library. They noted that dimensions should also address "technological features of service". In another study, Nitecki (1996) examined the applicability of SERVQUAL dimensions to a university library service through exploratory factor analysis. Examining three aspects of library service (i.e. interlibrary loan, reference, and reserve services), she found only three dimensions.

The LibQUAL+™ questionnaire aims to understand how users think about and evaluate library service quality. It is based on the idea that, if we want to improve libraries, we need to build upon a framework of users' perceptions and expectations (Kyrillidou and Hipps 2001). LibQUAL+™ measures library users' perceptions of service quality and it addresses three service quality dimensions that have been found to be valid in previous assessments of library services. Noted that the term of "service affect" and "affect of service" are the same thing with the same meaning only the jargon used are not the same. Table 1 shows application of LibQUAL in academic libraries measure service quality.

Table 1: Application of LibQUAL in academic libraries to measure service quality adapted from Siti Fatimah (2008)

Years	Universities
LibQUAL 2000	University of Texas, Austin
LibQUAL 2001	Washburn is a Carnegie Master's University
LibQUAL 2002	McGill University Libraries
LibQUAL 2003	Thamassat University
LibQUAL 2004	University Park Student
LibQUAL 2004	The Penn State University
LibQUAL 2006	University of Notre Dame
LibQUAL 2006	George Mason University Libraries
TQM in Library 2006	Gulbarga University

Measurement of service quality by using LibQUAL was one of the alternative methods to ensure whether the service provided by PTAR was achieved what user expected from the library. It is based on the concept of service quality in the library, and was defined as the difference between library user's expectations and perceptions towards service performance (N.Mehran and Mostafa, 2008). Based on this definition, the service quality is about what academic library users received from academic library services that lead to their behavior and satisfactory towards the services, whether it is good or bad. Moreover, (Quinn, 1997) states "the means by which the library can justify its contribution is by delivering excellent user services." Hence, it must have an approach to measure the library services' performance in the frame of expected by their intended users.

A. *Problem Statement*

Library is an important contributor to the vision, mission and goals of UiTM. This means that the library needs to demonstrate how well it is doing and the extent to which users benefit from the library services (De Jager, 2002).The PTAR Puncak Perdana Library aims to provide high quality library and information services to a user, and needs to determine whether it is reaching its aims and objectives. One way in which this can be achieved is through assessment and according to (Ebbinghouse, 1999) "few libraries exist in a vacuum, accountable only to themselves. A larger context for assessing library quality, that is, what and how well does the library contribute to achieve the overall goals of the parent constituencies?"Services provided by the library were regarded as not satisfactory and this calls for further improvement towards quality services. As stated by Siti Fatimah (2008) and Mohd Nazrul & Shahabudin (2008) there is a problem in meeting users' expectation on library services as these users come from different social, information needs, and academic field background. In addition, according to Shaheen (2001), quality services need research from day to day because of increasing growth of students volume of exist year by year. However, students' expectation on services may be different and change, and this needs a concerted action from the library. Thus, this quality concept referred to satisfaction perspective of users in terms of effective way getting the services provided by the library. The application of quality concept can be achieved when the customers' desire that the effective use of the facilities or services will be fulfilled, and their satisfaction has achieved Maizan Baba & Hishamuddin Mohd. Ali (2005).Norliya & Khasiah (2009) have done a study based on users' perceptions on the contributions of UiTM libraries in creating a learning environment and one of the libraries involved was PTAR Puncak Perdana Library. The results of the study revealed that the library users were only quite satisfied with the services, collection/ information, and activities of the library as a whole. The findings also showed that users were least satisfied with the attitude of the library staff compared with other aspects of the library evaluation.

The mission of the PTAR Puncak Perdana is to improve library services through physical resources, knowledge management and current technology in support of learning and research through delivery of quality services and conducive environment for UiTM communities, how PTAR knows which one of the services is crucially needed to be improved? According to Ashok Kumar Sahu (2006) traditionally the quality of an academic library has been described in terms of its collection and measured by the size of the library holdings and different measures of its use. However, this traditional method no longer fulfills the goals for successfully meeting the user's demands for information, hence measuring library service through LibQUAL is needed.

B. Objectives of Study

This study attempted to achieve the following goals:

i. to determine the level of library service quality satisfaction by PTAR Puncak Perdana, based on the perceptions' minimum, desired and perceived service level of post-graduate and undergraduate students' Faculty of Information Management in three main dimensions of LibQUAL, which were service effect, information control and library as a place

ii. to identify the undergraduate and post graduate student's general satisfaction level on services by PTAR Puncak Perdana Library

iii. to determine the most critical library service and the most critical dimension of library service quality for postgraduate and undergraduate students of Faculty of Information Management.

The target population of this study was the postgraduate and under graduate students Faculty of Information management at Universiti Teknologi Mara (UiTM). The sample for the study was comprised of 327 postgraduate and undergraduate students, from the total number of population of 2114 students, (Faculty of Information Management, 2011). The scope of the study focuses on library services quality measurement, based on the minimum expectation, desired level quality and quality perceived by students towards three dimensions include, service affect, information control and library as a place based on LibQUAL instrument. A survey method was used to carry out the study. Questionnaire design was based on LibQUAL instrument of Davis & Kyrillidou (2009) in *Procedures Manual of LibQUAL*. There were 34 questions in the questionnaire for to complete this study, 33 were closed ended question, and one was open ended question. As the questionnaire design was the base on the LibQUAL conceptual model, there were 22 statements that seek to measure three dimensions; which are service affect, information control and library as a place. After SERVQUAL was rigorously re-grounded for academic libraries through a meticulous qualitative phase (Cook and Heath 2001), the LibQUAL instrument of 22 questions emerged to evaluate the construct of service quality in a library environment. Initially, descriptive statistics such as mean, median, and the standard deviation from each variable was run to get overall view of responses from the respondents. Methods of analysis that were used in this survey were descriptive, frequency and gap analysis. Descriptive analysis can extract the mean value in order to calculate for analyzed the gap analysis (Zone of Tolerance). The last analysis is reliability analysis to determine reliability of the results by using coefficient (cronbach's) alpha

VII. FINDINGS

A. Demographic Information

The demographics information of respondents analyzed from Part A of questionnaires.

Table 2: Gender of Respondents and Programmes

Gender	PROGRAMMES								Total
	IM220	IM221	IM222	IM223	IM780	IM770	IM772	IM771	
Female	80 29.3%	31 11.4%	32 11.7%	58 21.2%	1 .4%	31 11.4%	31 11.4%	9 3.3%	273 83.49%
Male	10 18.5%	14 25.9%	5 9.3%	8 14.8%	0 .0%	6 11.1%	11 20.4%	0 .0%	54 16.51%
Total	90 27.5%	45 13.8%	37 11.3%	66 20.2%	1 .3%	37 11.3%	42 12.8%	9 2.8%	327 100.0%

Table 2 shows the relationships between genders of the students from different programmes. From the total number of respondents of 327, 273 (83.49%) were female, while 54 (16.51%) were from male. The largest number of respondent was from (Library and Information Management) IM220 programme and the smallest respondent group was IM780. Table 5.1 clearly shows the top four respondents were from programmes IM220 (27.5%), (Resource Centre Management) IM223 (20.2%), (Information System Management) IM221 (13.8%), thirty one respondents from the Msc Information management (IM770), (II.4%).and IM772 (12.8%).

B. *Library Service Quality Satisfaction*

The level of library service quality satisfaction by PTAR Puncak Perdana based on the perceptions' minimum, desired and perceived service level of post-graduate and undergraduate students' in three main dimensions of LibQUAL, which were service effect, information control and library as a place. All of these dimensions were represented by 22 statements/ items of LibQUAL. This part aims to analyze the mean score of the minimum, desired and perceived level service of 22 LibQUAL items for undergraduate, post graduate students and both groups. This data analysis was important to indicate the minimum, desired and perceived level of service that the particular group would find acceptable. Table 3 represents the minimum level library service, Table 4 represents the desired level library service and lastly was table 5 presents the desired level from postgraduate and undergraduate respondents.

Table 3: Analysis of Mean Score of the Minimum Services Level of 22 LibQUAL items for Both Groups (Undergraduate and Post Graduate Students)

Item	Services of PTAR Puncak Perdana	Mean
1	Employees who instill confidence in users	5.91
2	Giving users individual attention	5.96
3	Employees who are consistently courteous	6.19
4	Readiness to respond to users' questions	6.15
5	Employees who have the knowledge to answer user questions	6.23
6	Employees who deal with users in a caring fashion	6.10
7	Employees who understand the needs of their users	6.01
8	Willingness to help users	6.17
9	Dependability in handling users' service problems	6.07
10	Making electronic resources accessible from my home or office	6.16
11	A library Web site enabling me to locate information on my own	6.28
12	The printed library materials I need for my work	6.16
13	The electronic information resources I need	6.43

14	Modern equipment that lets me easily access needed informatic	6.39
15	Easy-to-use access tools that allow me to find things on my own	6.36
16	Making information easily accessible for independent use	6.13
17	Print and/or electronic journal collections I require for my work	6.12
18	Library space that inspires study and learning	6.31
19	Quiet space for individual activities	6.31
20	A comfortable and inviting location	6.32
21	A getaway for study, learning or research	6.32
22	Community space for group learning and group study	6.40

As shown in on table 3, the mean score for each of 22 items in LibQUAL for library services provided by PTAR Puncak Perdana for both groups of respondents is shown. Both groups agreed that the item number 12's (*The printed library materials I need for my work*) have a highest mean score than the other items with the mean score of 6.43. This score followed by the mean score of the item 22 (*statement of community space for group learning and group study*) with the mean score of 6.40. It can be concluded that the acceptable service level of both services was higher than the other items and need to give more attention compare to the other services. Table 4 below, clearly indicates that the highest mean score of 22 items in LibQUAL statements for library services provided was item number 18 (Library space that inspires study and learning) with mean score of 7.69. Meanwhile the lowest mean score, which means the less desired services by the user was item number 16 (Making information easily accessible for independent use) with mean score of 7.30.

Table 4: Analysis of Mean Score of the Desired Services Level of 22 LibQUAL Item for Both Groups

Item	Services of PTAR Puncak Perdana	Mean
1	Employees who instill confidence in users	7.38
2	Giving users individual attention	7.45
3	Employees who are consistently courteous	7.43
4	Readiness to respond to users' questions	7.50
5	Employees who have the knowledge to answer user questions	7.47
6	Employees who deal with users in a caring fashion	7.30
7	Employees who understand the needs of their users	7.45
8	Willingness to help users	7.46
9	Dependability in handling users' service problems	7.38
10	Making electronic resources accessible from my home or office	7.60
11	A library Web site enabling me to locate information on my own	7.55
12	The printed library materials I need for my work	7.54
13	The electronic information resources I need	7.63
14	Modern equipment that lets me easily access needed information	7.59
15	Easy-to-use access tools that allow me to find things on my own	7.56
16	Making information easily accessible for independent use	7.30
17	Print and/or electronic journal collections I require for my work	7.45
18	Library space that inspires study and learning	7.69
19	Quiet space for individual activities	7.67
20	A comfortable and inviting location	7.65
21	A getaway for study, learning or research	7.63
22	Community space for group learning and group study	7.84

Table 5: Analysis of Mean Score of the Perceived Services Level of 22 LibQUAL Items for Both Groups (Undergraduate and Post Graduate Students)

Item	Services of PTAR Puncak Perdana	Mean
1	Employees who instill confidence in users	5.54
2	Giving users individual attention	5.72
3	Employees who are consistently courteous	6.28
4	Readiness to respond to users' questions	6.13
5	Employees who have the knowledge to answer user questions	6.01
6	Employees who deal with users in a caring fashion	6.19
7	Employees who understand the needs of their users	5.88
8	Willingness to help users	6.21
9	Dependability in handling users' service problems	6.15
10	Making electronic resources accessible from my home or office	5.93
11	A library Web site enabling me to locate information on my own	6.61
12	The printed library materials I need for my work	6.02
13	The electronic information resources I need	6.50
14	Modern equipment that lets me easily access needed information	6.42
15	Easy-to-use access tools that allow me to find things on my own	6.36
16	Making information easily accessible for independent use	6.39
17	Print and/or electronic journal collections I require for my work	6.33
18	Library space that inspires study and learning	6.07
19	Quiet space for individual activities	6.04
20	A comfortable and inviting location	6.52
21	A getaway for study, learning or research	6.10
22	Community space for group learning and group study	5.48

Illustrated by table 5, most of the surveyed respondents accepted that the three highest mean score of the perceived level were the item number 11(*A library Web site enabling me to locate information on my own*), item number 20 (*A comfortable and inviting location*) and item number 13 (*The electronic information resources I need*). This revealed that PTAR Puncak Perdana have provided a good library website, enough electronic information and have a very strategic location for respondents to go to the library.

On the other hand, both groups agreed that the lowest mean score of the perceived level of services was the item number 22(*Community space for group learning and group study*) with the mean score of 5.48. This might be because users were not satisfied with the inadequate space to conduct a group discussion as the library at the PTAR Puncak Perdana does not provide any discussion room.

C. Analysis of General Satisfaction

The second objective of this study was to identify the undergraduate and post graduate students' general satisfaction level on services by PTAR Puncak Perdana.

Table 6: Overall Students' General Satisfaction Level towards Services by PTAR Puncak Perdana

	Library Services General Satisfaction	Mean	Satisfaction Level
1	The library helps me to stay abreast of development in my field (s) of interest	6.42	Satisfy
2	The library aids my advancement in my academic disciplines	6.55	Satisfy
3	The library enables me to be more efficient in my academic pursuit	6.50	Satisfy

4	The library helps me distinguish between trustworthy and Untrustworthy information	6.39	Satisfy
5	The library provides me with information skills I need in my work or study	6.57	Satisfy
6	In general, I am satisfied with the way in which I am treated at the library	6.16	Moderate satisfy
7	In general, I am satisfied with the library support for my learning, research and/ or teaching needs	6.20	Satisfy
8	How would you rate the overall quality of the service provided by the library	6.42	Satisfy

Table 6 represents the overall general satisfaction towards library services provided by PTAR Puncak Perdana. Although the post graduate and under graduate students agreed that the library had provided them with enough information skills they need in their study, both of these groups of respondents show that they not satisfied with the way in which they had been treated at the library. The mean score for the overall quality of the service provided by the library for both groups of respondents was 6.42, meaning that they were satisfied with the statement.

Analysis of the most critical library service and the most critical dimension of library service quality
This analysis aims at answering the third research question, "What are the most critical library service and the most critical dimension of library service quality for postgraduate and undergraduate students of Faculty of the Information Management?" The following table shows the mean score of minimum, desired, perceived and quality gap on types of services of LibQUAL dimensions respondents of postgraduate students, under graduate students and overall respondents (postgraduate and undergraduate). In order to evaluate the most critical library services and the most critical dimensions of LibQUAL, it used gap analysis concept whereby to differentiate between user perception on any services and minimum level and desired or expectations level of quality services that they needed. LibQUAL in gap analysis for library service quality were the service adequacy gap and service superiority gap. These were:

- *Service Adequacy Gap*
  Service adequacy can be calculated by deducting the mean score of perceived and minimum score for each question and group of users. Score of service adequacy is to show the minimum level of library service that is acceptable. Through this formula, the library can evaluate distance between minimum of quality with perceived service performance. If the mean gap is positive, means the library has achieved the level minimum of customer expectations.
- *Service Superiority Gap*
  Service superiority can be calculated by deducting the mean score of perceived and desired for each question and group of users. Score of service adequacy shows the level of services that need be provided by library and the parameter that the library must provide to achieved what customer wants. To define the Zone of Tolerance, each service mean needs to be calculated based on scale score by customers. The score were based on minimum, perceived and desired library service quality.

Table 7 below indicates the overall LibQUAL service quality to show the "Service Adequacy Gap" to determine a gap between the perceived levels of service with the minimum level of service, while "Service Superiority Gap" determines a gap between the perceived service levels with the desired service level. If negative the results indicate that the level of service was not enough to reach the minimum level of service or desired service level. Three highest gaps determine the service, not reached its minimum level where items number 22, 1 and 19, with "Service Adequacy Gap" level were -0.92, -0.37 and -0.27 representative. Both groups agreed that the three highest level services which were over the level of minimum where items number 11, 16 and 17.

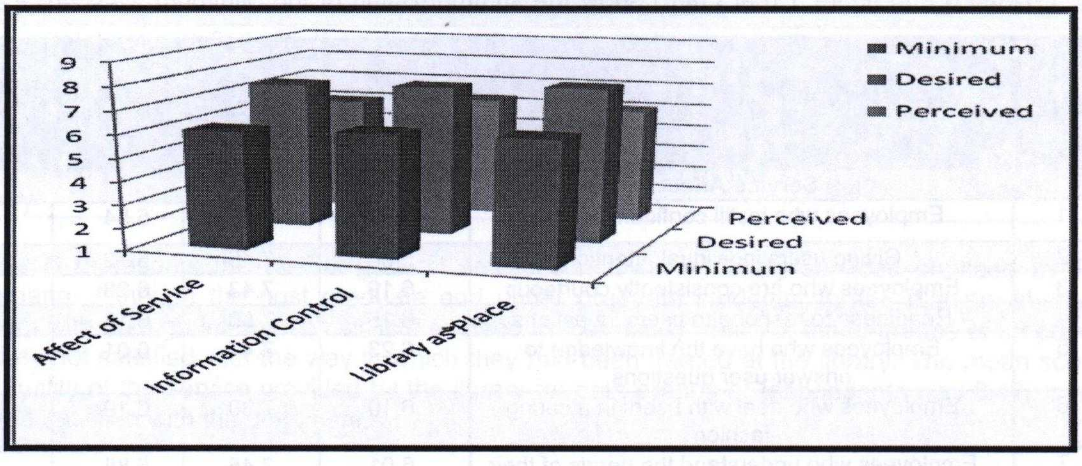
Table 7: Mean score of Minimum, Desired, Perceived and Quality Gap on Types of Services of LibQUAL Dimensions Respondents of Undergraduate and Postgraduate Students

Table 8 and figure 1 (bar chart) show the summarization of the Minimum, Desired, Perceived and Quality

	Services of PTAR Puncak Perdana	Minimum	Desired	Perceived	Service Adequacy Gap	Service Superiority Gap
Service Affect						
1	Employees who instill confidence in users	5.91	7.38	5.54	-0.37	-1.84
2	Giving users individual attention	5.96	7.45	5.72	-0.24	-1.73
3	Employees who are consistently courteous	6.19	7.43	6.28	0.09	-1.15
4	Readiness to respond to users' questions	6.15	7.50	6.13	-0.02	-1.37
5	Employees who have the knowledge to answer user questions	6.23	7.47	6.01	-0.22	-1.46
6	Employees who deal with users in a caring fashion	6.10	7.30	6.19	0.09	-1.11
7	Employees who understand the needs of their users	6.01	7.45	5.88	-0.13	-1.57
8	Willingness to help users	6.17	7.46	6.21	0.04	-1.25
9	Dependability in handling users' service problems	6.07	7.38	6.15	0.08	-1.23
Information Control						
10	Making electronic resources accessible from my home or office	6.16	7.60	5.93	-0.23	-1.67
11	A library Web site enabling me to locate information on my own	6.28	7.55	6.61	0.33	-0.94
12	The printed library materials I need for my work	6.16	7.54	6.02	-0.14	-1.52
13	The electronic information resources I need	6.43	7.63	6.50	0.07	-1.13
14	Modern equipment that lets me easily access needed information	6.39	7.59	6.42	0.03	-1.17
15	Easy-to-use access tools that allow me to find things on my own	6.36	7.56	6.36	0	-1.2
16	Making information easily accessible for independent use	6.13	7.30	6.39	0.26	-0.91
17	Print and/or electronic journal collections I require for my work	6.12	7.45	6.33	0.21	-1.12
Library as Place						
18	Library space that inspires study and learning	6.31	7.69	6.07	-0.24	-1.62
19	Quiet space for individual activities	6.31	7.67	6.04	-0.27	-1.63
20	A comfortable and inviting location	6.32	7.65	6.52	0.2	-1.13
21	A getaway for study, learning or research	6.32	7.63	6.10	-0.22	-1.53
22	Community space for group learning and group study	6.40	7.84	5.48	-0.92	-2.36

Gap on each of LibQUAL Dimensions for postgraduate and undergraduate students based on service affect information control and library as place.

Table 8: Mean of Minimum, Desired, Perceived and Quality Gap on each of LibQUAL



Based on the above table 8 and figure 1 from the perspective respondents of postgraduate and undergraduate students, the most critical dimension and the most needed improvement was the dimension of the library as a place as it indicated the highest gap of both Service Adequacy Gap and Service Superiority Gap with the mean score were -0.59 and -1.88 among other dimensions. These were followed bu service affect and information control LibQUAL dimensions.

As indicated by the data in table 7, the mean score for the minimum, desired and perceived level revealed the two-gap quality. It shows that the "service superiority gap" (perceived – desired) for all statements in each type of services provided by the library is negative. It means that the level of service quality is not satisfying the respondents' expectations (desired). However, "service adequacy gap" (perceived–minimum) is positive. As a conclusion, library quality services do not fulfill respondents' expectation (desired) and most of the library service are not able to reach the level of minimum expectation of its customers. PTAR Puncak Perdana library needs to improve their library services and gives it top priority to the library as a place dimension followed by service affect, and the last was information control LibQUAL dimension.

Zone of Tolerance of 22 LibQUAL items and the zones of tolerance for the different dimensions in the LibQUAL study

This radar chart (figure 2) shows the aggregate results of the core survey questions. Each axis represents one question. A code to identify each question was displayed at the outer point of each axis. This radar chart they were grouped into sections: service affect, library as place, and information control. The service is not within the tolerance zone when the actual or perceived service score goes under the score of minimum service level. To identify the zone of tolerance, the mean values of the three service levels, i.e. minimum, perceived and desired services are compared by individual group and all users.

Dimensions	Minimum	Desired	Perceived	Service Adequacy Gap	Service Superiority Gap
Service Affect	6.09	7.42	6.01	-0.08	-1.41
Information Control	6.25	7.53	6.32	0.07	-1.21
Library as Place	6.33	7.70	6.04	-0.29	-1.65

- *Zone of tolerance*
- Perceptions vs. expectations
- Meeting users' minimum expectations
- Approaching users' desired expectations

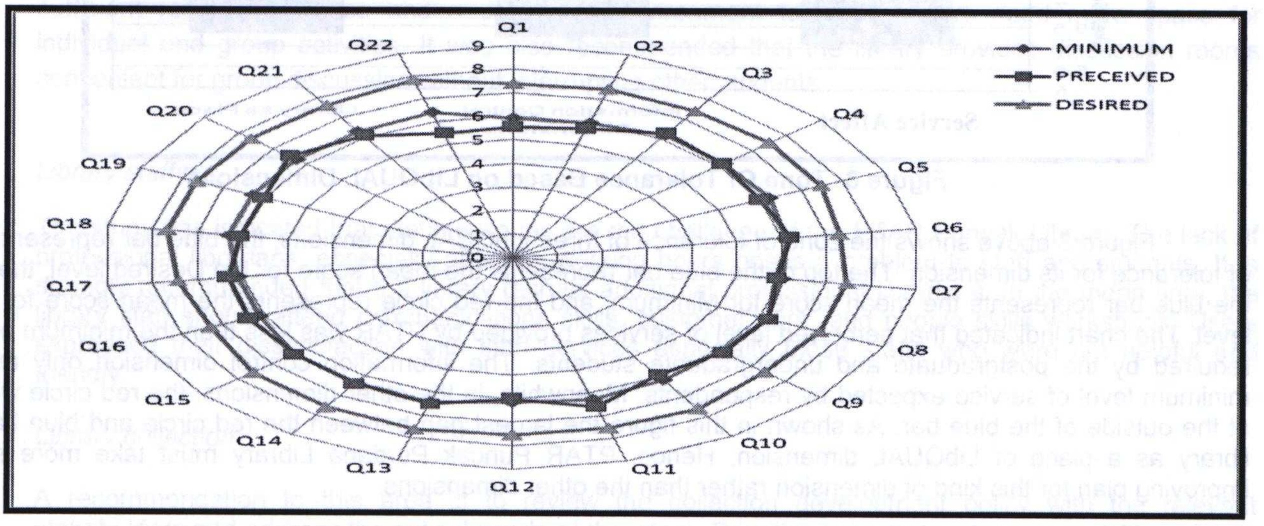


Figure 2: Zone of tolerance in the form of radar chart represent LibQUAL score for 22 items

Figure 2 shows the zone of tolerance in the form of the radar chart, representing LibQUAL score for 22 items representing three dimensions of services affect, information control and library as place for all users. This figure shows the overall range between the minimum level, perceived level and desired level. Basically, based on the results, there were no services that reach the desired level of services required by users. The chart also indicates the level of perceived services was placed outside of distance between minimum and maximum users' expectations. The service is not within the tolerance zone when the actual or Perceived Service score goes under the score of Minimum Service Level. There are 10 items: 1 (Employees who instill confidence in users), 2 (Giving users individual attention), 55(who have the knowledge to answer user questions), 7 (Employees who understand the needs of their users), 10(Making electronic resources accessible from my home or office), 12(The printed library materials I need for my work), 18(Library space that inspires study and learning), 19(Quiet space for individual activities), 21(A getaway for study, learning or research), 22(Community space for group learning and group study) outside zone of tolerance. In other words, library performance did not complete the users' expectations and must make more reforms. This figure shows four levels of users' expectations and level of perceived services in each of the propositions of LibQUAL model in the total sample. It was concluded that library space was not appropriate for mass communication, learning and study group as quoted item 22 that this item was the lowest from its zone of tolerance. In this section, perceived services are not resolving the minimum users' expectations. The data revealed that libraries need to give more attention to the creation of quiet places for individual activities (item 19). The radar chart shows that library managers should create an appropriate space for group and individual activities for satisfying users in the best possible way. Moreover the library must improve all the items that not located in zone of tolerance.The next figure describes the Zone Of Tolerance each of the LibQUAL Dimensions, including services affect, information control and library as place in form of bar chart with indicator of a red circle indicates the mean score perceived level.

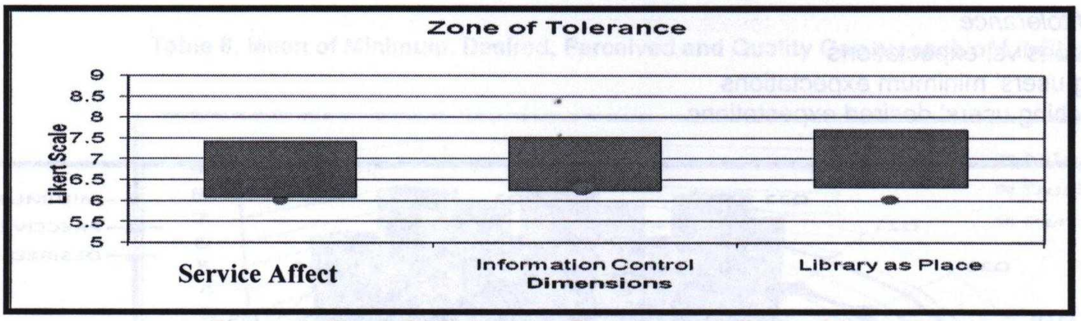


Figure 3: Zone Of Tolerance Based on LibQUAL Dimensions

Figure 3 above shows the zone of tolerance of three LibQUAL dimensions, the blue bar represents the zone of tolerance for its dimension. The top of the blue bar represents the mean score for the Desired level, the bottom of the blue bar represents the mean score for Minimum, and the red circle represents the mean score for perceived level. The chart indicated that perceived level of services provided by PTAR was less than the minimum of level that required by the postgraduate and undergraduate students. The information control dimension only reached it's minimum level of service expected by respondents. Meanwhile, in the other dimensions, the red circle was located at the outside of the blue bar. As shown in this figure the largest gap between the red circle and blue bar was the library as a place of LibQUAL dimension. Hence, PTAR Puncak Perdana Library must take more serious on improving plan for this kind of dimension rather than the other dimensions.

D. Reliability of LibQUAL instrument

Most of the previous studies on the reliability of the LibQUAL instrument have shown the evidence of a stable factor structure and internal consistency of the scores across multiple contexts. One of them was done by Kyrillidou & et al. (2003). Reliability coefficients were usually greater than the recommended level of 0.7, and the factor structure replicated well when used in different library settings. Table 9 shows the reliability test of the minimum, desired and perceived service level for postgraduate, undergraduate and overall respondents. Those reliability tests resulted with the "Alpha value" of above 0.7, indicating that the results were reliable and valid.

Table 9: Reliability Test of the Perceived Level for Each Dimension for Undergraduate and Post Graduate Students

Dimension	"Alpha" value
Service affect	0.933
Information control	0.881
Library as Place	0.827

It can be concluded that overall, each of LibQUAL dimension has reached the minimum of 0.7 and above, indicating that results of this study were reliable and valid to represent the respondents of this study.

E. Recommendations for PTAR Puncak Perdana Library

Based on the findings and conclusions of the study, it is recommended that the PTAR Puncak Perdana Library proposed to the library management the followings:

- *Library facilities*

  As the results show the most critical services and the most critical LibQUAL dimension was library as a place. Hence, the results of the survey revealed the importance of the library facilities and the environment which have the greatest impact on the users. The library space was insufficient to accommodate the increasing enrolled number of students at PTAR Puncak Perdana Library. The small space increases the noise levels, especially during tests and examinations seasons. It is highly recommended that the library managers and the University administration embark on a practical project to resolve the space problem and make better use of the existing space in the library. It is important to take into account that the number of users is growing each year and the library has to accommodate sufficient resources, space and a conducive environment to users. Users need more space for individual and group activities. It was also recommended that the library provides discussion rooms convenient for group discussion without interrupting other students.

- *Library staffing*

The study has indicated that staffing issues are the challenge at the PTAR Puncak Library. The lack of professional librarians, especially after the working hours poses a problem to staff and students. It is strongly recommended that the library recruits additional professional librarians. In the mean time, the library staff should attend communications skills, customer care, and people skills workshops. Users expressed their dissatisfaction with staff services especially those staffs who were not helpful and friendly.

- *Library collection*

A recommendation to this area is to review the collection development policy with the relevant stakeholders and address the critical needs of the users. Priorities need to be given on revisiting certain services. For example, managers should embark on an information needs assessment in order to establish the type of materials that is in demand. Outdated books must be weeded out and subject librarians must inform management concerning the gaps in the collection and the need for the latest editions. Acquisition of books through the publishers directly is another mechanism to get more value from the funds available. Librarians must keep abreast with the curriculum changes in the faculties in order to make appropriate recommendations to the acquisitions department. Financial constraints are a barrier but careful budgeting and planning can make it possible to improve the current collection development.

- *Information retrieval*

Many users have expressed their concern regarding information retrieval. They needed help with retrieving the appropriate sources of information and were totally lost in the library. They were not well equipped to search the Online Public Access Catalog (OPAC) which is simply a bibliographic tool. Users do not have sufficient information skills to achieve their results independently. It is highly recommended that the library conduct a compulsory credit course in information literacy programme. This programme could train users on searching skills, retrieving and evaluating print and electronic media and will ultimately encourage users to maximize the resources of the library. Librarians will have to keep abreast with the current teaching and learning methodologies and focus on skills transfer in a structured platform.

- *Access to electronic resources*

It is recommended that professional librarians investigate this critical area of access to electronic sources, since many users are not able to effectively navigate to locate information for their research in the simplest and most efficient way. Training sessions for staff and students must regularly be conducted to ensure proper skills are acquired by users.

- *Access to information*

It is also recommended that the library opening hours during weekends be reviewed as well. Students must be heard and their views are important for the library to evaluate its services. It is recommended that a student representative/s be part of the library committee. In this way, more comments, suggestions and needs will reach the library for the overall improvement and success as a user-centred library services.

The result produced through this study could be used to improve library and information services and for the betterment of the library profession. It could also serve as a contribution to the body of knowledge in the area of user satisfaction on libraries' contribution and their services to users.

VIII. CONCLUSION

As a conclusion, the post graduate and undergraduate students' perception on service quality provided by PTAR Puncak Perdana is complex and they have their own perceptions, depending on situation and surrounding that have been through past and nowadays. This study consists of service quality that applied the gap LibQUAL model. This model is an analytical approach in measuring differentiate customer perceived and desired on providing service quality. The analysis and results show that the services quality level on the each aspects which determine at PTAR Puncak Perdana overall is less satisfied. This is based on the comments and suggestions from some of the respondents. However, the level of customer satisfaction on services provided by PTAR Puncak Perdana show that the users were likely satisfied. PTAR Puncak Perdana Library needs to improve and enhance the services and be sensitive to the needs of their customer. It must take into consideration the quality from the students' perspective and not from management perspectives only. PTAR Puncak Perdana also must identify advantages and disadvantages of service quality aspects at an organization, thus they more easier classified amount of resources in contribute and enhancement of service quality to fulfill the need of their users. As the worst dimension of LibQUAL was library as place, the library management must take priority attention to this kind of service provided by PTAR Puncak Perdana in providing a convenience place for users to do their own activities independently. The results of the study could assist the PTAR library authority to improve their services and find out its weaknesses and strengths in the various aspects of service quality to improve in the respective sections. The library should pay attention to its entire service to develop those services identified as problematic. Library must give full attention for the services that were not located in the area of zone of tolerance especially the 10 items that were stated earlier.

Keywords- Service quality; Libqual; Measuring library service; Malaysia

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Assisting Female Artists and Architects: A User Centered Approach Adopted by Design Library, University of Dammam, KSA

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I. BACKGROUND OF THE STUDY

University libraries intend to provide support in teaching and research. In past three decades many major changes in types of resources and applications has changed the face of university librarianship. It is merely now remembered as a classification of resources or general reference services. Access to information and resources is available to higher education seekers and providers through hand held devices 24/7. In the age of access, it is a general assumption that digital resources and mobile access has reduced the usage of library hence this is a challenge for libraries to play their role within academic institutions.

Provision of services with electronic resources is required to be subject specific, audience targeted and outcome oriented. The outcomes might be rapid usage of the information resources for academics in both teaching and learning or research production. These approaches are more likely to involve (audience) and get involve (information provider).

Deanship of Library Affaires in University of Dammam, Kingdom of Saudi Arabia has a vast range of resources and facilities for its about 40,000 faculty and students. These electronic and printed resources are on different subjects. Deanship of Library Affaires provide access and services via its three central libraries, 14 satellite & departmental libraries and three reading rooms. These libraries are centralized in terms of administration, technical support, human resources, general services i.e. circulation, electronic resources, etc. but are independent for subject specific services. On the same pattern Design library is attached with deanship of library affaires and serves the readership of College of Design for females in University of Dammam. This library serves young female artists and architects of future.

This library is one of oldest libraries in University of Dammam. Library consists of a collection of 5000 printed books, theses, projects and reports. Apart from this printed collection placed in design library, there is a large collection in central libraries, which can be borrowed on ILL. There are two full text databases, 1600 plus e-journals and one images database acquired by the University of Dammam. Development of institutional digital repository is under process. A new collection of materials and catalogs is started a year ago. In college of design there are four departments: Interior Design, Graphic Design& Multimedia, Product Design and Applied Arts. There is a faculty of about 60 teaching graduate and master programmes.

II. PURPOSE OF THE STUDY

This paper is aimed to explore the practices in design library for promoting the academic & research activities among female faculty and students. Library revamps the services with 'reaching out' mission and extended services to ensure making research possible during busy schedules of faculty. Keeping the traditional services alive, this library investigates the faculty needs and expectations. Later these needs are translated into addition of multi-layer new services. Sprit of these services is within approaches of being subject specific, audience targeted and outcome oriented.

This study describes the process of identifying need, planning and developing new service as well as their implementation and related issues. This library is offering some unique services e.g. materials and catalog collection and research advances. This paper also presents the role of a liaison librarian in faculty and how she can contributes to teaching, research and creativity output.

III. METHODOLOGY

This is a case study done with descriptive methods of qualitative research and some of survey method of quantitative research. Over all this is a mixed method of research. A survey was conducted to know information needs of the faculty and their expectations from the Design Library. The planning process and allied documents are also listed in this study for analysis. Statistics of the library usage, resources usages, and services access are reported after being extracted from databases, soft wares and manual records.

A. Objectives

This study has following objectives:

- To highlight the practices of the design library for research assistances
- To discuss newly implemented programs to support teaching and research
- To discuss advantages and challenges of new programs
- To provide a guideline for other libraries in light of real time experience

B. Research limitations/implications

This is case study of a design library. Mostly practices and plans reported, are limited to art library activities' scope. However, the audience of the paper can benefit with approaches of subject specification, audience centered and outcomes oriented services' planning.

IV. FINDINGS

The results of the study show the difference of an Art and Design library from other types of libraries in terms of its collections, services and activities. It also shows the methods of increasing library use by techno-high users, information literacy skills development, research assistance, marketing strategies and user's involvement in the library activities. This library turned into a state of the art library. Although, it was found that instigating the users to use the resources for their teaching and learning is difficult in the academic scenario. Since users seems to be busy with their schedules while the use of latest resources in teaching is considered time consuming for some. Motivating the students to use the information resources for their works is also not possible without support from the faculty. It becomes evident that if the library wishes to make any difference, it needed to a liaison with faculty and students on one to one basis. It is to involve them and get involve them. The findings of the paper will serve as serve as guidelines for other libraries to plan similar services.

V. SIGNIFICANT/CONTRIBUTIONS

A. Practical implications

The case study is very particle in its professional implications providing the details of information needs assessment, planning, implementation and outcomes. It can be generalize in similar circumstances and alike subjects.

B. Originality/value

This study is an original case with importance to promote the subject specific, audience targeted and outcome oriented environment in university libraries especially within subject specific libraries in Muslim world.

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Assessing the Quality of the Undergraduate Curriculum in Two LIS Schools in Nigeria

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I. Background of the Study

Over the last two decades, the advances in information technology have greatly influenced the various aspects of the Library and Information Science (LIS) profession, including education and training. LIS schools and educators are therefore, facing unprecedented challenges that have been brought about by the information technology revolution. This, therefore, requires them to make changes and adjustments in their curricula in order to meet up with the expected changes. Ameen (2007) noted that responding to information needs of the evolving and sophisticated societies, changes in the curricula, school names, and the job market has been a constant phenomenon in the LIS discipline at the global level. LIS schools, then, more than ever before, inevitably, seems to face more fundamental challenges that centered on the need for them to adapt to the new circumstances that demands new competencies and skills in the new millennium. Keeping this reality in view, Warraich and Ameen (2011) pointed out that the focus of the LIS education in the 21st century is to develop competent and skilled human resources to meet the changing needs of the digital environment.

Thus, due to heightened needfor quality and ICT skilled graduates, LIS schools are expected to develop new strategies in the form of new courses formation to ensure that their graduates are fully equipped with the requisite knowledge and transferrable skills in order to respond to the changing landscape. According to Noh, Ahn and Choi (2012), as traditional libraries changes into highly modernized ones, such as semantic libraries, semantic digital libraries, and libraries 3.0, the need for transformation in the library and information science curricula to foster information professionals who will be able to manage such libraries and provide appropriate user services is more intense than ever. As a dynamic discipline, therefore, it is worth noting that today's LIS educators are facing different challenges than their predecessors in teaching tomorrow's LIS professionals.

II. Purpose of the Study

This study seeks to survey the views of LIS educators and employers on the quality of the undergraduate curriculum in their respective LIS schools. The study was exploratory in nature that also seeks to stimulate further discussion on the LIS education and curricula in general.

III. Literature Review/Analysis

The issue of LIS curriculum is of growing and increasing concerns to the global LIS community. This is evident by the amount and substantial body of literature available on the topic. Hence, the professional discussions and literature focused on the key skills and competencies required by the ever changing LIS job market which the LIS curriculum is expected to address. Buarki, Hepworth and Murray (2011), observed that as new ICT skills are identified, the Library and Information Science (LIS) curriculum need to be revised and up-dated to incorporate ICT courses. In addition, according to them, academics and the LIS schools need to realize the needs for ICT and other relevant skills from different stakeholders so as to incorporate them in their syllabus. Moreover, issues relating to the direction of LIS programmes, curriculum changes, subjects to be included, as well as the required knowledge and skills LIS graduates should possess have been extensively discussed in the professional literature (Xu, 2003).

Generally, the concept of curriculum denotes a standardized ground covered by students in their pursuit towards attaining certain educational levels. Although, many scholars considered the term as vague, or elusive that is not easily defined. A curriculum, according to Glatthorn, Boschee and Whitehead (2009), is the plans made for guiding learning in the schools, normally represented in retrievable documents of several levels of generality, and the actualization of those plans in the classroom, as experienced by the learners and as recorded by an observer; those experiences that normally take place in a learning environment that also manipulates what is learned. McDonald and Van der Horst (2007) defined curriculum as anything that denotes not only content, but also that which is important to the teaching and learning of the programmes of study in institutions, outcomes, methods, and assessment procedures all form an integral part of the curriculum. Recently, Chu (2010) noted that in any educational programme, the curriculum is the best barometer of its nature and content.

Furthermore, curriculum development is a process whereby the choices of designing a learning experience for students are made and then activated through a series of coordinated activities (Wiles and Bondi, 2007). On the other hand, Tomkins and Case (2011), regarded curriculum development as the systematic planning of what is taught and learned in schools as mirrored in the courses of study and school' programmes.

From the foregoing, it can be seen that curriculum development involves continuous expansion and revision of course contents in a particular programme to ensure that they keep pace with the demands of the job market. More often than not, the curriculum needs to be regularly scrutinized to ensure that it comply with the pace of changes in a given profession. The same situation applies to the LIS educational programmes.

Several studies relating to the LIS curriculum have been carried out. In other words, recent reviews of the LIS curriculum literature revealed a plethora of researches. However, the following most relevant studies have been examined.

Sanders (2008) studied the current demands and future need of undergraduate LIS education in Australia through a web-based survey of employers of LIS graduates, in order to find out whether they were relevant or not. His study found that majority of the respondents said that the undergraduate education provided equipped graduates with the needed attributes required of a professional librarian. In terms of curriculum, a number of employers pointed out those recent graduates were lacking in some areas of professional knowledge. His study suggested the need for curriculum reform in that country.

In a related manner, Anna (2011) examined the Information Technology components in the curricula of 8 universities offering undergraduate degrees in LIS in Indonesia. She conducted an observation of the websites of individual universities, and carried out interviews with some faculty members of the LIS schools. She found that, the curricula of the 8 universities had IT components, and therefore, suggested that more IT courses should be included in the curricula of the LIS schools.

In a most recent study, Singh and Mehra(2012) undertook an exploratory study aimed at examining the status of Information Technology (IT) skills and competencies in the curricula of top 25 LIS schools in the United States. Their study which employed content analysis of the curricula documents of the LIS schools, found that the strongest areas of technological competencies present in the curricula were database management systems and automation systems. While, the weakest areas were e-mail programmes, presentation programmes, e-resources management, as well as core hardware/core software and core operating systems which were not taught in the majority of the LIS schools studied. They, however, recommended some competency areas to be included in the curricula which comprise e-resources management, core web tools, public access computing, technology policies, as well as advanced hardware.

Pradeepa (2009) analyzed the LIS education programmes in eight educational institutions in Sri Lanka with the aim of determining the curriculum development strategy of those LIS programmes. He found that, six main subjects were taught across most of the LIS programmes, and also most of the curricular documents were not comprehensive. The study similarly found out that Sri Lankan LIS curriculum developers did not use any formal curriculum development model in the design of the curricula.

Kigongo-Bukenya (2003) undertook a comparative investigation of the curricula of the East African School of Library and Information Science in Uganda, with the departments of Library and Information Studies at the Universities of Wales, Botswana and Cape Town. The study employed multiple approaches through the use of questionnaires, interviews, observations, focused group interviews, as well as debates. The findings indicated the need for curricula policy, enhancement of programme contents both academic and the ICT aspects, the need for indigenization and harmonization of the LIS programmes, the adoption of different teaching methods, improvement of space, teaching, research and ICT facilities. Besides, there was the need for the introduction of practicum in the East African School of Library and Information Science (EASLIS).

Varalakshmi's (2006) study assessed the perceptions of employers and alumni about LIS curricula in India with a view to determine the relevance, employability, and sufficiency of the knowledge gained in order to cope with professional duties. The study which also sought for employers' expectations regarding education and training of the LIS professionals in the 21st century, established that employers were not satisfied with the curricula which according to them was insufficient in the area of IT, and that it was neither relevant nor adequate to the nature of the market needs.

Nonthacumjane (2011) offered a list of key skills and competencies of new generation LIS professionals. She categorized the vital skills needed by the new LIS professionals in the digital age as: personal skills, generic skills, and discipline-specific knowledge. She concluded by emphasizing that, in order for the new information professionals to work competently and effectively in the fast-changing digital age, they should have the necessary qualifications.

In another recent study, Mahmood and Shafique (2012) studied the alumni of the MLIS programme of the University of Punjab, Pakistan, with the purpose of reviewing and improving the MLIS programme of the university. Their research found that, the "alumni were carrying out a wide variety of tasks in their job situations; they in addition perceived that, traditional courses were useful in their current jobs, so also were some IT and communication related courses. Furthermore, respondents stressed the need for new teaching and delivery methods in addition the routine class lectures, as well as stating that the quality of the MLIS programme would get better if lecturers receive training according to the changing trends in the LIS profession."

IV. METHODOLOGY

As a prelude to the main study on the investigation of the quality of the undergraduate curriculum of LIS schools in Nigeria, a study was conducted between the months of October, 2009 to February, 2010. The study involved two (2) LIS schools i.e. the Ahmadu Bello University (ABU), and the Bayero University (BUK) LIS schools. The survey questionnaire was used to collect data for the study. The questionnaire was a mixture of closed-ended and open-ended questions. Likewise, the questionnaires sought to obtain information on the curricular issues and other related matters. Such issues include demographic factors, IT contents in the undergraduate curricula, and participation in curriculum review. Others were employers' participation in curriculum development and review, satisfaction with the undergraduate curriculum, as well as problems affecting the undergraduate programmes of the LIS schools. A total of 20 questionnaires were administered to the respondents. All the questionnaires were retrieved and used for the analysis.

V. FINDINGS

A. Demographics

The demographic information of the respondents collected were gender, age, educational qualifications, years of experience in the LIS schools, and position of the academic staff.

B. Gender

The data collected indicated that majority 17 (85%) were males, while very few 3 (15%) were females. This indicates that there were more male lecturers than their female counterpart in the LIS schools.

C. Age

With regard to the distribution of the respondents by their age, the data collected indicated 8 (40%) were in the age range of 41-50 years. While 6 (30%) were between 51-60 years, and 4 (20%) were aged between 30-40 years. Similarly, only 2 (10%) were within 60 years and above. This indicates that many lecturers in the LIS Schools were in the middle age category.

D. Educational Qualifications

In respect to the educational background of the respondents, the data collected revealed that majority 17 (85%) had MLS/MLIS. While less than half 3 (15%) had PhD's. This implies that majority of the academic staff hold masters' degrees.

E. Years of Experience/Position of the Academic Staff

In terms of years of teaching experience of the lecturers', less than half 5 (25%) of the respondents had 21 years or above that. Another 5 (25%) had between 1-5 years, while 4 (20%) had 16-20 years. Similarly, another 4 (20%) indicated 6-10 years. The least 2 (10%) had between 11-15 years teaching experience.

With regard to position or status of the academic staff, the data indicated that less than half 7 (35%) held the position of Senior Lecturer. Similarly, 5 (25%)were in the position of Assistant Lecturer, while 4 (20%) were in the Lecturer I cadre. The least were Associate Professor 2 (10%), and Lecturer II 2 (10%).This invariably indicates that there were more Senior Lecturers that were involved in the survey.

Table 1 provides the summary of the years of experience/position of the academic staff.

Table 1: Teaching Experience/Position

Variables	Frequency	Percentage (%)
Teaching Experience		
1-5 years	5	25
6-10 years	4	20
11-15 years	2	10
16-20 years	4	20
21 years and above	5	25
Total		**100.0**
Position		
Assistant Lecturer	5	25
Lecturer II	2	10
Lecturer I	4	20
Senior Lecturer	7	35
Associate Professor/Reader	2	10
Professor	-	-
Total		**100.0**

F. IT Content in the Undergraduate Curriculum

Respondents were asked to indicate whether the contents of their LIS schools undergraduate curricula contained Information Technology (IT) courses. Findings in table 2 below indicate that all the respondents

(100%) revealed that the curricula had some IT based courses. However, there were variations regarding the extent to which the curricula contained those courses. Nine (45%) the IT courses were minimal, 6 (30%) indicated that the IT courses were maximally present. While on the other hand, the least was 5 (25%) indicated moderate.

Table 2: IT Content in the UG Curriculum

Variables	Frequency	Percentage (%)
IT Content of UG Curriculum		
Yes	20	100
No	0	0.00
Total	**20**	**100**
***Extent of IT in UG Curriculum**		
Maximal	6	30
Moderately	5	25
Minimal	9	45
Total	**20**	**100**

G. IT Courses taught in the LIS Schools

With reference to the IT courses taught in the LIS schools, respondents were asked to indicate the IT courses in the curricula of their LIS schools. The majority of the respondents 19 (95%) indicated Electronic Information Resources/Digital Information, Introduction to ICTs 18 (90%), while Computer Application Programmes had 16 (80%), and Library Automation 16 (80%). On the other hand, the least course that was indicated by the respondents was 1 (5%) software development. The summary of the findings is in table 3 below.

Table 3: IT Courses Taught

Variables	Yes (%)	No (%)
Introduction to ICTs	90	10
Computer Practical	50	50
Internet Technologies	30	70
Electronic Information Resources/Digital Information	95	5
Computer Application Programmes	80	20
Library Automation	80	20

Management of Library Automation	15	85
Network and Networking Skills	30	70
Data Communication	10	90
Software development	5	95

H. Participation in Curriculum Review and Number of Times LIS Schools Reviewed Curricular

Respondents were asked to indicate whether they had participated in the curriculum review and evaluation in their LIS schools (Table 5). Majority 12 (60%) of the respondents indicated that they had participated, while on the other hand, 8 (40%) indicated non-participation. Furthermore, the respondents were further asked to indicate the number of times their LIS schools reviewed their curricula since the establishment of the LIS schools. The results revealed that 10 (50%) indicated 3 times, 4 (20%) pointed out that curricula was reviewed twice. While, 6 (30%) indicated that they had no idea. The above findings indicate that academic staff participates in curriculum review exercise in their LIS schools. The summary is in table 4 below.

Table 4: Participation in Curriculum Review/Number of Times

Variables	Frequency	Percentage (%)
Participation in CR/Evaluation		
Yes	12	60
No	8	40
Total	**20**	**100**
Number of Times Curricula were Reviewed		
Once	-	-
Twice	4	20
Three Times	10	50
5 times and above	-	-
I don't Know	6	30
Total	**20**	**100**

I. Employers' of LIS Graduates participation in Curriculum Development and Review

The study further sought to find out whether employers' of the LIS graduates were involved in curriculum development and reviewed exercises in the LIS schools. The results show that majority 14 (70%) indicated that employers were not involved, while on the other hand, 5 (25%) indicated that the employers were involved. However, this finding was most surprising, considering the crucial role of the employers in the LIS field. Nonetheless, similar findings was reported byEdzan and Abdullah (2003, p.7) in Malaysia who found that, "curriculum development in LIS was done in isolation by the institutions running the various programmes without any form of consultation with the potential employers." Also, Pradeepa (2009), found the absence of contributions of employers and other stakeholders in the curriculum development process in Sri Lankan LIS programmes.

Table 5: Employers Involvement in Curriculum Development and Review

VARIABLES	(%)
Involved	25
Not involved	70
No answer Given	5
Total	100

J. *Satisfaction with the Undergraduate Curriculum of the LIS Schools*

With reference to the respondents level of satisfaction with their school's undergraduate curricula used for training in those LIS schools, the results demonstrate that majority 7 (35%) indicated moderate satisfaction. This is closely followed by highly satisfactory 5 (25%), satisfactory 5 (25%). While 2 (10%) indicated that they were not satisfied with their school's undergraduate curriculum. Table 5 below provides the summary of the findings.

Table 6: Level of Satisfaction with the Undergraduate Curriculum

Variables	Frequency	Percentage (%)
Highly Satisfactory	5	25
Moderately Satisfactory	7	35
Satisfactory	5	25
Fairly Satisfactory	1	5
Not Satisfactory	2	10
Total	20	100

K. *Problems Affecting Undergraduate curriculum Of the LIS Schools*

Respondents were asked through an open-ended question to mention the problems affecting undergraduate curriculum of their LIS schools. The respondents indicated a number of challenges. On top of the list were the problems of inadequate funding. Other problems revealed by the respondents were:

- Insufficient Infrastructure and facilities
- Inadequate staffing
- Non-correspondence with reality of the changing world
- Delays/non- implementation of the curricular

- Lack of constant review of the curriculum
- Lack of commitment by the LIS faculty

VI. CONCLUSION

Education for the LIS profession has changed rapidly in this 21st century which has resulted in transformations in all its major facets. As such, it is expected that the LIS professional of the 21st century should be well grounded in the theoretical and practical aspects of the field as it concerns the society in which he or she will function. Similarly, they are expected to be aware and conversant with the global issues concerning LIS discipline, especially in relation to ICTs. The views from this investigation indicated that having a quality and richer LIS curriculum is a critical necessity for all LIS programmes irrespective of their placement or location.

For a meaningful LIS education at the undergraduate level, and all other levels in Nigeria in this 21st century, this paper proposes that:

I. The two LIS schools studied should reinvent their curricular to incorporate more ICT courses. Similarly, the government and the university managements should provide more support to ensure the provision of all appropriate infrastructures and facilities for curricula implementation.
II. The LIS schools should ensure that curricula are reviewed on regular basis to ensure compliance with the current happenings globally. There is also the need for its total and effective implementation.
III. There is the need for involvement of all relevant stakeholders, especially the employers in curriculum development and review. The LIS schools should equally recruit dynamic faculty members with strong background in ICTs to make the programmes more competitive.

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Determinant of Users' Satisfaction towards Perpustakaan Raja Tun Uda (RATU)

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I. BACKGROUND OF THE STUDY

Library services are important in order to support the library vision, missions and goals hence every public library should consider to re-look on their services to make sure that it is align with their vision and mission. The construction of the new building the Raja Tun Uda (RATU), Shah Alam started in 22 July 2011 in a strategic location that is compatible with the concept of "Library in a garden, Garden in a Library. '. To make a difference to the role of libraries other than providing library services to students, researchers, and educators, the library will also be a place of leisure for families, friends, oreven a place to find inspiration for art lovers.

This library building consists of is an area 18,921.91 Mps, a height of 6-storey and it can accommodate about 2,500 visitors at a time, and nearly 350,000 copies of the book. (RATU) Library is the headquarters of which there are 96 other libraries in the state. Since opening of this (RATU) library, it manages to attract more than 850,000 visitors to this library. in normal weekdays 3,000 to 4,000 visitor visit this library, that will not include on weekend that reach nearly 6,000 visitors. Most of the visitors to this library are interested to try the new services provided by (RATU) library, the new services include, XD theatre, Gymnasium, 3D theatre and also newly edutainment zone kids area and lot of other interesting services.

This overwhelming response from (RATU) library user triggered the library management to look into the overall satisfaction among users towards the library services. Assessment of library service quality has been a questionable agenda as according to (Nitecki, 1996) traditional measures of collection size, counts of use; number of staff and size of budget was no longer applicable. Moreover, measurement of library, based solely on the collection has become obsolete. Library managers should now assess service quality with a new approach that would consider user's needs with the goal of meeting user's expectation (Calvert, 2001). As such, it is necessary to explore users' satisfaction towards services that RATU library provided to them as an important assessment that will help the library management to evaluate their services performance.

The study conducted at the PPAS (Perbadanan Perpustakaan Awam Selangor) Library. The study will only involve the users of that particular library consist of various types of users. Construction of the new building the Raja Tun Uda (RATU), Shah Alam started in September 2007 in a strategic location, peaceful and green that is compatible with the concept of "Library in a Garden '. To make a difference to the role of libraries other than providing services to students, researchers, and educators, the library will also be a place of leisure family, friends, even a place to find inspiration for art lovers.

This library building is an area 18.992 sqm (203.600 sq. ft.), a height of 6-storey and it can accommodate about 2,500 people, visitors and 400,000 copies of the book at a time. RATU Library is the headquarters of which there are 96 other libraries in the state. Selangor Public Library Corporation (PPAS) was established through Enactment Selangor Public Library Corporation in 1968 and was gazette in the Government Gazette No. 5, dated March 27, 1969 and Government Gazette No. 7, 1975 (revised). In 1986, PPAS has moved to a building in section 14, Shah Alam and in 2009, this library move into a new building that is more sophisticated and comfortable in section 13 Shah Alam as a mark of Selangor as a developed state.

II. PURPOSE OF THE STUDY

The main objectives are as follows:

- To determine users' overall satisfaction towards Raja Tun Uda Library (RATU).

  The sub-objectives are:
  i. To determine users' satisfaction towards the library services
  ii. To determine users' satisfaction towards the library facilities
  iii. To determine users' satisfaction towards the library infrastructure
  iv. To determine users' satisfaction towards the library personnel
  v. To determine users' satisfaction towards the library collection

Research questions

- For this study five research questions were developed in order to guide the study which consists:
  i. What is the level of users' satisfaction towards the library services?
  ii. What are the main library facilities that affect users' satisfaction?
  iii. Are users' satisfied with the library infrastructure?
  iv. To what extent the users' satisfied by library personnel quality services?
  v. Are users' satisfied with the library collection?

III. METHODOLOGY

In this study, the instrument that was selected is the self-administered questionnaire. Questionnaire is defined a method to gather information related to the opinions of a large group of people (Pinsonneault & Kraemer, 1993). The researcher decided to use Raosoft Sample size calculator to determine the appropriate number of respondents which were 311. Efforts were taken to make sure the instruments are valid and reliable. Validity deals with the truthfulness of the findings, while reliability deals with consistency. After weighing the advantages and disadvantages of the various methods of user survey and also look at the various methodologies used in previous studies, questionnaires is chosen as the main research instrument in the gathering of data for this study. It enabled the researcher to get responses from a relatively large population within the specific time limit. After looking at the various sampling methods, it is felt that the special sampling design that is random sampling over time as the most appropriate method to be used for this kind of study where the researcher has to estimate the approximate total number of users in order to get the percentage of users using the electronic resources for the month. . Total new membership for November 2013 is approximately 2,222. This numbers are according to the statistic provided in the library's websites for the latest month which was on November 2013. For this study, due to the difficulty of the children to understand and evaluate the questionnaires, researcher decided to exclude this group. Only two groups of library users are taken to participate which were adult and teenagers. These two categories of users' making the total number users in November 2013 between 1,604. The researcher decided to use Raosoft Sample size calculator to determine the appropriate number of respondents which were 311. Pilot study was conducted in order to improve the latter's quality and efficiency. A pilot, or feasibility study, is a small experiment designed to test logistics and gather information prior to a larger study, in order. changed into a much easier language that could be easily understood.

- *QUESTIONNAIRE DESIGN*

A questionnaire is designed based on several researches regarding the satisfaction of users towards the library. Some of it is designed to suit the nature of the research itself. Some of the questionnaire referred to Pustaka Negeri Sarawak, Customer Satisfaction and User opinion Survey 2012. The questionnaire consists of 40 questions. 39 of them are close ended questions and one of it is open ended questions. The questionnaire is divided into four parts that consist of:

Part A: Demography Profile
In this part, there are six questions used and asked in order to get demography profile of each user participating in this study

Part B: Determinant of users' satisfaction towards RATU Library
Under this part of questionnaire, it is divided into five sections:

a. Section A : Library services
b. Section B : Library Facilities
c. Section C : Library Infrastructure
d. Section D : Library Personnel
e. Section E : Library Collection

There were 40 questions asked. All of these questions are important in order to measure the users' satisfaction towards the RATU library.

Part C: Users' satisfaction
There are total of seven questions that will measure user's satisfaction toward library staff service quality and also the overall evaluation for this study

Part D: Suggestions / Opinion for library's overall services

IV. FINDINGS

The data that were gathered from students will be analyses using the Statistical Packaged for the Social Science (SPSS). SPSS is a computer program used for survey authoring and deployment (IBM SPSS Data Collection), data mining (IBM SPSS Modeler), text analytics, statistical analysis, and collaboration and deployment batch and automated scoring services. The developers of the Statistical Package for the Social Sciences (SPSS) made every effort to make the software easy to use. This will prevents from making mistakes or even forgetting something. That's not to say it's impossible to do something wrong, but the SPSS software works hard to keeping from running into the ditch. To foul things up, almost have to work at figuring out a way of doing something wrong. The SPSS was used to create and analyze the data set.
The data that were collected from the research were coded and inserted into the software called "Statistical Package Social Science" version 16.0. Descriptive statistic such as median, mean and the standard deviation of each variable was run in order to get the overall satisfaction towards the library's collection. Some of the analysis method that was used in this research is descriptive, frequency, reliability, relationship (Pearson) and cross tabulation between gender and age.

A. *Demographic Characteristics*

Table 1.1 shows the output of the respondents' demographic

Item	Frequency	Percent (%)
Gender		
Male	130	41.8
Female	181	58.2
Age Group		
<17	45	14.5
18-20	53	17.0
21-30	152	48.9
31-40	39	12.5
41-50	15	4.8
> 50	7	2.3

Level of Education		
SPM	62	19.9
Diploma	70	22.5
Degree	102	32.8
Post Graduate	18	5.8
Others	33	10.6
STPM	24	7.7
Occupation		
Students	203	65.3
Government Servant	26	8.4
Pensioner	6	1.9
Self Employed	26	8.4
Private Sector	45	14.5

Based on the result, 181 (58.2 %) out of total respondent were female while remaining 130 (41.8%) were male. It shows majority of the respondents were at age between 21 to 30 years old which represent 152 (48.9%) from the total respondents. The highest education level attained by the respondents of PPAS was Degree with 102 (32.8%). Majority of the respondent were students which represent 203 (65.3%) which was more than half of the respondents. Therefore, it shows that most respondents who involved in this study were students consist of degree and diploma holder. However 2 respondents did not stated their level of education.

This study had answered main objectives, the result are summarized based on five sub- objectives of this study.

OB1: To determine users' satisfaction towards the library services

Based on the findings received from the questionnaire answered by the respondents, for the *library services satisfaction*, the highest mean score was efficient counter service (borrowing and returning).It shows that users are more satisfied with this services compared to other library services element. In this new Raja Tun Uda library, every level have information counter for returning and borrowing, moreover, this new (RATU) library also provide self - returning books machine for the convenient of users and if the library were closed during public holiday, users can use book drop facilities provided in front library entrance. This finding consistent with research conducted by (Stafford, 1997 and Kuochung (2009) proven that self-service has extensive implications for the management and the delivery of library services. Using such a system, readers can issue and return their own books without having to queue at the counter. Self-issue and return systems have been continually enhanced to meet the changing needs of libraries. Offering customized options and many user-friendly features that help ensure first-time success, these systems can take the library to the next level of productivity, security, and service. In addition to this, total mean score tested in chapter 4, library services scored third highest total mean score compared to other element.

OB2: To determine users' satisfaction towards the library facilities

It was found that the highest mean was interactive children services. It indicates that most of the respondent has highest response to the Interactive children services facilities provided by (RATU) library. This response aligned with PPAS transformation new rebranding concept of library that emphasize on children services to be part important element of attraction to create edutainment and interactive children services. Special reports coverage by STAR newspaper on 26 October 2013 by Sheila Sri Priya quotes that *"The Raja Tun Uda library in Shah Alam is the first library in the country to incorporate interactive and mind-stimulating games on Nintendo Wii, I-Step and on-location reporter system for children"*

The results show that the second highest mean was 3D Theatre. This 3D theatre is also one of the new facilities provided by RATU library to its User. Beside this 3D theatre RATU library also provided XD theatre that able to attract new user to this library. RATU library is the first Public library to incorporate 3D theatre and XD theatre in a library as part as their new facilities under PPAS new rebranding concept. This 3D theatre in a month attracted more than 450 users to enjoy this facility. However, this 3D room can only accommodate 25 person at one time and RATU Management decided to screen two selected 3D movies every day to cater the users' needs.

Based on the finding, it shows that the lowest mean score was OPAC (Online Public Access Catalogue) .It may be due to the IT development and also mobile gadget available in the market. Library users are keen to google information straight away from their gadget. RATU user's might use this facilities often, but not through the OPAC terminal but from the PPAS website and through the researcher observation, user's prefer to go straight to the shelf to find books rather than find it in OPAC and move to shelves.

OB3: To determine users' satisfaction towards the library Infrastructure

Based on the analysis of the findings, library infrastructure contributed the highest element of users' satisfaction. Most of the respondents agreed that the interior decoration contribute to the high users' satisfaction towards RATU library. RATU library with its six storeys building, with contemporary interior decoration manage to create conducive ambience for student to study or a place for weekend hang out for public. In other study Ridhwan et al. (2012) , Hasirci , (2011) agreed that interior plays an important roles in user satisfaction especially on lighting and sitting in a library. Designing study environment in a library is important to the mood, motivation and performance of individual because interior design of a room plays an important role on human mood and social behaviour. Lighting, as a control architectural tool, gives important influences on users' perception behaviour and visual comfort in libraries (Hasirci, 2011). Another point that will add to this analysis is that the main atrium of RATU library that sparks the interior ambience of this library. It brings natural sunlight that create natural ambience to library interior lighting effect. According to Wang and Boubekri (2010) who carried research at University of Illinois at Urbana champaign. "Sunlight produces sensations of pleasantness and warmth, even in an air-conditioned and thermally comfortable room, people are still attracted to sunlight" . It is shows that whether in a space that conditioned like the library, people still want to get the sunlight. It will influence the seat preference of people which they will prefer to seat near the windows that can give the sunlight. Wang and Boubekri (2010) had found that most of the people chose to sit close to or within the sun patch, although some arranged their desk back to the window and not having a direct outdoor view.

The results show that the second highest mean was conducive reading area. This result would definitely correlate with the first highest mean above the interior design. The contemporary interior design and also spacious yet conducive reading area tempting user's to spend their weekends and study at this RATU library. One of the main factors that affect comfort of users is a good lighting and a comfortable chair (Hasirci, 2011). According to a study of Fontoynont and Escuyer (2001), result on analysis of variance showed that occupant performance in the reading task, the speed and overall efficiency of analogy task are affected by the seating layout. Finding in research at the main library of Dundee University show that the amounts of time spent in a single position in the library have a significant relationship with the users thought that the seat that they choose was designed for maximum use of daylight (Hasirci, 2011). In a study by Cheung and Chung (2008), the main characteristic preferred by the occupants of a residential room is the general brightness and also the desktop brightness with an outside view. Research observed that most of the students like to choose sitting at the glass window towards the nice view of lake, Shah Alam Mosque and also city of Shah Alam as their preference choice of sitting. They would also choose to sit near the atrium center to fully enjoy the sun under the shaded roof for reading. All of this will support all the lighting statement that will effect user satisfaction and perceptions (Hasirci, 2011)

Based on the findings, it shows that the lowest mean score was café infrastructure. It may due to the location of café that is located at the back of library. Users, who visit this library for the first time, might ask library staff the location of cafes. There is also possibility of user's might assume that most of the modern libraries the location of café's is in the library. This would justify lowest mean goes to café's compare other great library infrastructure in RATU library.

OB4: To determine users' satisfaction towards the library Personnel

For this objective the highest mean score was library staffs wear professional attire. It indicated that all the library personnel who work at the front desk wear good professional attire that carries the image of RATU library. Second highest mean score of library personnel was library staffs are willing to assist users in finding information or using library services in RATU library with. This would also reflect the overall library personnel that provide services to its user's. Based on the finding also the lowest mean score was library staff have friendly attitude. It may be relates to number of staff who work at certain time. One personal have to entertain several user's demand on library services at one time. It may affect the quality of services to its user as a study by R.

Bhatti, (2009) found that a number of constraints prevent library staff in having helpful and friendly attitude to users. A major constraint was the large number of users as compared to the small number of library staff, library staff workload, their other job-demotivating factors including insufficient salary, dissatisfaction with their status and their inability to help the users due to lack of any formal and informal training system and also inadequate resources in meeting their needs. Overall, users' are satisfied with library personnel in RATU.

OB5: To determine users' satisfaction towards the library collection

Referring to the analysis the highest mean library collection goes to the RATU Library has adequate and quality reference collections. It showed that generally most of the respondents who involve in this study agree that the collection at RATU library is good. According to the analysis, (n=179) respondents agree and another (n=93) strongly agree that RATU Library has adequate and quality reference collection. After opening of this RATU Library in 2011, there are so many parties who donated quality books for this library, one of the frequent donation is from the H.R.H Sultan of Selangor who donated more than 5,000 copies (NST, 2013), beside that others who join in to donates books to library include, Lembaga Zakat Selangor, Thomson Reuters, Kinokuniya, MPH University Pertanian Malaysia (UPM) and lots of others. It could be concluded that the users' are satisfied with the *Overall Satisfaction on the collections* that are available at the Raja Tun Uda library.

Table 1.2 Total Mean score for Determinant of user Satisfaction Towards Perpustakaan Raja Tun Uda (RATU)

	Mean	Std. Deviation
Mean Library Service	3.3221	.47666
Mean Library Collection	3.1040	.59831
Mean Library Facilities	3.3101	.44343
Mean Library Infrastructure	**3.3683**	**.51133**
Mean Library Personnel	3.2830	.58138

Based on the analysis of findings, the major elements that influence user's Satisfaction towards RATU library was Library Infrastructure with *(M = 3.3683, SD = .58138)*. Most of the respondents agree that library infrastructure were the determinant of user's satisfaction towards RATU library. The result also shows that the second highest mean was library services with *(M = 3.3221, SD = .47666)*. Based on the finding, the lowest mean score was for library collection with *(M = 3.1040 SD = 59831)*. This is due to the financial problem faced by the public library for improvement of their collection.

Table 1.3: Overall Mean score for Determinant of user Satisfaction Towards Perpustakaan Raja Tun Uda

	Mean	Std. Deviation
Overall Mean of determinant of user satisfaction	3.2849	.40279

Table 1.3 illustrates the overall mean of determinant of user satisfaction. The table show (M=3.2849 and SD=0.40279). It shows that most of the respondent agrees that they are satisfied with overall RATU services. The findings show that users are satisfied with the overall services of the RATU. Infrastructure, facilities and also library services does affect users' satisfaction towards RATU library.

V. SIGNIFICANT/CONTRIBUTIONS

From this study, the information gained and the result obtained may help RATU library in improving its services. By exploring all of this information, a proper and systematic strategy can be developed in order to prepare a better plan for the enhancement of the service in the future. This will also help the RATU Library in improving their planning where the data and information collected can be utilized to plan for the future in meeting the needs of the users'. This study will also help in exploring the users' satisfaction towards the Raja Tun Uda Library (RATU) services and offered by the library which could improve and better enhancing the library's burgeoning reputation in fulfilling the users' information needs and satisfaction. The library may improve the overall services to the customer hence increase the loyalty among the users.

Keywords: Perpustakaan Raja Tun Uda, Library Services, Overall Users' Satisfaction, Selangor Public Library References

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Prototyping Walisongo's Islamic Study Centre

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I. BACKGROUND OF THE STUDY

Indonesia is the nation which has high diversity, for instance islands, tribes, cultures, and religions. The richness given to Indonesia, especially the development of Islamic study is the main point to be expanded. It's because in the religion's life, 90% of Indonesia's people is moslem (Rakasiwi, 2010). The number of moslem in Indonesia is inseparable from the spreading of islam done by Wali Songo. On their preaching's to spread out islam, Wali Songo used the cultural media on society as means of communicating this propaganda. It gives the consequences on the number of literature work which are produced by Wali Songo, like Islam's songs, Suluk, game related to islamic elements, and the books to implement the islam that all of it is used to include the value of Islam in every line of public life. Therefore, it can't be denied that Wali Songo has their own place among Javanese society. Even if the islamic poem can be developed based on historical and advance of islam, so it will be needed by society. In fact, Wali Songo today are being used as pilgrimage grave. Actually, there is something more essential to be learnt and developed. Besides their works, there a lot of islamic works which are not collected from thousands of 'pondok pesantren' in Indonesia orderly. So, the Library can be the alternative solution. Improvising library as the islamic study center which will be designed by using the characters of Waling Songo as 'icon' from the islamic study center itself.

II . PURPOSE OF THE STUDY

The purpose of this paper is to conceptualize an information center that is located at any point of the Walisongo's places based on analysis of community needs, where the majority of visitor can get any information related to historical story and Islamic collection of the Walisongo.

III. METHODOLOGY

The methodology that is used is literature study, where this problem has yet been researched before or need to be expanded (Ano, 2008). Moreover, literature approaching also explains the relation between the current research with the previous research and explain the analysis of previous research theory. Then i will explain the difference and the contribution of this research, so the reader will know the development of research.

This literature review is not the collected facts and feeling, but it is the orderly argumentation which leads us to the explanation of proposal research. The result conducted by the researcher used the approaching of need's analysis from the visitors related to the importance of Islamic study center in Wali Songo's places. It has been surveyed that 80 % of visitors state that it is important to create the Islamic study center with several reasons. One of the reasons is:

> *'it is very important to have Islamic study center. Besides as the Islamic learning center, it also becomes the Islamic civilization place which nowadays had been gone' (Asiyah).*

Based on the survey, we can conclude that majority need the Islamic study center on the Wali Songo's places. Need analysis is the process to find, fix, modelized, and specified the problem we face. There are 5 main strategies on need analysis and create the Islamic study center on Wali Songo, which are:

1. Problem's Identification → Wali Songo heritage and a lot of islamic literary works which are not collected orderly
2. Evaluation and synthesize → based on survey from visitors, we concluded that 80 % of them want a learning place or the islamic civilization place which nowadays had been gone

3. The modeling → creating the Islamic study center in every Wali Songo location where those place collecting the research finding, documentation of Islamic culture, historical heritage and all of Islamic study centers have the integrated networks
4. Specification → constructing Islamic study centers based on SNI and SPN as the specific library standard on Indonesia. In fact, we need a lot of modification which based on the local culture
5. Review → establishing the Study Center based on local wisdom. Then it becomes the syiar center and development of Islam in Indonesia

VI. LITERATURE ANALYSIS

Islamic Study Center is the proposed prototype as the Islamic information center. The model of this center information is the special library. According to PNRI, the definition of special library is the library which is devoted limitedly to the readers on government institutions, society institutions, Islamic education institutions, house of worships, and others organizations.

Later on, this Islamic study center will be built on each of regions which become the center of Islamic civilization, using the Wali Songo as the Islamic culture icon. This Islamic study center has several functions as the collector, spreader, and manager of the collections from other institutions, like pesantren, schools, universities, or the social organizations who documenting, researching, even developing the Islam.

According to the national special library standard, ISC will concern on several things. The first one is collection. The collection can be got from the acquisition of Islam developer, the collection of documented Islamic syiar development, collection from local society, and also the historical artifacts which become the Islamic media syiar at that time. Secondly, the infrastructure (include the building) should be designed based on the local culture. Each of 'Wali' Allah has the special uniqueness which can be an identity of those building on the region. Then, location preferences is in one place with the wali-Allah's grave. It is located near to main road or city center. Finally, the service should serve the need of people around Indonesia.

The form of organization of this study center , as the national standard library in particular , is an organization under the auspices of the department of religion , which the managers are librarians who have deep knowledge of the religion of Islam.

ISC on implementing the function have the task to bind the cooperation with a lot of stakeholders, directly integrated among the others ISC, then cooperate with other Islamic universities, pesantren, and Islamic society organization. Those institutions are regarded as the productive one on development of Islam: to be producer, consumer, and distributor of Islamic study. In the future, this ISC is not only located on Java island, but also around Indonesia. Even though, it should hold their own local wisdom on the certain region. We hope that it should develop in networking, so all of ISC in Indonesia can share, develop, and spread out the knowledge of Islam.

Keywords- Walisongo, Islamic, study center, Special Library

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FRBR, FRAD, FRSAD: Conceptual Models for Collaborative Bibliographic Networks

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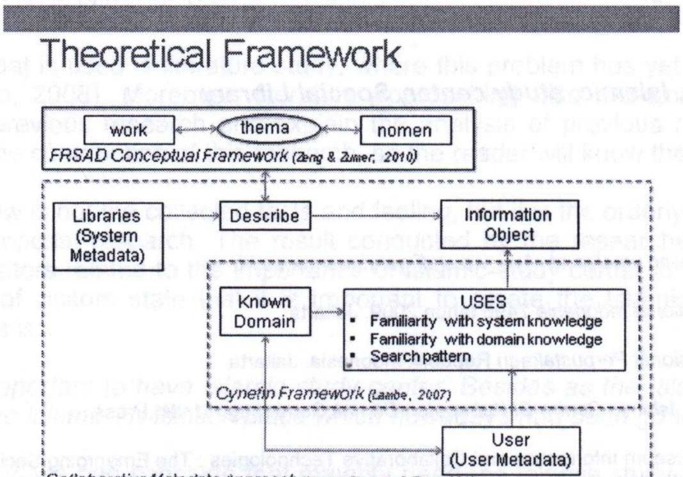
I.BACKGROUND OF THE STUDY

Numerous bibliographic databases of Islamic Finance in Malaysia have been developed using authoritative metadata approach, which could affect metadata interoperability in a shared environment. On the other hand, collaborative metadata approach provides the ecology of bottom-up approach for users to contribute to system metadata (Alemu, Stevens & Ross, 2012). System and user metadata compatibility enhances subject access to bibliographic databases of Islamic Finance. With the growing size of Islamic finance knowledge, there is a need to standardize the vocabulary references in this field in order to arrive at a correct understanding of this subject matter (International Shari'ah Research Academy for Islamic Finance (ISRA), 2010). Standard use of metadata elements and vocabularies eventually supports metadata interoperability among bibliographic databases of Islamic Finance.

The aim of this paper is two-folds, i.e. (1) to highlight the utility of three conceptual models, i.e. FRBR, FRAD, and FRSAD in bibliographic database design and (2) to illustrate the prospect of establishing collaborative bibliographic networks in Islamic Finance by deploying these conceptual models within the premise of collaborative metadata approach.

II. METHODOLOGY

Figure 1: Research Framework



In the first part, the paper will provide literature review on the utility of FRBR, FRAD, and FRSAD in bibliographic database design. The FRBR (Functional Requirements for Bibliographic Records) developed by IFLA (International Federation of Library Associations) takes a new approach in conceptualizing about bibliographic description and access based on what users want and need. The FRAD (Functional Requirements for Authority Data) and FRSAD (Functional Requirements for Subject Authority Data) models were developed as a continuation of the FRBR work in order to address name and subject authority data. The second part of the paper describes a case study investigating the use of FRSAD model and collaborative metadata approach to foster resource sharing among disparate repositories in Malaysia.

This study will also identify equivalence factors for metadata interoperability among selected Islamic Finance bibliographic databases, and identify the compatibility between system metadata and preferred user metadata elements. It also investigates the practicality of using Islamic Financial Terms in ISRA Compendium as vocabulary for representing subject of a work in bibliographic databases. This study is designed using the collaborative metadata approach (Alemu, Stevens & Ross, 2012) for metadata interoperability, and the Functional Requirements for Subject Authority Data (FRSAD) conceptual modeling of aboutness (Zumer, Zeng & Salaba, 2012) for the representation of subject of a work in Islamic Finance.

III. FINDINGS

The literature highlights several attempts at harmonizing cataloging practices among libraries and other information repositories through compliance of FRBR, FRAD, and FRSAD conceptual frameworks. However, the appreciation of these models among local practitioners is still not highly visible in the literature. In addition, efforts in improving the design of local online catalogs (OPAC) has not been reported much in the literature. It is foresee that FRBR, FRAD, and FRSAD have much to offer to the Malaysian libraries and repositories which are rich in local content such as Islamic Finance. The domain of Islamic Finance is lack of standardization to face globalization (Yaacob, Mohammad & Smolo, 2011). Among crucial issues to be addressed are the standardization of Islamic finance vocabulary (Tahir', 2003). For instance, Arabic Islamic Finance terms pose several difficulties to fast information retrieval largely due to semantic metadata interoperability issues and variations in romanization practices.

Semantic metadata interoperability provides consensual understanding of particular domain (Lanzenberger, Sampson, Rester, Naudet & Latour, 2008) in dealing with vocabulary used in subject access and sharing of information resources (Zeng & Chan, 2010). Knowledge of the Islamic finance domain is growing, thus need for increased vocabulary references in this field to arrive at a correct understanding of the subject matter (ISRA, 2010), in supporting semantic metadata interoperability across repositories.

The proposed collaborative metadata approach emphasizes on bottom-up metadata development rather than the typical top-down system metadata approach where actual users are not involved (Alemu, Stevens & Ross, 2011), resulting in the failure to adequately meet the pragmatic needs of the semantic interoperability to (Lambe, 2007) of the users. Also, in the latter approach, librarians normally face difficulties to capture the aboutness of the information objects (Alemu, Stevens & Ross, 2011) for bibliographic works.

VII. SIGNIFICANCE OF STUDY

It is worthy of investigation into how the FRBR, FRAD, and FRSAD conceptual models could enhance the design of local bibliographic databases. This study emphasizes on metadata interoperability across disparate bibliographic repositories. It also demonstrates how collaborative metadata approach could enhance semantic metadata interoperability in Islamic Finance.

Keywords cc FRBR, FRAD, FRSAD, Cataloging, Collaborative Metadata, Islamic Finance

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Reference Statistics and Questions in University Library: A Case Study of the University Putra Malaysia Library, Malaysia

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II. BACKGROUND OF THE STUDY

The collection of reference statistics can be done manually by counting the user questions using the transaction log in the reference statistics sheet or recorded in database system. The references statistics can be used as a data for justify the extension of reference service, to improve the scheduling at reference desk (Allen, 2001) or as a workload indicator (Glogoff, 1978). Reference questions can be in variety types of questions or categories that been made through past observation of reference transaction/instruction. Reference questions can be from the simple questions to the advance searching of information. Glogoff on his study of analyzing reference desk statistics at the Pennsylvania State University classified reference questions into three categories: (1) search, (2) ready reference, and (3) directional besides hours of question, interlibrary loan, book and telephone. Meanwhile De Groote, Hitchcock, and McGowan (2007) classified the reference question into four categories: (1) consultations, demonstrations, (2) In-depth reference questions, (3) ready reference, and (4) directional.

In UPM Library, traditionally the reference questions are recorded by counting every question/problem posed to the reader advisor in Statistics Form of the *Meja Penasihat Pengguna* (MPP) Reference Service (OPRR/PSAS/BR07/MPP). The MPP reference statistics service form record the number of transactions and includes a section to indicate the types of reference transaction questions such as Online Pubic Access Catalog (OPAC), electronic resources, outside/external reference, quick reference, telephone, lost book report and direction. Below is the description of the different types of reference transaction questions:-

- OPAC – Involves explanation on ways to locate information using the library catalogue system, provide user with information about the availability of printed library collections including book, thesis or hardcopy journal. Requesting for and renewal of books, checking of user records and transactions. Explanation on the steps to submit Document Delivery Service/Interlibrary Loan request for book. Tutoring the users on the use of OPAC basic search, keyword search and setting session filters. Refers a user to specific resources (such as a book, an index, or a hardcopy journal)

- Electronic resources- Involves explanation on ways for users to search information using the online database, e-book, *Refworks*, *Turnitin* and others electronic resources. Provide users with information about the electronic library resources such as E-book, online subscribed journal or after users have been able to identify the outcome of the results of their searches from the electronic resources whether the library has full-text access to journal articles or not. Explanation on the steps to submit Document Delivery Service/ Interlibrary Loan request for hardcopy journal. Tutoring the users on the use of basic search or advanced search in the online databases. Assist users with database access and download problems. Checking and registration for *Turnitin*, plagiarism checker and *EzProxy* system that will allowed user to access library resources through library website from home or off campuses.

- Outside/external reference – Assisting users to look for information by using an Internet search engine, other university library catalogues, directories, government agencies, and other relevant resources.

- Quick reference - Answering questions about the library's operating hours, collections, policies and facilities such as self check machine, carrel room, photocopying service, scanning, fax and others.

- Telephone - Callers make enquiries or need the extension number of the library department such as circulation section, interlibrary loan section, a specific library employee such as liaison officer, acquisition librarian, or branch library. Providing users with information about the library resources or collections such as quick questions and answers about the OPAC such as request and renewal of books. Search information or recognizing problem related to the online databases or electronic resources. Answering questions about the library's operating hours, collections, policies and facilities.

- Lost book report form - Checking and making a report for lost book at the library using the Lotus Notes System.

- Direction - Giving direction, describing the location of a branch library, special collections, people, departments, and other questions of the directional type.

III. PURPOSE OF THE STUDY

The purpose of this study is to discover the trends of reference statistics and types of user questions/problems posed through traditional means at the Reader Advisory Desk (RAD) service based specifically on the nature of the UPM Main Library from the years 2008 through 2012.

IV. METHODOLOGY

This study employed basic quantitative research method using the statistics data on the reference enquiry statistics recorded daily based on previous research (Lubans, 1977; Glogoff, 1978; De Groote et al., 2007 and Barrett, 2010). Reference statistics were gathered by the reader advisors who had worked at the RAD service of UPM Library from the years 2008 through 2012. The gathered statistics include all the transactions with any of the library user including staff, student, or library members, outsiders or public who had used the RAD service either in person or by telephone. The reference statistics form includes a section to indicate the different types of reference transaction questions with the category options such as: OPAC, Online database, outside/external reference, quick reference, telephone, lost book report and direction. The data was calculated to get an average of the total reference queries (RQ) either daily (Total RQ per year / RAD sessions per year) or in one hour (Average RQ per day / Average RAD service work).

V. FINDINGS

In the aspect of traditional reference service UPM Library RAD service showed a decline in the number of reference questions/problems posed in year 2008 (17,065) compared to year 2012 (11,856). The fact was supported by previous study done by Philips (2005), Applegate (2008), Banks and Pracht (2008), De Groote, Hitchcock, and McGowan (2007), Barrett (2010), Dinkins and Ryan (2010), Aguilar et al. (2011) and the latest done by McClure and Bravender (2013). As shown in Table 1, in 2008 the reader advisors answered 17,065 questions, with an average of 58.8 queries per day and an average of 5.4 queries for one hour. In 2009, the reader advisors answered 15,190 questions, with an average of 52.3 queries per day and an average of 4.8

queries for one hour. In 2010, the reader advisors answered 16,754 questions, with an average of 57.5 queries per day and an average of 5.3 queries for one hour. In 2011, the reader advisors answered 14,429 questions, with an average of 50.8 queries per day and an average of 4.7 queries for one hour. Whilst in 2012, the reader advisors answered 11,856 questions, with an average of 41.6 queries per day and an average of 3.8 queries for one hour.

TABLE 1: Total of Reference Queries.

Year	Total RAD workday per year	Average RAD service work hour	Reference Queries		
			Total RQ per year	Average Per day[a]	In one hour[b]
2008	290	10.7	17,065	58.8	5.4
2009	290		15,190(-1875)	52.3	4.8
2010	291		16,754(+1564)	57.5	5.3
2011	284		14,429(-2325)	50.8	4.7
2012	285		11,856(-2573)	41.6	3.8

[a] Average per day = Total RQ per year / RAD sessions per year
[b] Average in one hour = Average RQ per day / Average RAD service work

TABLE 2: Types of questions/reference enquiries received

Year	Types of questions/reference enquiries						
	OPAC	Electronic resources	External reference	Quick reference	Telephone	Lost book report	Direction
2008	5,829	4,381	343	2,602	1,528	155	2,227
2009	4,854	3,532	322	2,651	1,760	97	1,974
2010	5,330	3,968	287	3,014	1,789	55	2,311
2011	4,248	3,553	234	2,108	1,565	34	2,687
2012	3,456	2,861	3,53	1,670	1,136	74	2,306

TABLE 3: OPAC and online database enquiries received

Year	OPAC	Electronic resources	Reference Queries			
			Total per year	Average RAD service work hour	Average Per day[a]	In one hour[b]
2008	5,829	4,381	10,210	10.7	35.2	3
2009	4,854	3,532	8,386		28.9	2
2010	5,330	3,968	9,298		31.9	3
2011	4,248	3,553	7,801		27.4	2
2012	3,456	2,861	6,317		22.1	2

[a] Average per day = Total RQ per year / RAD sessions per year
[b] Average in one hour = Average RQ per day / Average RAD service work

In UPM Library OPAC and electronic resources question are categorized under In-depth reference question that will required librarian to use two or more information sources (Glogoff, 1978). OPAC and electronic resources question is the most questions received at reader advisor followed by quick reference, direction, question received by telephone, external reference and lost book report. As shown in Table 3, a fluctuation in the number of reference questions/problems posed in year 2008 through 2012. The statistics clearly showed the drop of reference question (10,210) in 2008 compared to year 2012 (6,317). In year 2008, the reader advisors answered 10,201 questions, with an average of 35.2 queries per day and an average of 3 queries for one hour. Whilst in year 2012, the reader advisors answered 6,317 questions, with an average of 22.1 queries per day and an average of 2 queries for one hour. In addition, based on table 1, the average total queries per day for years 2012 are 41.6 questions with an average of 3.8 questions in one hours and this showed that only 2 of the question are to OPAC and electronic resources. This conveyed that a reader advisor will have more waiting time before the next question/problem is posed by the next user.

VI. SIGNIFICANT/CONTRIBUTIONS

UPM Library today is faced with the trend of declining reference statistics. Based on my experience as a reference librarian the decline comes from many factors such as increasing knowledge about information searching skill among user and easy access the information through the internet. Due to the decreasing number of questions being asked/posed at the RAD service, the library managers will have to make decisions on how staffing should be realigned to meet the needs of the library users (Dinkins, 2010). Some libraries had utilized paraprofessionals to provide reference assistance and some libraries are effectively providing virtual reference service. De Groote et al., suggested that the "just-in-time" ability is a more appropriate use of the librarians' skills, because it give beneficial to the users in the aspect of instructional and in-depth reference assistance.

TABLE 4: Action taken by previous research

Sources	Action taken/Suggested plan
McClure and Bravender (2013)	On-call model of reference
Aguilar et.al (2011)	Virtual Service Desk (VSD)
Barrett, Felicia. (2010)	Broadened chat and email reference services
De Groote et. al (2007)	"just-in-time" librarian
Applegate, R. (2008).	Self-help, liaison programs, and virtual reference services.
Dinkins, D. and Ryan, S.M. (2010)	Paraprofessional transactions, referrals
Murphy et.al (2008)	Paraprofessional, referrals, "on call" status

As shown in table 4, most libraries today are effectively exploring new ways to enhance the reference service. Malaysia academic libraries also need to be proactive in providing services to user especially in handling reference situation. Besides providing traditional reference service there are need to be proactively as well to solve user problem in searching information during online such as virtual reference including email, chat, *facebook* and others online tool. A "multi-modal approach" that has been suggested by Kilzer (2011) is one of the trend today, which library had to effectively offering a multi type of service including traditional and virtual reference service in order to best satisfy the users information need and preferences.

Keywords- reference service; reader advisor; reference enquiries; reference question; reference quiries; reference statistics;

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Job Satisfaction of Librarians in the Federal University Libraries in Nigeria

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I. Background of the Study

Research on job satisfaction has attracted the attention of scholars and researchers in different fields such as management, accounting, economics, humanities, library and information science, to mention but a few. Job satisfaction in librarianship has generally been perceived as a recent field of inquiry. However, it could be argued that researches about job satisfaction in librarianship dated back to 1937, when Nourse (1937) conducted a research. Her findings indicated low pay, work monotony, lack of promotion and the lack of opportunity to take initiative as the principal causes of high staff turnover in the library. (Herrick, 1950; Hage & Michel, 1967; Locke, 1976; Plate & Stone, 1974; Wahba 1975; Chwe, 1978). Similarly, studies have also been carried out in recent times by other researchers, such as: Abdul Karim (2008); Abalkhail (2004); Topper (2008) and Togia et al (2004)
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However, this area of research has not been explored adequately in the field of librarianship in Nigeria. Although, few studies were conducted by librarians at individual University Libraries in Nigeria, not much has been given to issues of job satisfaction. This assertion was revealed in the works of Alao (1992), Nok (2006) Uwaifor (2007), Tella et al (2007) and Gboyega & Popoola (2010). The findings of these studies though indicated low job satisfaction; the consequent effects on librarians in Nigerian Federal University Libraries have not been well addressed.

From the above, it could be deduced that job satisfaction is an essential impetus for the increment of workers' productivities for high organizational output. However, little is known about how librarians in Nigeria are satisfied with their jobs. Consequently, very few librarians are dedicated to their work and many of them tend to show a lukewarm attitude towards their profession. Atimo (2000), notes that the most embarrassing and complex part of the job for many managers is the need to deal with problems of job satisfaction which arises from the failures of employees, deficiencies of character or attitude, lack of self-control and disobedience, all of which can affect the morale of workers and the quality of work output.

The spillover effect of this attitude has led to the majority of librarians quitting their professional jobs, and moving to other non-library related jobs to seek for greener pastures. These problems motivated the researcher to conduct this study to examine whether librarians in Nigerian Federal University Libraries are satisfied with their job or not. The above is supported by Murray (1992) stating that, professional librarians who performed more complex and intellectually rigorous jobs in the libraries become much concerned about job satisfaction of library personnel in order to promote their efficiency for the realization of the goals and objectives of librarianship.

Many findings on this phenomenon by industrial sectors revealed that a high level of job satisfaction is a necessary component for optimal organizational output (Alao, 1992). An attempt to appraise job satisfaction of librarians in the Federal University Libraries in Nigeria and its effects on the organizational productivities calls for this kind of study in librarianship. Job satisfaction, according to Spector (1985) is a staff member's emotional-effective response to a job or specific aspect of the job. He further stated that it could also be described as representing a cluster of feelings about the job as well as an overall attitude, that is, a combination of individual feelings that make up the cluster. In addendum, job satisfaction is the positive orientation of the individual towards the work role, which he is presently performing.

From the above discussion, it is of paramount importance to examine and deduce whether academic librarians in Nigerian Federal University Libraries are satisfied with their jobs, in order to discharge their responsibilities efficiently and effectively. This is necessary because, it would help the policy makers to be aware whether libraries are functioning effectively. This study is regarded as valuable in providing insight on how the librarians in Nigeria are motivated with their job. This study which focuses on job satisfaction of librarians, will also examine their Condition of Service, Work Environment, Faculty Status and Unionism, with a view to determining their level of job satisfaction. This research is a mixed mode approach which uses questionnaire and interview to collect relevant data for analysis. The findings obtained, attempt to serve as recommendations to the policy makers on how to create an enabling job satisfaction environment for the librarians and library development, in general.

Generally, job satisfaction is an effective reaction of individuals to their jobs. It explains the degree of contentment of workers as expressed by their happiness and motivation within their job, which in turn shall lead to high productivity in an organization.

On the contrary, the economic recession, which began in the early 1980s in Nigeria, had adverse effects on various job sectors not excluding the library profession, and this has resulted in setbacks, particularly in terms of acquisition of resources, personnel and budgets for libraries. This situation led to low morale among the library workforce in the country. This social-economic environment according to Edem & Lawal (1999) has created suspicion about whether librarians are really satisfied with their job or have been motivated to enhance their performance in their work or not.

The socio-economic imbalance led to the absence of essential ingredients for satisfaction at work. For instance, there were insufficient funds to purchase books and other library materials as well as paying the staff's salaries and other remunerations such as excess work load and over time allowances. Consequently, the librarians began to complain the lack of satisfaction with their jobs, and eventually, they developed a poor attitude towards their work, thereby resulting in low work output (Aguolu, 2007). This scenario became a great concern to many professional librarians who were advocating for the efficiency and productivity of library personnel. For these reasons, they have been engaging in much effort to improve matters, so that librarianship as a profession would be able to rise up to the challenges needed for the realization of the organization's goals and objectives.

II. PURPOSE OF THE STUDY

The aim of the research is to investigate the job satisfaction of librarians working in the Federal University Libraries in Nigeria.

The objectives are to:

1) Determine the level of job satisfaction of librarians in the Federal University Libraries in Nigeria.
2) Determine the relationship between demographic variables and job satisfaction of librarians in the Federal University Libraries in Nigeria.
3) To assess the relationship between job satisfaction of librarians in the Federal University Libraries in Nigeria and each of the following dimensions: (a) Condition of service, (b) Work environment, (c) Faculty status, (d) Unionism.

Research Questions

- Is the level of job satisfaction of Librarians in the Federal University Libraries in Nigeria the same?
- Is there any significant relationship between job satisfaction of Librarians in Federal University Libraries in Nigeria and each of the following dimensions? (a) Condition of service, (b) Work environment, (c) Faculty status, (e) Unionism.
- Is there any significant relationship between demographic characteristics and job satisfaction of Librarians in Federal University Libraries in Nigeria?

III. METHODOLOGY

A. Research Technique

Survey method was employed as a technique for the purpose of data collection in this study. The research techniques used to collect data for subsequent analysis are questionnaire and interview.

The suitability of this technique is that it focuses attention on a large population spread across the length and breadth of the given country (Gadanga, 2000). The researcher drew data from two primary sources which are; self-administered questionnaires and oral interviews.

B. *Population of the study*

The population of the study is the entire librarians in the thirty six (36) Federal University libraries in Nigeria. In this context, a librarian is a staff in the library that is trained in library and information Science up to degree level, e.g. (BLS/BALS). He performs complex and intellectually rigorous jobs in the library. The researcher utilized random sampling technique; Stratified random sampling technique was employed for the selection of respondents for this study. The population was stratified into six geo-political zones, i.e. North West, North East, and North Central. Others include South West, South East and South South. Three university libraries from each zone were selected for sampling. The researcher personally administered the questionnaires to the appropriate institutions and one librarian from each of the six (6) zones was interviewed (Cresswell 2008). Questionnaires were collated and analyzed according to respondents' responses through the application of 5 point-likert scale, using T-test, ANOVA and Pearson Moment-Product correlation were used as tools to carry out the statistical analysis. The interviews were transcribed to form the themes that were used to describe the central phenomenon in this study (Job Satisfaction

IV. FINDINGS

Findings from Demographic Variables

Majority of librarians in the Federal University Libraries in Nigeria falls within the ages of 41–50 years. (Fig 1)

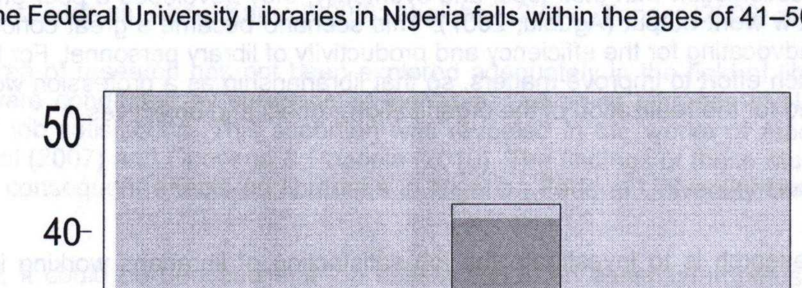

Fig. 1: Age of Respondents

There were more male librarians than female in the Federal University Libraries in Nigeria. (Fig. 2)

Fig. 2: Gender of Respondents

Majority of the librarians in the Federal University Libraries in Nigeria are married. (Fig. 3)

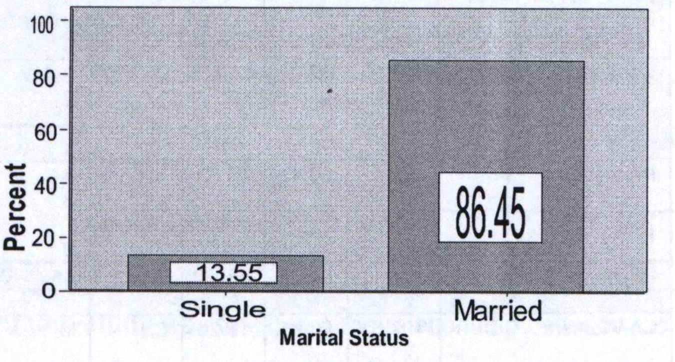

Fig. 3: Marital Status

Majority of the librarians 60.16% in the Federal University Libraries in Nigeria have Master Degrees while about one-fifth has PhDs. (Fig. 4)

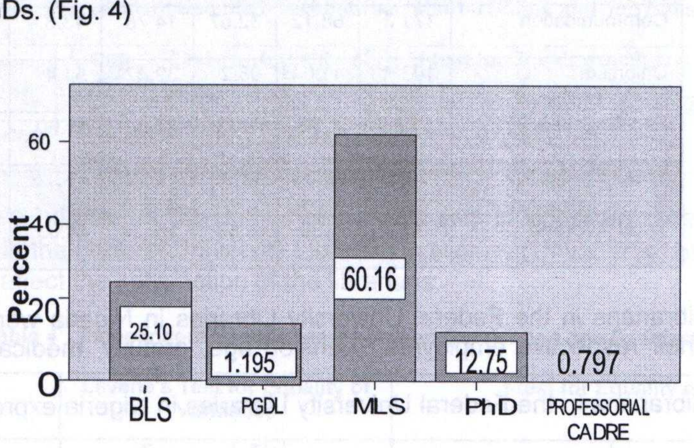

Fig. 4: Highest Qualification

Findings from content Variables are discussed in table 1 below:

TABLE 1: Descriptive Analysis of Variables

	Agreed		Disagreed		Neutral	
	N	%	N	%	N	%
Benefit	**162.8**	**64.77**	**41.8**	**16.74**	**46.3**	**18.47**
Contingent reward	106	42.24	92.57	36.97	52.4	20.87
Promotion	179.63	66.43	40.63	15.79	43.6	17.38
Pay	138.13	54.63	68	25.42	45	17.91
Co-Workers	199.63	80.86	15.25	6.1	33.4	13.3
Operation Procedure	150.75	59.58	30.5	12.18	6.9	27.5
Work Itself	218.5	87.1	7	2.75	25.5	10.15
Supervision	179.57	49.24	30	14.03	41.1	16.27
Communication	171.3	68.12	32.67	14.78	43.8	18.77
Unionism	103	41.04	96.2	39.42	51.4	22.55
Faculty Status	151.86	61.30	57.33	22,8	41.60	16.56
Total	**1761.16**	**675.34**	**511.93**	**184.22**	**493.2**	**199-71**
Total Average	**160.1**	**61.39**	**46.53**	**16. 74**	**44.83**	**18.15**

i. More than half of the librarians in the Federal University Libraries in Nigeria were satisfied with the benefit accorded to them by their respective employers, (pension age, gratuity, medical bill coverage and annual leave.)
ii. About three-quarter of librarians in the Federal University Libraries in Nigeria expressed their satisfaction with regard to promotion.
iii. More than half of the librarians in the Federal University Libraries in Nigeria were satisfied with their pay/salary.
iv. Overwhelming majority of librarians in the Federal University Libraries in Nigeria were satisfied with their relationships with their co-workers in the libraries.
v. Majority of the librarians in the Federal University Libraries in Nigeria were satisfied with operation procedure within the libraries.
vi. Overwhelming majority of librarians in the Federal University Libraries in Nigeria were satisfied with work itself.
vii. About half of the librarians in the Federal University Libraries in Nigeria were satisfied with supervision.
viii. More than three-quarter of the librarians in the Federal University Libraries in Nigeria were satisfied with the flow of communication in their respective university libraries.
ix. More than half of the librarians in the Federal University Libraries in Nigeria were satisfied with their faculty status.
x. However, more than half of the librarians in the Federal University Libraries in Nigeria were not satisfied with contingent reward.
xi. More than half of the librarians in the Federal University Libraries in Nigeria were not satisfied with unionism.

Findings According to the Objectives of the Study:

The first objective of this study was to determine the level of job satisfaction of librarians in the Federal University Libraries in Nigeria. The findings in table 2 below revealed that there was no significant difference in the level of job satisfaction among the librarians in the Federal University libraries. This implies that the librarians in these libraries were on the same level of job satisfaction because they were being controlled and financed by the Federal Government of Nigeria and followed the same standard of service and were accorded the same treatment. The above findings corroborate with the findings obtained from the interview with librarians in the Federal University Libraries. The general perceptions of librarians on their level of job satisfaction in the Federal Nigerian university libraries are moderately satisfactory.

TABLE 2: Test of Homogeneity and ANOVA Statistics of level of Job Satisfaction among Librarians

	Levene's Test of Homogeneity of Variances		ANOVA Statistics	
	Levene's Statistics	Sig.	F	Sig.
Equal Variances Assumed	.970	.493	.442	.974

The second objective of this study was to explore the relationship between job satisfaction and demographic variables.

Results indicated that there was no significant difference in job satisfaction of married and single librarians. (*P* = .058 which is greater than alpha level .05). This means that marital life did not affect the satisfaction of the librarians as shown in table 3 below.

Table 3 Independent Sample t- test between Marital Status and Job Satisfaction

	Levene's Test for Equality of Variances		t-test for Equality of Means	
	F	Sig.	Sig. (2-tailed)	Mean Difference
Equal variances assumed	0.464	0.496	0.058	-0.19629

In addition the findings as indicated in the table 4 below revealed no significant difference in job satisfaction of male and female librarians in the Federal University Libraries in Nigeria (*P*- value is not significant at 0.313). This means that gender did not affect the satisfaction of the librarians.

Table 4 Independent Sample t-test between Gender and Job Satisfaction

	Levene's Test for Equality of Variances		t-test for Equality of Means	
	F	Sig	Sig. (2-tailed)	Mean Difference
Equal variances assumed	0.305	0.581	0.313	0.072196

Further results from table 5 below revealed that there was no significant difference in the job satisfaction of librarians in the Federal University Libraries in Nigeria in relation to Age (ANOVA was not significant *P*=.062). This means that Age did not affect the satisfaction of librarians

Table 5 Test of Homogeneity and ANOVA Statistics for Age

	Levene's Test of Homogeneity of Variances		ANOVA Statistics	
	Levene's Statistics	Sig	F	Sig
Equal variances assumed	1.662	0.176	2.472	.062

Furthermore, ANOVA results revealed that there was no significant difference in the job satisfaction of librarians in the Federal University Libraries in Nigeria based on the Highest Qualification. (ANOVA result was not significant at P= 0.109). This means that Highest Qualification did not affect the satisfaction of librarians as shown in the table 6 below.

Table 6 Test of Homogeneity and ANOVA Statistics for Highest Qualification

	Levene's Test of Homogeneity of Variances		ANOVA Statistics	
	Levene's Statistics	**Sig.**	**F**	**Sig.**
Equal Variances Assumed	0.448	0.774	1.913	0.109

However, there was a significant difference in job satisfaction of librarians in relation to Income (ANOVA was highly significant at P=0.001) as shown in the table 7 below. This means that Income affects job satisfaction of librarians in Federal University Libraries in Nigeria.

Table 7 Test of Homogeneity and ANOVA Statistics for Annual Income

	Levene's Test of Homogeneity of Variances		ANOVA Statistics	
	Levene's Statistics	**Sig.**	**F**	**Sig.**
Equal variances assumed	.307	0.933	4.024	0.001

The third objective of this study was to assess the relationship between job satisfaction of librarians in Federal University Libraries in Nigeria and each of the following factors: Work Environment, Condition of Service, Unionism, and Faculty Status.

Work Environment: The findings showed that there was a positive relationship between job satisfaction and Work Environment. This implies that work environment positively affect (increase) the job satisfaction of librarians in Nigeria. Furthermore, the findings obtained from the interview of the librarians in Federal University Libraries in Nigeria are in congruence with the results derived from the survey questionnaire. Therefore, the findings revealed that work environment affects the satisfactions of librarians. Better work environment will results in better work output.

Condition of Service: The findings revealed that there was a relatively weak correlation between job satisfaction of librarians in Federal University Libraries in Nigeria and condition of service. This implies that condition of service had a little effect on job satisfaction of librarians in Federal University libraries in Nigeria. Similarly, the interview results showed that librarians in the Federal University Libraries in Nigeria were not adequately satisfied with the condition of service. Based on the findings, the librarians in Federal University Libraries in Nigeria have low satisfaction with the condition of service.

Unionism: The results showed negative correlation between job satisfaction of librarians in the Federal University Libraries in Nigeria and unionism. This indicates the librarians derived their satisfaction through negative reactions to their employers through Trade Unions, such as boycotting work, industrial action and down tooling of workers. In other words the employers will not listen to the employees' yearnings for the increase in various factors of satisfaction, until they developed poor attitude refused to work.

Faculty status: The findings revealed that there was no correlation between job satisfaction of Librarians in the Federal University Libraries in Nigeria and faculty status. Similarly, the findings from the interview of Librarians in the Federal University Libraries in Nigeria corroborate those of the questionnaire survey. This implies that Faculty Status does not bring about job satisfaction for librarians, though they agitated for it, but they did not benefit from it.

TABLE 8: Correlation Matrix

		Job sat	Unionism	Faculty	Condition	Work environ
Mean		4.1624	2.7361	3.2052	3.138	3.9272
Standard Deviation		.56239	.88533	1.09487	.65950	.45150
Job satisfaction	Pearson Correlation	1	-.208**	.095	.153*	.653**
	Sig. (2-tailed)		.001	.133	.015	.000

Unionism	Pearson Correlation	-.208**	1	.083	.124	-.214**
	Sig. (2-tailed)	.001		.190	.050	.001
Faculty status	Pearson Correlation	.095	.083	1	.215**	.159*
	Sig. (2-tailed)	.133	.190		.001	.011
Condition of service	Pearson Correlation	.153	.124	.215**	1	.307**
	Sig. (2-tailed)	.015	.050	.001		.000
Work environment	Pearson Correlation	.653**	-.214**	.159*	.307**	1
	Sig. (2-tailed)	.000	.001	.011	.000	
* Correlation is significant at the 0.05 level (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed).						

V. SIGNIFICANT/CONTRIBUTIONS

- The insight gained in this study will assist the policy makers to design policy that will improve the job satisfaction of all librarians in Nigeria and the rest of the world
- It will serve as impetus to promoting job satisfactions of the librarians.
- It will be useful as a reference for further studies and researches on job satisfaction.
- The outcome of this study shall constitute a report which shall add to already existing literatures on the subject

VI. CONCLUSION

The assessment job satisfaction of workers is a prominent practice in the developed countries and as a result a lot has been written on this subject with the goal of boosting the workers' morale and productivities. This will eventually ensure success in achieving organizational goals and objectives. However, this practice has received little attention in developing countries and appraisal of the job satisfaction of librarians in the Federal University Libraries in Nigeria has not been given adequate attention. This present study was conducted among the Librarians in the selected Federal Universities across the Six Geopolitical Zones of Nigeria in order to determine the level of job satisfaction of librarians in the Federal University Libraries in Nigeria. The study examined the demographic distribution of the respondents and assessed the level of job satisfaction based on some selected factors. The data collected were analyzed with reliable statistical tools, and conclusions were drawn based on the results obtained.

The demographic studies showed that majorities of the respondents are males, married and predominantly fall between the ages 41–50 years, holders of master degree and earning between USD 9677-USD12.903 per annum. On the other hand, there was no difference in job satisfaction of librarians in relation to gender marital status, age and highest qualification, except Annual income.

The descriptive study assessed the level of job satisfaction of the librarians and various factors. The result obtained revealed that the librarians were satisfied with Benefit, Promotion, Pay, Operation Procedure, Co-workers, Supervision, Communication, Faculty Status, except Unionism and Contingent Reward. Furthermore, the results from inferential analysis also revealed that was a positive relationship between job satisfaction and Work Environment, relatively weak correlation with condition of service, negative correlation with unionism and no correlation with faculty status.

Keywords- Job satisfaction; academic librarians, Federal University Libraries Nigeria.

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Toys in Malaysian Rural Library?

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I. BACKGROUND OF THE STUDY

Rural library or *Perpustakaan Desa* is one of the initiatives embarked by the National Library of Malaysia to support the government in creating knowledgeable society. There are a total of 1,179 rural libraries all over Malaysia (Mohamad Yusoff *et al.*, 2013).

Historically, the rural library in Malaysia was set up in year 2000 with the following objectives for the rural community: 1) to enhance reading habits; 2) offer useful reading sources; 3) assist rural students in education and 4) provide related recreational activities (Zainab *et al.*, 2004). The rural community can benefit several services such as reading books, magazines, articles including other sources of readings; borrowing books and internet services. Similarly with other public libraries, the rural libraries also conduct social awareness, celebrating important occasions, vocational training and literacy training (Shariful Islam, 2009). Apart from the above services, this paper would like to make a recommendation to the National Library of Malaysia to extend the rural library's services to the 'young library users' as early as the age of 3 years by offering a section or premise of toys to play or for loan.

II. LITERATURE ANALYSIS

Toy libraries, which originated in the United States, have a borrowing process similar to public book libraries. The toy library is not only meant for recreation and education but also could be part of attraction to the young library users. Most community libraries now have started to change the concept of the library from a restricted, quiet space to a 'noisier' one. As such, a section dedicated for toys not only be an attractive place to visit but also serve as a community resource, offering information and guidance to the library users.

In most Western countries, the definition of toy library is sometimes referring to disabled, autism and special needs children to help them with their sensory integration and social interactive skills (Kelimen, 2011). A good example is the **Noah's Ark Toy Library in Australia that** provides support services to agencies and parents working with children and young adults with special needs (http://www.noahsarkwa.org.au/.) In Malaysia, the toy libraries are operated either by private associations or the NGOs. Some of the Toy Libraries are: Subang Toy Library, Malaysian Care & Malaysian Care Toy Library and Parents Resource Centre, The YMCA Toy Library (for special needs) and Balik Pulau Toy Library. Toy Library Services could be one of the strategies of National Library of Malaysia to cultivate a reading culture among rural communities, starting with children whilst still young.

Among other countries with toy libraries are the USA, Sweden, UK, Japan, Croatia, Mexico, South Africa, Cyprus, Australia, Turkey, Canada, Korea, Philippine, Cameroon, Italy, Portugal and Ecuador. Toy libraries can be managed in three ways, namely: 1) the young library users can play at the toy libraries premises; 2) young library users can borrow the toys from the toy libraries for an agreed time and 3) they can also either play or borrow from a mobile toy library. Factors that need to be taken into consideration when planning a toy library are: specify target audience according to their age and types of games; find good location (a section in the rural library or located next to rural library, a mobile toy library); planning for budget; strategies for promotion and marketing; daily administration and membership.

Reference Desk Services Direction in Digital Age: A Comparative Study

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I. BACKGROUND OF THE STUDY

Reference librarians in academic libraries are actively engaged with many emerging new processes not only by which learning occurs, but also by which research is done. Today, reference librarians not only have to understand, but also embrace current and emerging technologies affecting reference functions and the information needs of library users. Wherever the library provides reference services, it is recognized on the major changes in libraries that stem from countless cultural, economic, legal and social developments that have impacted, and continue to impact the library work. The provision of reference services has been, and still is, at the heart of all libraries in every sector be it academic, public or special. Nowadays, the Internet era has changed the way users access the information. It was the exclusive preserve of the "Reference librarian" to provide information directly to the client. Pomerantz and Luo (2006) stated that the increasing availability of computers and Internet access both within libraries and in modern society at large, and online services have become among the most heavily used services the libraries offer. They further asserted that library reference services are still offered, whether at the desk, by asynchronous media, such as email, or by synchronous media, such as chat. It is generally provided in an interactive setting that involves two parties between the librarian and the user to solve user's problem.

However, the rise of the Internet era has given challenges to the librarian on duty at the reference desk service. Recently, statistics from various studies on library anxiety provide additional impetus for this study. A study done by Callinan (2005) at University College Dublin reported that 56 percent of students prefer to ask library related questions to their friends rather than librarians. Brewerton (2003) in his study noted is that librarians tend to imagine their patrons as a "captive audience"? So, no matter how much the quality of promotional efforts were done by academic libraries, patrons still use the services out of necessity. Another study done by Vondracek (2007) proved that users are relatively unaware of librarians' capabilities. Vondracek (2007) revealed that students were unaware that the librarians have subject specialties. The students assume that the librarian is a part administrative worker like any other staff in the university who provides assistance to students.

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I. BACKGROUND OF THE STUDY

Reference librarians in academic libraries are actively engaged with many emerging new processes not only by which learning occurs, but also by which research is done. Today, reference librarians not only have to understand, but also embrace current and emerging technologies affecting reference functions and the information needs of library users. Wherever the library provides reference services, it is recognized on the major changes in libraries that stem from countless cultural, economic, legal and social developments that have impacted, and continue to impact the library work. The provision of reference services has been, and still is, at the heart of all libraries in every sector be it academic, public or special. Nowadays, the Internet era has changed the way users access the information. It was the exclusive preserve of the "Reference librarian" to provide information directly to the client. Pomerantz and Luo (2006) stated that the increasing availability of computers and Internet access both within libraries and in modern society at large, and online services have become among the most heavily used services the libraries offer. They further asserted that library reference services are still offered, whether at the desk, by asynchronous media, such as email, or by synchronous media, such as chat. It is generally provided in an interactive setting that involves two parties between the librarian and the user to solve user's problem.

However, the rise of the Internet era has given challenges to the librarian on duty at the reference desk service. Recently, statistics from various studies on library anxiety provide additional impetus for this study. A study done by Callinan (2005) at University College Dublin reported that 56 percent of students prefer to ask library related questions to their friends rather than librarians. Brewerton (2003) in his study noted is that librarians tend to imagine their patrons as a "captive audience"? So, no matter how much the quality of promotional efforts were done by academic libraries, patrons still use the services out of necessity. Another study done by Vondracek (2007) proved that users are relatively unaware of librarians' capabilities. Vondracek (2007) revealed that students were unaware that the librarians have subject specialties. The students assume that the librarian is a part administrative worker like any other staff in the university who provides assistance to students.

Iberahim and Nadzar (2011) in their study found that most of the 17.5 percent of the students were very rarely using (at least monthly) the service. The frequency of inquiries posed (questions or problems) that are considered not very often is higher by 40 percent. This issue could affect the future planning of library services to give better service in reader's advisory services to their users (Sobel, 2009). Traditionally, it is a one-to-one service with user and reference librarian (Maharana & Panda, 2005). The users refer to a variety of information resources available in the library to meet their information needs. The advancement in information technology has brought out incredible changes in almost every aspect of information services (Maharana & Panda, 2005).

II. PURPOSE OF THE STUDY

The library and information professionals are also facing the challenges of the electronic age and all these developments give way to a new range of reference services (Singh, 2012). The developments of digital reference are the latest trend in the digital era. Easily accessible digital information has rapidly become one of the hallmarks of the Internet. The present study combines a traditional evaluation of the users' satisfaction with the reference desk services, with details of the user's information use. The purpose of this comparative study was to explore and assess the effectiveness of reference desk service in meeting users' information needs. This was addressed by the investigation of two research objectives:

RO1. To measure users' 'level of satisfaction' towards reference desk services
RO2. To improve reference desk services towards users' satisfaction

In addition, this study presents the following research questions to support the research objectives, listed as follows:

RQ1. How satisfied are the users on the reference desk services provided by the academic library?
RQ2. What should the academic libraries apply to meet their users' satisfaction?

In this regards, evaluations of the success of an advisory service was taken into consideration from the point of views of both of these parties. Accuracy of answers provided by the librarian was considered to determinants of user's satisfaction with the reference desk services.

III. RESEARCH METHODOLOGY

The population of the study consisted of twenty users from two libraries, ten (10) respondents from Tun Abdul Razak Library (PTAR), Universiti Teknologi Mara (UiTM) Shah Alam and ten (10) respondents from the Tunku Tun Aminah Library (PTTA), Universiti Tun Hussein Onn Malaysia Johor who visit the library frequently. This comparative study requires random sampling of an accurate census of active library members. Hence, a set of twenty structured questionnaire that was developed, based on the established exit survey (e.g. Sobel, 2009; Curry and Copeman, 2005; Iberhim and Nadzar, 2011) to set a measurement standard to variable construct. The structured questionnaire applied in this study consisted of 3 parts with only 18 questions. Part "A" dealt with the demographic characteristics of respondents, such as university, gender, age group and academic status. Part "B" listed questions that were meant to collect data on the reader's advisory desk services, while Part "C" collected data on the comments and suggestions.

IV. FINDINGS

The total of 100 percent of respondents were from two different university libraries, which comprised of ten from Universiti Tun Hussein Onn Malaysia (UTHM) and another ten respondents from Universiti Teknologi Mara (UiTM). Overall, most of the students shown in Figure 1 were from the age 19-21 (10%), 22-24 (5%). However, the age range of 25-27 were the highest, that is 60% of the respondents who participated while the second highest were from the age of 28-30 which is 25% of the respondents who participated.

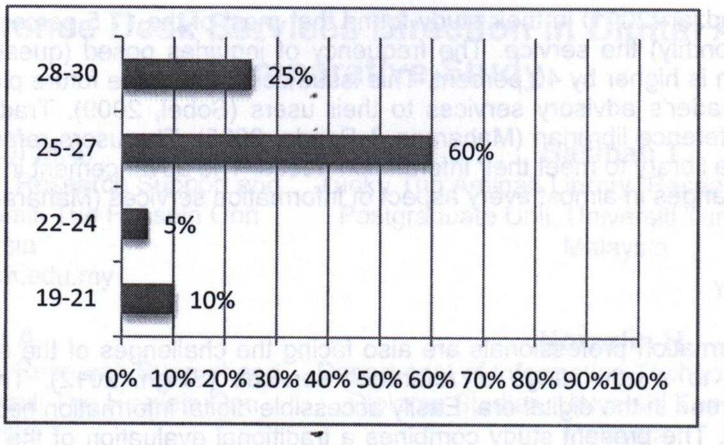

Fig.1: Age of respondents

Figure 2 presents the result of responses received from each university on where they go for assistance when they are faced with a specific information need. Almost 70% of the UTHM responses that they use welcoming desk service, compared to UiTM which rated at only 10%. However, 40% of the responses at UiTM used circulation desk rather than UTHM. Besides, 50% of responses from UiTM preferred to use advisory reference desk rather than UTHM which indicates 30% of usage. Surprisingly, the results revealed that 0% respondents from UiTM and UTHM libraries used other services (i.e. E-mail, Ask a librarian, Chat, FAQ, User Feedback form service and Collaborative Reference Service).

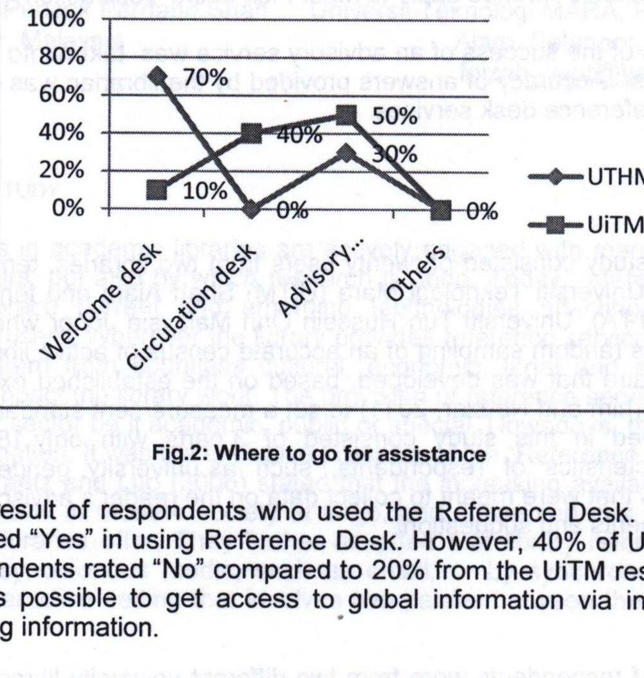

Fig.2: Where to go for assistance

Figure 3 indicates the result of respondents who used the Reference Desk. The results show that 80% of UiTM respondents were rated "Yes" in using Reference Desk. However, 40% of UTHM respondents rated lower. Sixty (60%) of UTHM respondents rated "No" compared to 20% from the UiTM respondents. This may be due to the fact that presently, it is possible to get access to global information via information and communication technology (ICT) in searching information.

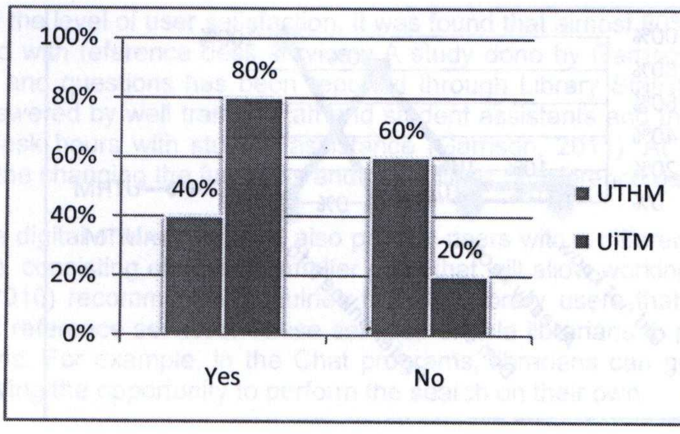

Fig.3: The Use of Reference Desk Service

Figure 4 presents the result of respondents' reasons for using the Reference desk. The results show that both UTHM and UiTM respondents rated only 10% use the reference desk service once a week. On the other hand, the results indicated that 80% of UTHM respondents rated higher use of the reference desk, that is twice a week reference desk, compared to 30% of the UiTM respondents. Others, the results show that 50% of UiTM respondents were using reference desk services three times a week. The results also show that both UiTM and UTHM respondents rated 10% in 'others' for using the reference desk service.

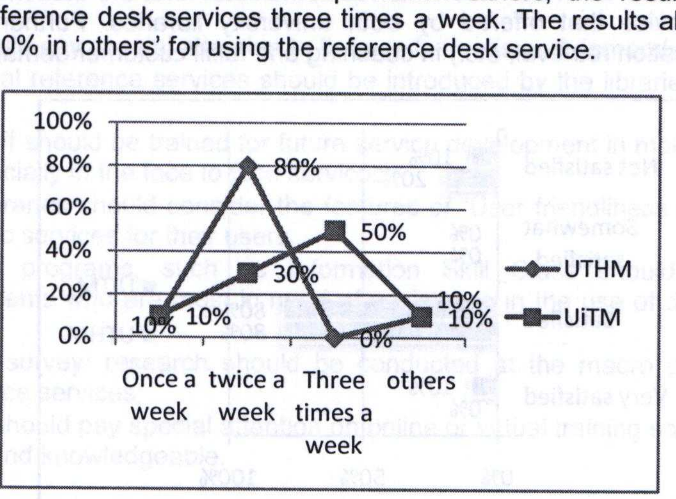

Fig.4: Reason for using the reference desk service

Figure 5 indicates the reason as to why the students have never visited the reference desk. About 10% of UiTM respondents did not know where the reference desk was located while UTHM respondents were rated as none. Besides, 10% of UiTM respondents indicated that they already knew about the location of the desk. However, 80% of UiTM respondents rated higher because they claimed that they don't have a time to use reference desk. As such, 100% of UTHM respondents stated highly that they preferred online searching rather than approaching the reference desk for information services.

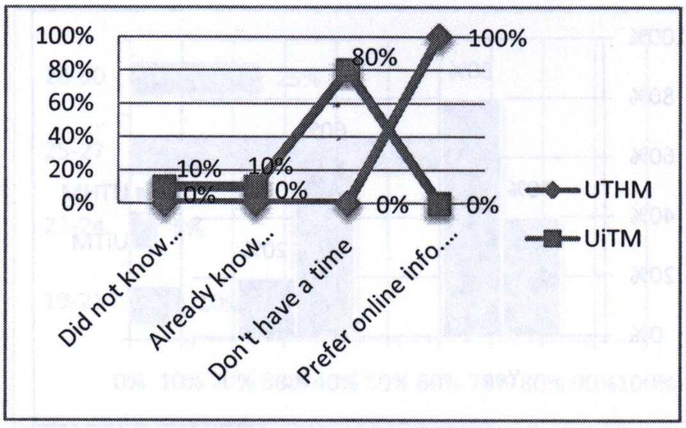

Fig.5: Reason for not visiting the reference desk

Figure 6 indicates the results of the satisfaction level of library reference desk services. Ten (10%) respondents UiTM while twenty (20%) from UTHM rated as not satisfactory. However, both UiTM and UTHM rated 80% as higher satisfaction with their reference desk services. Another 10% of UiTM respondents rated as very satisfied with their reference desk services. The result indicates that the student was pleased and satisfied with the reference desk service that offered by both university libraries. Furthermore, librarian skills (e.g. Searching techniques, Information retrieval, etc.) in coaching and fulfill customer demands are expected.

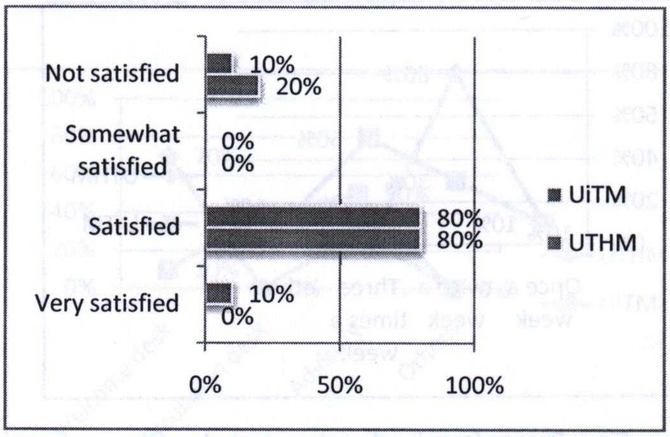

Fig.6: Level of satisfaction

V. SIGNIFICANT CONTRIBUTIONS

The success or failure of the reference desk services in the UiTM and UTHM university libraries depends on the customers demand. The result from the study found that almost 70% of respondents used highly thr welcome desk rather than 40% of the respondents who used circulation desk and 50% of the respondents used the reference desk offered by the university libraries to get information. However, this finding lead to some understanding of the working conditions of para-professionals at information and reference desks (Rieh, 1999). Librarians and the staff at the desks need to explore the possibility of providing liaisons and create online subject guides and engage, in other activities, to ensure the staff acquires important experience to assist the liaisons with substantial non-liaison duties (Schulte, 2011). Furthermore, more customers are in need of in-depth consultations with a reference librarian (Schulte, 2011), during reference desk hours. However, librarians and library management should continue to keep abreast with the changing reference services (i.e. Online and Virtual), amidst the technological era to encounter customers demand.

Secondly, in terms of the level of user satisfaction, it was found that almost 80% of the respondents from both universities were satisfied with reference desk services. A study done by Garrison (2011) revealed that 80% of reference desk statistics and questions has been reported through Library Statistics (LibStats). The majority of transactions could be answered by well trained staff and student assistants and the library has already shifted to staffing the majority of desk hours with student assistance (Garrison, 2011). At this point, managers' decision should be made to meet the changing the functions and capabilities of reference desk services in the digital age.

The new library in the digital environment will also provide users with a different desk model (Garrison, 2011; Polger & Okamoto, 2010), consisting of several smaller pods that will allow working collaboratively with students. In this regards, Nolen (2010) recommended inquiries from the library users that can easily be communicated through the chat or email reference services. These services enable librarians to provide an extended reference encounter with the patrons. For example, in the Chat programs, librarians can guide users through a complex search, with the users having the opportunity to perform the search on their own.

Today, people are living in the digital age, where information explosion and customer demand become the major challenges. In this context, it is inevitable for a library to provide *'richer information diets'* to their customers in fulfillment of their information needs. In other countries, reference and information services have undergone revolutionary changes to meet the new challenges of the digital age. This study suggests libraries should pay attention to user needs and demands for the improvement the level of user satisfaction. Based on the findings study, several recommendations are put forward:

- Both libraries should pay special attention to the user's needs and demands in reference desk services;
- Electronic or virtual reference services should be introduced by the libraries to increase the information services;
- The reference staff should be trained for future service development in maintaining a high level of users' satisfaction, especially in the face to face services;
- Both university libraries should consider the features of "User friendliness and helpfulness" while giving online or electronic services for their users.
- University library programs, such as Information Skill Class should target undergraduate and postgraduate students who are most in need of assistance in the use of different library resources and services;
- User satisfaction survey/ research should be conducted at the macro and micro levels on different aspects of reference services;
- Both universities should pay special attention on online or virtual training so that they (librarians) become more competent and knowledgeable.

VI. CONCLUSION

This study suggests that both university libraries should emphasis on developing an assessment technique, measures, according to standards guidelines so that librarians could provide better digital reference services to their users. It is hoped that this study can be used to improve or enhance a physical reference desk or as a springboard for considering other multi-tasking options when experiencing declining reference desk questions.

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Keywords: Academic librarian, Reference desk, Library, Information Technology, Information searching

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Information Historical Method by Historians in Malaysia

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I. Background of the Study

The purpose of this study is to examine the behaviour of information historical method by academician and non-academician historians in Malaysia. This study will examine the behaviour of historian's historical method in the course of information seeking and how it affects the individual changes (behavioural, cognitive, psychodynamic and humanistic psychology) in choosing historical facts. In general, historians put emphasis on the regulated historical method in producing historical writing. It consists of the process of searching the materials or sources of information, critically examine them before producing historical synthesis (Clarke, 1927; Gottschalk, 1967; Garraghan, 1946; Collingwood, 1951). The term historical method here clearly indicates the manner of historians, practices and experiences; and procedures when carrying out research. Arbai'yah (2006) further explained among the criteria required by the historian is to be an expert in his or her own field is to analyze reference of sources in term of type, purpose and content of sources. Therefore, it is imperative that historians should be an expert in their own field in determining the credible sources in verifying historical fact. Though in the end, verification of the historical facts according to Gottschalk (1967, p.8), are subjected to the "intelligent agreement and disagreement among the experts". Thus, historical facts should be critically discussed in order to be widely accepted by the historians at large. The underlying notion of the historian's verification method of information searching carried out by historians at the initial point of historical method give similarities to the element of information seeking from information professional perspective in which Iredale (1974, p.25-29) firmly stated that "research methods highlight the guidance of historian in conducting searches in history, finding materials, how to produce historical writing per say not on the behaviour of information seeking as a whole".

The study will adapt three core processes of information seeking strategy *i.e.* orientation, opening and consolidation from non-linear information seeking model developed by Foster (2005) and four approaches of behavioral, cognitive, psychodynamic and humanistic psychology from theory of individual changes in management developed by Cameron & Green (2009) as its framework. Portraying a more holistic and dynamic approach, the non-linear model by Foster (2005) stated the primary component of orientation is problem definition. The main idea under this component is to detect whether there are any problem solving aspects in previous research and this process is repeatedly taken before finding closure in consolidation. While the opening is the next process after orientation covering the actual seeking activities of information (see Ellis *et. al*, 1993; Meho and Tibbo, 2003; Bronstein, 2007) and consolidation is a process of judging degree of relevancy and integrity of the materials at hand. While the use of four approaches from theory of individual change in environment will examine the effect of historical method by historians in Malaysian context. Firstly, the behavioral approach is based on the theory of reward and punishment. The achieving result will highlight the reward or success as Cameron & Green (2009) further explain that reward can be motivated either from financial reinforcement, non-financial reinforcement or social reinforcement while the punishment in this research will be the non-achievement. Secondly, the cognitive approach is the change of the thought process in the form of values, beliefs, feeling and behaviour which will give impact on the outcome results on historians in conducting their research. Meanwhile, the psychodynamic approach will identify the external elements from of the seeking strategy process and how the historians embrace and transform the idea of it into their seeking strategy process. Lastly, the humanistic psychology approach will explore the extent of historians' self awareness in maximizing their potential growth in sharing information among their peers.

II.METHODOLOGY

The study will be conducted in two phases. An exploratory study will begins with the distributing of questionnaire survey in order to get a general overview from the sample of the population consist of the Malaysian Historian (Members of Malaysian History Society). It will provide a general understanding and the demographic background while the result would provide with a sampling frame of respondents to be selected for the next phase. The second phase will be a focus group interview whereby the respondents will be chosen from the survey respondents using purposive sampling techniques. The criteria of the respondents are:

1. Expert or knowledgeable on the subject of history
2. Experience in historical research
3. Produce historical writing

The data gather will be transcribed and analyzed before coming to the findings. The findings will then explain in detail clarification of the issues of the research problem which then develop a new framework of this study. It is also purport to develop the impact the behavior of historian's IVM in the archives and libraries. At a macro level, it will ensure the integrity and sustainability of historical facts remain intact

III.LITERATURE ANALYSIS

Based on literature reviewed there are similarities and differences from two perspectives of information seeking or searching. The first perspective concentrates on the historiography of information searching in producing historical writing from the historian's point of view. Remnants of artifacts are traces of factual data show that history has led changes and leave a huge impact on many great civilizations in the world. The occurrence of the entire historic event has left scores of historical sources written by historians since the era of Greek civilization until today. Later, new level of understanding brought about the use of historical verification method in studying history which led to the foundation of historiography or philosophy of history (Ibn Khaldun, 1377; Collingwood, 1951). The second part will review the diverse studies on the pattern of information seeking behaviour from information professionals focused on the use of information sources, methodologies applied and experiences of information seeking from the social science scholars. Studies of information behaviour have transpired in the 1980's instead of focusing on the systems to the studies on the information users (Wildemuth & Case, 2010). Over the last three decades, there are increasingly rapid study of information seeking behaviour of individuals and groups of social science scholars and students (Uva, 1977; Ellis, 1987; Case, 1999; Duff and Johnson, 2002; Dalton and Charnigo, 2004; Foster, 2005; Bronstein, 2007; Borchardt, 2009). Amongst these studies, model developed by Ellis *et. al* (1993) has been widely cited in a large volume of literature. However, very few have really explored the behavioural pattern of information seeking by historians and humanist scholars. According to Bronstein (2007), most studies on humanities scholars were more focused on the quantitative research methods instead of qualitative studies. A recent content analysis study by Rhee (2008) highlighted different results pattern of ISB in three fields: library information science, archives and history.

IV.SIGNIFICANT/CONTRIBUTION

Findings and discovery of the study are significant in providing input of the shortcomings and weaknesses in the usage of historical method for historians in Malaysian context. Thus, it will provide alternative solution of the problem at hand and strengthen the strategy use of historical method in term of:

1. Benefit to body of knowledge and scholarly literature.

- To enhance the degree of usage historical method by adapting the previous research model and new approaches in Malaysian context to provide more comprehensive outcome.
- It will provide clarification about the issues of the research problems by conducting in-depth study.

2. Benefits to the historians

- It will provide input of the shortcomings and weaknesses in the usage of historical method for historians in Malaysian context. Thus, it will hopefully provide alternative solution of the problem at hand and strengthen the strategy use of historical method.

3. Benefits to the archivists and librarians

- The documentation and methodology of historical research will be of use for the archivists and librarians in ascertaining their clientele's needs.

4. Benefits to the society

- It will ensure the historical integrity of the nation's remaining intact.
- It will uplift the sense of belonginginess to country especially among the young generation.

The outcome of the study will contribute toward the documentation and methodology of historical research will be of use for the archivists and librarians in ascertaining their clientele's needs.

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Bibliometric Study on Reading Habits in Malaysia: An Analysis of Published Materials between 1962- 2012

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BACKGROUND OF THE STUDY

Reading is one of the tools in learning and also a source of pleasure and satisfaction. Reading can be considered a tool when one utilizes the ability to read and to learn other subjects in a language or use it for reference work. Reading is an interactive process that involves interaction between a reader and the text. Reading is also a psycholinguistic guessing game which involves an interaction between thought and language. Interest in reading can be nurture and interest requires an awareness of self and pursuit of what someone's like. Similarly, the habit, it can be learned and nurtured (Zin Mahmud, 2001). Based on the study by Professor Atan Long in 1984, the reading interest and habits of Malaysians is very low. The findings from the report of Malaysian Reading Profile Study conducted by the National Library in 1996 found that Malaysian's literacy rate is 93% and only 87% are practicing reading. In 2002, it shows some increment at 93.8% (Malaysia Quality of Life Report, 2002) but in 2005 from Malaysian Reading Profile Study found that Malaysian's literacy rate is decrease to 92 % and there had been no increase in the amount of reading as compared to the past ten years. Dr. Rais Yatim (Minister of Information, Communication and Culture) said that reading has become a habit for Malaysians with most reading an average of eight (8) to twelve (12) books a year and Tan Sri Muhyiddin Yassin stress that the reading habit among Malaysians is still at a moderate level and libraries are not fully utilized (PNM, 2012). However, there was lack of literary evidence to confirm this statement in Malaysian environment.

PURPOSE OF THE STUDY

This paper explores the issues in reading habits by focusing on the objectives (1) to investigate the factors that influence the reading habits in Malaysia in term of time, space, quantity and promotion, (2) to study the pattern and trend of publish materials and the activities or methods that will give maximum impact toward reading habits and (3) to suggest means or methods in nurturing reading habits among Malaysian.

METHODOLOGY

This bibliometric study discuss the reading habits and trend of published materials on readings habits in Malaysia. Bibliometrics study is a set of methods to qualitatively analyze scientific and technological literature (Bellis, 2009). The term was coined by Pritchard (1969) in a paper titled *Statistical Bibliography or Bibliometrics?* that defined the term as "the application of mathematics and statistical methods to books and other media of communication". Citation analysis and content analysis are commonly used bibliometric methods. In fact, many research fields use bibliometric methods to explore the impact of their field (Pilkington, 2009) the impact of a set of researchers, or the impact of a particular paper.

IV. LITERATURE REVIEW

- READING READINESS

Reading is a continuous development process and readiness is merely a concept in various stages of reading (Majzub, 2010). Teachers and parents should realize that reading readiness for children does not only involve basic reading skills but also includes other relevant factors that also contribute to reading skills such as poor motivation, parent's educational background and teacher's involvement. In Malaysia, reading readiness is a fundamental and critical component as Year One children will be assessed on basic fundamentals such as reading, writing and arithmetic.

- READING MOTIVATION

Badariah (2011) claimed that reading motivation does not only explain why some children read more than others but also how the children utilize the strategic skills which allow him or her to engage in the reading. She also mentions that in Malaysia, there is a widespread concern among educators and parents about children not having the ability and lacking the motivation to read. Zulhilmi (2005), in an article in the New Straits Times, observed that reading is often confined to classrooms and for educational pursuits. This could be one of the reasons why children have not developed good reading habits and need further encouragement to motivate them to read.

- READING HABITS / BEHAVIORS

Hornby (1995) stated that "Reading means action of person who reads" whereas habit is a thing that a person does often and almost without thinking, especially something that is hard to stop doing." Based on the definition which has been given by Hornby, reading habit can be defined as the frequency of how often the person does an activity to read books including literature books, stories, magazines, newspapers etc. Izani Daud (2012) said reading practice in society will determine the success or failure of a nation. Developed and highly civilized is a nation that inhabited by members who are knowledgeable and always explore a variety of knowledge.

A. Time

Time is an important element in reading. The importance of reading is same as exercise. It will produce an intelligent mind, elevation in their status, advanced, successful and able to compete. Pandian (1997) shares a habitual reader will read a variety of materials (newspapers, story books, magazines, journals and comics) and he will actively acquire his reading material from various sources (neighbours, relatives, friends and bookshops). The individual will also spend at least an hour a day reading materials for pleasure.

B. Space

Positive and conducive environment can increase interest in reading among children and adults. Environmental factors influence reading habits. From the Profil Membaca Rakyat Malaysia 1996 by National Library of Malaysia, showed that approximately half (48%) of Malaysian households have a special space for reading.

C. Quantity

Kajian Profil Membaca Rakyat Malaysia (1996) shows that Malaysians read two books a year, a rate much still lower, with regard to literacy and awareness of higher education. Kajian Profil Membaca Rakyat Malaysia 2005 (PNM 2007) conducted by the Library of Malaysia showed a high increase of Malaysians read 8-12 books a year, when compared with Singapore's that turn 25 books a year, the reading of Malaysians is still low. In the context of the publishing industry, Malaysia has not been able to publish 7,000 new titles a year under Material Act 1986, while developed countries such as Japan have published an average of 52,000 titles a year. Although Malaysia accept all kinds of publications, including material (books, magazines, newspapers, journals, pamphlets, maps and charts) total 15,767 titles in 2009, but this amount includes books that are not published in the current year (Shaharom and Saiful Farik, 2011).

D. Promotion

The National Reading Month Report 2004, shows a total of 70 activities were held throughout the country and spreading wide as a promotional to attract Malaysians to participate in the activities that been planned. Besides that, Ministry of Education (MOE) has introduced NILAM program at the school level, and the efforts made by the Ministry of Culture, Arts and Heritage (KeKKWa) in collaboration with the MOE has launched a Reading Campaign and Reading Festival in Kuala Lumpur Convention Centre (KLCC) in July 2006. With the technology today, the other promotion that has been organized by PNM is through I-Read Database. I-Read Database is a source of information on programs and activities to encourage reading that was organized and implemented by the National Library, Public Library states and institutions involved in reading activities.

V. FINDINGS

Abu Abdillah (2012) states that generally the reading culture among Malaysians have improved. The first evidence is Malay language Newspapers' sales more than 1 million copies per day. It shows that there is a reading culture and very healthy lifestyle among Malaysians. The same goes for books, the amount of titles published were increased every year. This number is based from the National Library statistics on books received and registered under the Preservation Books Act and the Deposit of Library Material Act.

A. Trend of book publication

Table 1: Malaysian Book Production

Year	Number of Titles	Increase (%)
1994	4 050	9.60
1996	5 843	44.27
1998	5 816	-0.46
2000	5 341	-8.16
2002	7 040	31.81
2004 (est.)	8 550	21.44

B. Trend of newspaper publication

With the emergence and advances of the Internet technology, the traditional media such as newspapers have to reassess their role in the Internet age. Steve Outing of Editor & Publisher thinks that electronic newspapers are supplemental services, with little in common to print newspapers and they would not replace the print (Erlindson, 1995).

Table 2: Circulation of Bahasa Malaysia Newspapers in Peninsular Malaysia

Name of Newspapers	1993	2001	2002	% Growth or Decline	
				1993-2002	2001-2002
BeritaHarian	314 240	222 142	235 775	-24.97	6.14
Berita Minggu	418 790	321 898	342 040	-18.33	6.26
Utusan Malaysia	252 452	235 483	239 385	--5.18	1.66
Mingguan Malaysia	514 677	527 888	543 232	3.80	2.91
Utusan Zaman	16 485	8 057	7 872	-52.25	-2.30
Utusan Melayu	15 560	7 853	7 597	-51.18	-3.26
Harian Metro	-	75 895	121 154	-	59.63
Metro Ahad	-	90 029	136 974	-	52.14
Utusan Sarawak	-	31 801	35 520	-	11.69

Table 2 shows the circulation of Bahasa Malaysia Newspapers in Peninsular Malaysia in 1993 to 2002. Five of newspapers showed a decline between 5.18% to 52.25%. However, Mingguan Malaysia grew by 3.80%.

A year on year comparison (2002 and 2001) showed a more positive look. Harian Metro and Metro Ahad showed a strong growth with Harian Metro reaching 59.63% and Metro Ahad 52.14%.

Table 3: Publishers of Scholarly Journals in Malaysia

Publishers	No. of Journals	%
Government Agencies	96	20.6
Societies, Associations	104	22.4
Universities, Colleges	257	55.5
Private, Companies	7	1.5
TOTAL	464	100.0

C. *Trend of journal publication*

Numerous articles have been published emphasizing on the importance of scholarly journals in the dissemination and use of scientific knowledge.

Table 3 shows that universities are the main publishers of scholarly journals (257, 55.5%), followed by the professional or scholarly associations (104, 22.4%) and government agencies (96, 20.6%) and private agencies (7, 1.5%).

Table 4: Universities as publishers

Universities	No. of Journals	%	Year Established
Universiti Malaya (UM)	63	24.8	1962
Universiti Kebangsaan Malaysia (UKM)	38	14.7	1970
Universiti Teknologi Mara (UiTM)	33	12.8	1999
Universiti Teknologi Malaysia (UTM)	23	8.9	1973
Universiti Sains Malaysia (USM)	21	8.1	1969
Universiti Islam Antarabangsa Malaysia (UIAM)	13	5.0	1983
Universiti Putra Malaysia (UPM)	12	4.6	1971
Universiti Tun Hussien Onn Malaysia (UTHM)	11	4.3	2000
Universiti Perguruan Sultan Idris (UPSI)	7	2.7	1997
Universiti Malaysia Sabah (UMS)	7	2.7	1994
Universiti Utara Malaysia (UUM)	7	2.7	1984
Universiti Teknikal Malaysia Melaka (UTM)	4	1.6	2000
Universiti Sains Islam Malaysia (USIM)	3	1.2	1998
Universiti Malaysia Sarawak (UNIMAS)	2	0.8	1992
Universiti Malaysia Terengganu (UMT)	2	0.8	1999
Universiti Malaysia Perlis (UMP)	2	0.8	2002
Others (1 each)	9	3.5	
TOTAL	**257**	**100.0**	

Table 4 shows that UM is in the first rank in publishing journal which is 63, (24.8%) and the lowest are (2, 0.8%) from UNIMAS, UMT and UMP. The total number of journal publish is 257 journals. The total number of titles published by each university maybe exaggerated because of the inclusion of titles that may have ceased. However, the inclusion of older titles is necessary especially in the fields such as history, geography, geology, cultural and ethnological studies as older findings may still be relevant and continued to be used as well as it is important for libraries in their effort to bibliographically control Malaysian serial titles.

D. Pattern and trend of publish materials

Table 5: Numbers of publish materials about reading habits in Malaysia

Materials	No	Materials	No
Journals	33	Handbooks	1
Thesis	3	Magazines	5
Books	20	Proceedings	4
Newspapers	8	Online sources	8
Dictionaries	4	Working Papers	2
Reports	2		
Total			**90**

Table 5 shows the numbers of publish materials about reading habits in Malaysia. The highest materials that is referred is journal which is 33 and the lowest is handbook. The total number of publish materials about reading habits in Malaysia that is referred is 90 materials.

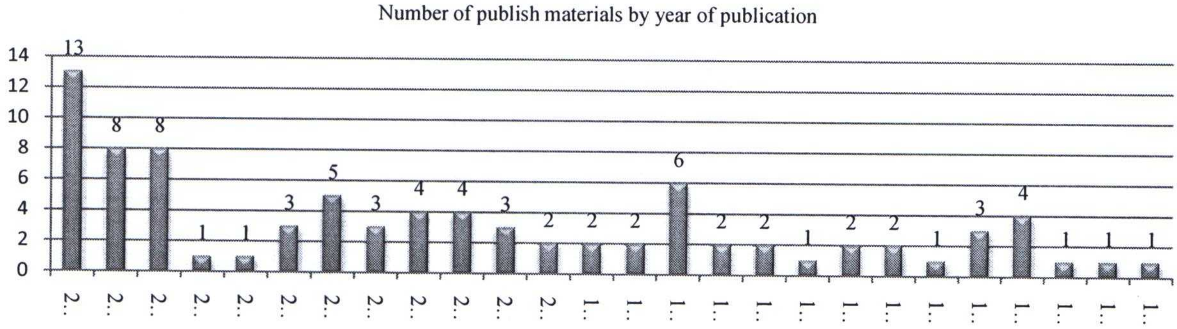


Fig. 1: Trend of publish materials by year of publication.

Fig. 1 shows the number of publish materials that was referred by year of publication from 1962 to 2012. There were 13 materials that was referred in year 2012 which is the highest from the trend. The latest materials that were referred were journals and online sources which is in year 2012. And, the total number of the publish materials was 90 materials.

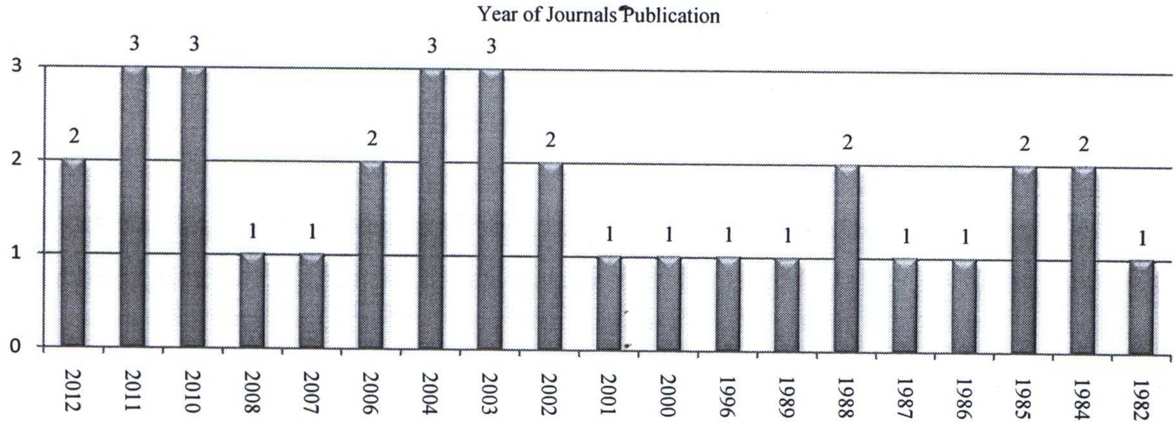


Fig. 2: Trend year of journals publication

Fig. 2 shows that the year of journals publication on reading habits. There were 3 journals in year 2011, 2010, 2004 and 2003 which shows the highest publication. The total numbers of journals that was referred is 33 journals starting from the year 1982 to 2012.

Fig. 3 shows that the year of books publication on reading habits. The highest year of publish is 2002, 1998,1997, 1996 and 1984. The total books that were referred is 20 books from various publications.

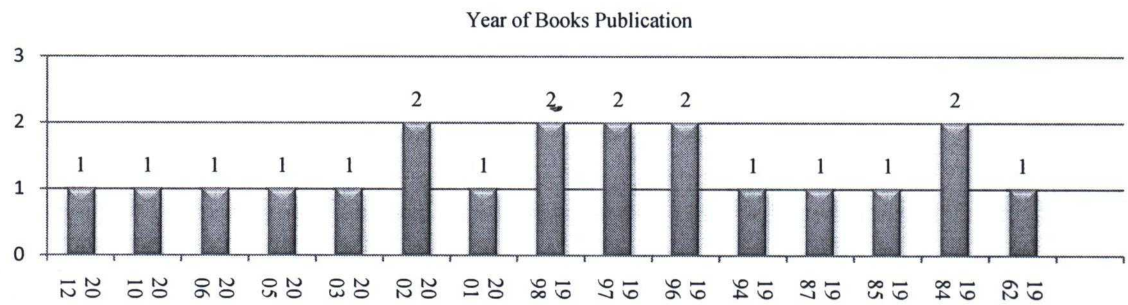
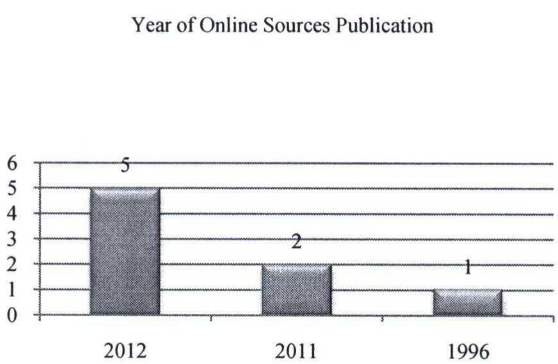


Fig. 3: Year of books publication



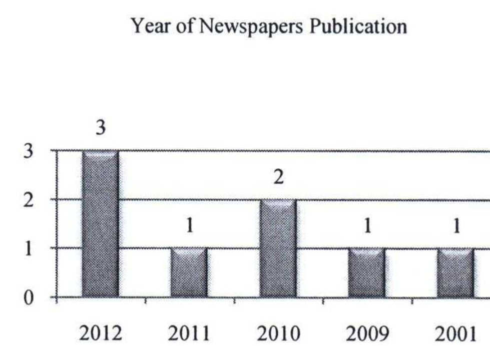


Fig. 4: Year of onl

Fig. 4 shows that the year of online sources publication about the reading habits in Malaysia. There were 5 materials in year 2012, 2 materials in year 2011 and 1 material in year 1996. Whereas, Fig. 5 shows that the year of newspapers publication on reading habits in Malaysia. The total newspapers that were referred is 8 from the year 2001 to 2012. There were 3 materials in year 2012, 2 materials in year 2010. Newspapers that were referred consist of online and printed newspapers.

VI. DISCUSSION OF PATTERN AND TREND OF PUBLISH MATERIALS

A. *Numbers of publish materials about reading habits in Malaysia*

There was 90 numbers of publish materials about reading habits in Malaysia that was referred. The numbers of journals was the highest compare to other sources because there were many articles that discussed about the reading habits and the materials were easy to access. The types of online database that was referred to access journal articles were Emerald, Science Direct, ProQuest.

B. *Numbers of publish materials by year of publication.*

The latest materials that was referred were journals and online sources which is in year 2012 and 2011 compared to other year because the researcher wants to get the latest information about the reading habits in Malaysia. Besides that, recently many sources focused on reading habits because of organizing many programs. Laporan Program Galakan Membaca 2011 stated that there were 110 reading activities organized by government and private agencies, 317 activities by education institutions, 2551 activities by public libraries, 11,921 activities by rural libraries and 32 actvities by National Libraries. And, the total activities was 14, 931 activities in year 2011. Thus, it would increased the amount of literature published about the reading habits in Malaysia.

C. *Year of journals publication*

There were many journals published in year 2011, 2010 and 2004 because there were so many activities that was organized in that year but, lacking in journals about reading habits in Malaysia. For example, when the researcher search using keyword 'reading habits in Malaysia' in Science Direct online database, there were only 986 hits but the related or needed materials was not much. And, when the researcher used keyword 'reading habits' there were 47, 359 hits and the highest year published was 2012 which was 2,910 materials. One of the journal about reading behaviors of students in Kolej Datin Seri Endon by Mohini (2012) had been downloaded 157 times since 2012. And, reading habits and attitude in the digital age: analysis of gender and academic program differences in Malaysia by Nor Shahriza Abdul Karim (2007) had been downloaded 4623 times since 2007. It showed that the journal that was referred were popular journal and always referred and used by others. Increasing of journal publication on reading habits may be because of various campaign and effort was organized by various parties.

D. *Year of books publication*

The highest year of books published was in year 2002, 1998,1997, 1996 and 1984. There were many books published in that year due to the implemented of reading campaign in 1995. Reading Campaign was officially implemented in Malaysia in 1995 through the celebration of National Reading Month with the slogan "Mari Membaca Bersama". Various activities and programs related to reading and science was being implemented throughout the country. Every year approximately 8,000 reading programs is organized with the growing number of participants.

E. *Year of online sources publication*

The highest year of material published is in year 2012 which is 5 materials. There were many websites or blogs that actively discussed about reading for example Zin Mahmud, Khairusy Syakirin Has-Yun Hashim and Professor Datuk Zaini Ujang. There were many updated online sources that were referred compared to other years since the author want to get the latest information or current issues about the reading habits in Malaysia.

F. *Year of newspapers publication*

Newspapers that was referred consist of online and printed newspapers from year 2001 to 2012. Recently, there were many newspapers that covering the issues regarding reading programs. For example, the article in Sinar Harian newspaper on May 2012, Deputy Prime Minister Tan Sri Muhyiddin Yassin has launched the National Reading Icon and fueled Values at the National Library. Besides that, article from Utusan Online 2012, a special corner equipped with reading materials will be established soon in commuter trains and stations to inculcate the reading habits in public transport.

VII. MEANS OR METHODS IN NURTURING READING HABITS AMONG MALAYSIAN

A. *Organizing reading program or workshops in collaboration with various parties for examples of government institutions, statutory bodies and NGOs.*

Government institutions/ statutory bodies like Bahagian Teknologi Pendidikan, Kementerian Pendidikan and Perbadanan Perpustakaan Awam Negeri-Negeri. NGOs like Persatuan Pustakawan Malaysia, Persatuan Pembacaan Malaysia and Majlis Belia Malaysia. All parties can play their own roles in organizing various programs for example Bengkel Penubuhan Perpustakaan Keluarga, Bengkel Bercerita, Bengkel Galakan Membaca, Bengkel Pencarian Maklumat and Kem Kembara Ilmu.

B. *Extensive promotional programs with mass media.*
Izwar and Saziati (2000) stated that the public is still not aware of the existence of 'Bulan Membaca' even though it was introduced in August 1995. Royal Professor Ungku Aziz (1996) said media is one of the agents that should play their roles since suitable with their level as reading materials and very close to society. Thus, the government and responsible party should take a good initiative to use media to attract the communities' interest by improving the reading programs, reading promotions or education programs to inculcate reading habits.

C. *Organized an online information literacy program to promote and increase cultural knowledge and cultural community of IT.*
Information is the driving force of a modern society (Md. Anwarul Islam, 2010). When society expert in handling IT, they are able to find variety of online sources for example e-books, online newspapers, online journal and thesis. But, it is important to ensure that the sources that are referred are beneficial to hinder from involving in misuse technology.

D. *The Reading Ambassador*
Usually our society is easily influenced by their idols. The National Library has appointed Malaysian icons Datuk Dr Sheikh Muszaphar Shukor Al-Masrie, Malaysia's first astronaut and actress Datuk Seri Michelle Yeoh to encourage young people to read and also to participate in reading programs.

VIII. CONCLUSION

As a conclusion, generally reading habits in Malaysia is still low and the community needs more awareness about the important of reading in daily life not only for society itself but also to the nation development. Although there are many activities, programs and campaign that is organized but it still cannot give an impact to the society to make a reading as a habits like other country for example, Japan. From the researcher's point of view, campaign can only inform and encourage the public to read but not to teach people to read. But, ongoing campaigns and activities to promote positive attitudes toward reading and motivation can also influence the interest and practice in reading. In fact, to nurture the reading habits among society, beside the effort that has been made by various parties, actually the awareness that comes from society itself and fosters the reading habits since childhood is much more important. Thus, all of us notably parents should take attention and play their roles to nurture the reading habits to their children since childhood to give raise the society that is knowledgeable, competitive, shapes good personality, ideas, right thinking and attitude.

Keywords: ***Reading, Reading Habits, Reading Readiness, Reading Motivation, Bibliometric.***

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Quality of Work Life of Librarians: A Comparison between Government and Private Academic Libraries in the Klang Valley, Malaysia

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I. BACKGROUND OF THE STUDY

The work climate in any organization is recognized as bestowing imperatives benefits on workers (Vianen and Pater 2003). For most employees, going to work can be burdensome and somewhat forced upon them to carry out every day. However, for a few, their careers are the most important thing in their lives compared to others. Among the contributing factors that lead to the significance of this issue are the social and demographic changes that have added to the diversity in work and family structures. Many have to struggle with work and family demands simultaneously to balance work and life responsibilities. To achieve the quality of work life, regular effort is required by the organizations which offer the employees more opportunities for their job effectiveness and collaboration on the overall effectiveness. The high quality of work life (QWL) is essential for all organizations to continue attracting and retaining employees. (Anwar, et. al, 2013)

QWL refers to an employee satisfaction with working life. It is a multidimensional concept and covers an employee's feelings about various dimensions of his or her work including the job content, work environment, pay and reward systems, training and career development opportunities, participation in decision-making, occupational health and safety, work stress, job security, organizational and interpersonal relations, and the relationship between life on and off the job (Adhikari and Gautam, 2010). The advancement in computer and internet technologicies also made the problem a little more complex (Reena, 2012). Under this circumstance it is very important for us to know what the impact of quality of work life especially among librarians and how it will deal with their future life.

However, when dealing with the quality of work life of librarians, we realized that there is a huge gap between government and private academic libraries. Governmental, public-sector organizations are known to operate differently than private, for-profit organizations (Baarspula & Wilderom, 2011). Tabassum (2012) have mentioned the same situation in Bangladesh. Although the private university sector plays an important role in developing human resources and the economy of Bangladesh based on the research done, the faulty turnover rate in the private universities is much higher compared to the public universities of Bangladesh. Akhter, Muniruddin and Sogra (2008) also have explored the reasons for librarians to leave the jobs were due to lack opportunities for career development, lack of flexibility & freedom, lower compensation, discriminations in rewards and benefits, conflict between management and faculty members, lack of academic and research environment, limited opportunity in job designing, etc. All these factors are directly related with Quality of work life (QWL), as QWL deals with both the intrinsic and extrinsic aspects of jobs. Therefore the purpose of this study is to investigate the relationship between work and non-work variables and quality of work life of librarians in both government and private academic libraries.

II. PURPOSE OF THE STUDY

The specific objectives are as follows:

i. To investigate the relationship between work variables and quality of work life of librarians in government and private academic libraries, such as between (1) job involvement and quality of work life, (2) work role conflict and quality of work life, (3) work time and quality of work life and (4) schedule inflexibility and quality of work life.

ii. To investigate the relationship between non-work variables and quality of work life in two different sectors, government and private academic libraries. In non-work domain, the aim is to investigate the linkages between (1) family involvement quality of work life, and (2) family conflict and quality of work life.

iii. To compare the QWL of librarians between Government Libraries and Private Academic Libraries in Klang Valley based on the QWL drivers.

III. METHODOLOGY

The purpose of this research was to present the comparison between government and private academic libraries by utilizing the descriptive design research with a structured questionnaire as the research instrument regarding the librarians' perception in working in either government or private academic libraries and the relation between work and non-work variables, quality of work life, and QWL drivers.

An online survey was used to gather data once at the same point of time for each participating library. The samples for this study were the librarians of government and private academic libraries in the Klang, Valley, Malaysia.

Probability or random sampling was applied which refer to the process of selecting samples from the population where everyone within the population has equal opportunity to be selected as samples and offer random selected. A self administered questionnaire was designed to gather data from subjects on the studied variables. There are two variables used in this study which were work variables and non-work variables. The questionnaire was divided into seven sections. Section A contained the socio-demographic information, while another six sections (Section B – Section G) contain questions related to the constructs.

The researchers decided to use quantitative analysis which will provide information on the independent variable, moderating variable and the extent of relationship between them and the implication on dependent variable. To analyze the data, internal consistency of the scale was assessed using Statistical Package for Social Science that applicable.

IV. FINDINGS

The answers gained in government and private academic librarians were quite similar. The differences that can be seen are through the work and non-work variables and QWL drivers offered from both government and private academic libraries respectively.

1) Based on the findings, it indicates that there is positive strong relationship between work and non-work variables with quality of work life. The family involvement and job involvement have the highest impact and relationship with the quality of work life as compared to work role conflict, work time, family conflict and schedule inflexibility.
2) The findings of this study also show that the QWL drivers play the important roles in affecting the Quality of work life

V. SIGNIFICANT/CONTRIBUTIONS

Therefore, it is anticipated that the contribution from this study will enhance the current knowledge in the area of job motivation, organizational behavior and human resource management by providing a model that highlights the significant paths to the quality of life of employed individuals in Malaysia. This is because the mentality, life management and perception of working in either side of government and private industries play the vital roles in terms of work performance, benefits, career development and job satisfaction for employed librarians.

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Is Quiz Competition an Effective Promotional Tool for Marketing Online Databases?: A Case Study in Universiti Sains Malaysia Library

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I. Background of the Study

Since the start of digital era, academic libraries have evolved into various partitions of services to follow patrons' demands. These services include supply of digital access in supporting study and research needs. Muniandy (2010) states that 51.1% undergraduates in Malaysian universities often use the Internet to find articles from journals [8]. Muniandy (2010) also shows that majority of patrons in Malaysian universities find it more convenient for them in using digital access rather than the manual access. Due to that, the roles of academic librarians are getting more important. Academic librarians play an important role in making the patrons aware of the benefits of using online databases instead of using search engine frivolously. For that reason, the Universiti Sains Malaysia (USM) Library has subscribed a large number of databases with a huge amount of budget every year. Thus, the return on investment (ROI) becomes an important issue. As asserted by Tenopir (2010), ROI is a core method for measuring the value of a library's collections and services [10]. The use of database statistics is one of the important supporting data for ROI. To increase the use of database statistics, many efforts have been implemented to promote the benefits of using database to patrons. Promotions through literacy programme, road tour, and open days are still not enough to attract patrons to use databases frequently. Based on USM Library report, the use of database statistics still shows a rather slow increment. To make the increment grows more rapidly, the USM Library must think critically to make patrons utilise the online databases. As stated by Jamilah Hassan Basri, Mohd Pisol Ghadzali, and Mohd Ikhwan Ismail (2011), librarians also have to create a new value in promoting online database services as a continuous marketing strategy [5]. For example, online tutorial and journal reviews should be provided by the library. Other than that, the USM Library proposes that quiz competition with interesting prizes could be a kick-start to attract patrons to use online databases more. According to Grays and Tucker (2013), close collaboration between database vendors with library has brought productive and positive impacts [3]. However, the impacts of quiz competition have not been investigated in any study.

II. Purposes of the Study

According to McDermott, Stead, and Hastings (2005), in social marketing, intervention strategy creates attractive motivational exchanges in the target group [7]. Following that statement, the purpose of this study was to examine whether the quiz competition was an attractive motivational exchanges tool for patrons to use online databases frequently. The study also tried to make a comparison analysis based on the statistics data before and after the quiz competition was introduced. Furthermore, this study attempted to reveal how USM Library used Plan, Do, Check and Action (PDCA) tool in promoting the quiz competition. Finally, the investigation continued to know the rate of satisfaction to the questions in the quiz competition and perception of some past winners towards the prizes offered in the quiz competition.

III. Methodology

The method used in promoting the quiz competition is described in this section by focusing on the roles played by the Electronic Information Service Unit (EISU) librarian. The Plan, Do, Check and Action (PDCA) tool was adopted in the study to achieve the objectives. The data obtained from the USM Library Database Usage Report were collected and analysed [9]. The details of the data were selected within period of quiz competition only. Three samples of online databases were selected. The databases involved were Thomson Reuters Web of Knowledge, Wiley Online Library, and Elsevier. Then, a structured interview was applied to investigate the rate of satisfaction on the questions in the quiz competition and perception of some past winners towards the prizes offered in the quiz competition.

IV. FINDINGS

a. *Structure of Responsibility*

USM Library has established an Electronic Information Service Unit (EISU) to handle services regarding electronic information searching and distribution for electronic materials. The EISU is also responsible to conduct any events between online database vendors and USM patrons. EISU is headed by one librarian who works with five subordinates to handle several tasks on marketing electronic information services. When the Thomson Reuters Web of Knowledge first approached the USM Library to promote the quiz competition for patrons, the EISU librarian was appointed to head the promotional works for the quiz competition event. The EISU librarian actually was not sure of the real objective of this event and did not know the proper action to take. It was like turning the librarian to marketing agent to promote the vendor's products. However, Brooks (2006) points out clearly that the vendor often relies heavily on libraries for the insight and direction to improve their products and services [1]. The librarians should thus open the gate for communication between the vendors and the library and share new ideas with vendors to give the best services to patrons. After studying Brooks's paper, the EISU librarian was sure that the quiz competition was a good opportunity to build strong relationships between vendors and librarians as one of continuous efforts in developing services for patrons.

b. *Promoting Quiz Competition Using Plan, Do, Check and Action (PDCA) Tool*

It was a challenging task for the EISU librarian to promote the quiz competition as he was required to spread and convince a large numbers of patrons in USM. The EISU librarian needed to clearly define the whole process of the quiz competition to the patrons and explain that the competition would give a lot of benefits to them. Apart from the chances to win grand prizes, the patrons were also informed that, with some difficult questions in the quiz competition, it was aimed at developing their literacy skills. Initially, the patrons were asked to prepare themselves to search the correct answer based on their own findings. The librarians did not have the answers for the questions. Only the database vendors knew the correct answers. In the end, the patrons could enhance their skill if they got a high score. The patrons were also informed that they can give feedback directly to the vendors to upgrade their services and database features during the quiz competition. The EISU librarian also informed the participants that the vendors reserved the right to decide the winners based on the terms and conditions.

Moreover, the announcement about the quiz competition was made within one week before the event. The EISU librarian had to brainstorm and design simple promotional strategy that could create immediate effect on the event. Plan, Do, Check, Action (PDCA) tool was chosen to guide the librarian to the right track in designing the promotional strategy. The tool was chosen because, as stated by Johannsen (1996), PDCA is a suitable tool to integrate strategic quality management (SQM) and total quality management (TQM). Besides that, PDCA is also customer-oriented [6]. Hutchins (2008) adds that the PDCA can help achieve simple problem solving in a very systematic way [4]. Anyone involved in project that adopts PDCA tool will gain experience, have the control over the process, record the correction, and make continuous improvement. For the study, the use of PDCA tool in promoting the quiz competition is explained as follows (see the Appendix):

i. Plan

Stage 'Plan' considers several steps that consist of the following:

1. *Identifying the details of the quiz competition.*

- When the EISU librarian received the announcement from the vendors, the details of the quiz competition such as date, length of time, terms and condition were reviewed before being released to the public. Based on USM Library's experience, the announcement was usually made in the vendors' website.
- It was also verified whether the quiz competition was to be conducted online or offline.

2. *Identifying the promotional methods to spread the quiz competition.*

- Promotional methods can be made through multiple ways, online and offline. For USM Library's case, the offline methods were quite difficult to be executed due to limited number of librarians, support, and time. EISU librarian decided to make full use of the online methods by using the social media and viral emails to promote the quiz competition. It was made sure that the promotional methods were suitable for all the targeted groups. Persuasive and attractive words and statements were carefully prepared. Chances to collaborate with other departments, divisions, groups, and individuals were also identified. For instances, the news spread through viral email was done by the experts from the University's Information Technology Department, and advertisement through Facebook was made by the librarians from the Library Customer Service Division.

3. *Identifying the target audience*

- The scope of quiz competition was also determined—whether it was worldwide, regional or close to USM patrons only. Exception was made for librarians from participating in the competition.

Stage 'Do' considers several steps that consist the following:

4. *Initiating the promotional methods*

- The EISU librarian initiated the promotional methods based on 5W 2H (What, Where, When, Who, Why, How, How Many) technique. 'What' was used to determine the name of the quiz competition. 'Where' was used to determine the scope of area to promote. 'When' was used to determine the length of the quiz competition. 'Who' was used to determine the targeted group. 'Why' was used to explain the reason promotion for the quiz competition was required. 'How' was used to determine the tools to be used in promotion. 'How Many' was used to determine the total targets to involve in the quiz competition. Further details of promotional methods using 5W 2H technique are described in Fig. 1.

- The 5W 2H technique is usually adopted in enhancing management quality. Carvalho, de Matos, dos Reis, Serpe, and Carvalho (2012) [2] add that this technique is also suitable as tool to increase management creativity.

WHAT	Web of Knowledge Discovery Quiz
WHERE	All Schools & Departments, Universiti Sains Malaysia
WHEN	Started on 1st October until 30th November 2011
WHO	Promote to -Undergraduates, Postgraduates, PhD -Lecturers and Admin Staff -Fellow Researchers -except Librarians
WHY	1. Offer grand prizes. 2. Compete with other universities. 3. Upgrade achievements 4. Enhance patrons skills
HOW	Promote through 1. Social Media 2. Viral email 3. Paper clip 4. Posters 5. Banner
HOW MANY	Target 1000 participants

ii. Check

Stage 'Check' considers several steps that consist the following:

1. Checking the feedback

- The EISU librarian would respond if there were feedbacks from patrons at any media about the quiz competition, such as blog, Facebook, email, and at the counter. If the patrons needed special training on certain database to complete their knowledge on answering the quiz, the requested special session would be run in the library. The special session usually did not run more than 3 hours and was attended minimum by 10 patrons.

2. Improving the promotional methods

- When the patrons complained about late notice or were reluctant to accept the terms and condition for participating in quiz competition, the EISU librarian applied persuasive talking to the patrons to answer to the complaint. Clear and accurate information about the quiz was also given to the patrons.

3. Monitoring the promotion methods

- The EISU librarian was responsible in monitoring the whole process of promoting the quiz competition. The EISU librarian monitored the promoting task performed by his subordinates too. Their technique on spreading news about the quiz competition was enhanced with good interpersonal communication skill especially at the main entrance of library.

iii. Action

Stage 'Action' considers several steps that consist the following:

1. Evaluating the achievements and the impacts

- The evaluation on promotional methods was made based on participation by the USM patrons and vendors. The perception whether quiz competition received high or low response was made through the total number of participations. Some vendors gave total number of participants but others did not expose it. This process was executed after the vendors announced the winner.

- If USM patrons were listed as among the winners, that would mean that the promotional methods were successfully initiated.

2. *Informing and announcing through multiple media*

- The EISU librarian publicised the list of winners in multiple media such as blog and Facebook especially if USM patrons were among the winners. The publicity was as an appreciation for the patrons' times and efforts in joining the quiz competition. It was like putting them in the Hall of Fame of the quiz competition.
- If the prizes were to be given to the winners through EISU librarian, some pictures were taken and posted in the blog.

This explanation shows that, to strategise promotional activities using PDCA tool, the contents should be detailed and clearly defined based on the planning, initiatives, and improvement to overcome the challenges.

c. *Impact study*

During the promotion of quiz competition, the EISU librarian found that this event was expected to bring positive effects. Many patrons came to the counter asking about how to use the online database effectively. Furthermore, many patrons also just realised that there was Information Literacy Skill Workshop in the library for training them to use online databases in a better technique. Based on three samples of database statistics, this study successfully compared the trend of usage before and after the quiz competition being initiated.

i. *Sample 1: Thomson Reuters Web of Knowledge*

The first analysis database sample was Thomson Reuters Web of Knowledge. This bibliographic database used the queries as number of statistic usages rather than the searchers or full-text downloads. The quiz competition was named as Web of Knowledge Discovery Quiz. This quiz was opened to national level only and it was the first quiz competition involving USM Library. It was from on 1st October until 30th November 2011. As shown in Table I, the data were collected in October 2010, October 2011, November 2010, and November 2011. The study tried to compare the statistic usage between 2010 and 2011 within the two months. Before the quiz was introduced, the total statistic usages in October 2010 were 3,003 queries, while in November 2010, the total statistic usages were 3,465 queries. After the quiz competition was introduced in October 2011, the total statistic usages in that month were 6,480 queries, while on November 2011, the total statistic usages were 6,670 queries. This study found that there was an increase of 115.78% in the number of queries from October 2010 to October 2011 as the first month of the quiz competition. In the second month of the quiz competition, there was an increase of 92.5% in the number of queries from November 2010 to November 2011. These findings show that there were increases in the usages of Thomson Reuters Web of Knowledge due to the quiz competition.

TABLE I. WEB OF KNOWLEDGE STATISTIC USAGE (1ST YEAR OF QUIZ COMPETITION)

Month	**Year**		**Percentage Increment (%)**
	2010	***2011***	
October	3,003 queries	6,480 queries	115.78
November	3,465 queries	6,670 queries	92.5

In the same way, the study tried to look on the second year of the quiz competition. The event was run again nearly at the end 2012, but start date of the quiz competition was different. The quiz competition was from 9 October until 31 December 2012. The sample was taken on overall month between October 2011(6,480 queries) and October 2012 (7,801 queries) even though the quiz competition was started on 9 October. The study found an increase of 20.3% between October 2012 and October 2011. In the next month, there was slightly different finding between November 2011 (6,670 queries) and November 2012 (5,128 queries), i.e., there was a decrease of 23.11%. This finding shows that there was an uncertain trend in the second year of usage. Although there was a decrease in the percentage, the numbers still showed consistent usage and did not drop under 3,003 queries (October 2010). Moreover, the queries on December 2010 (7,717 queries), December 2011 (5,616 queries), and December 2012 (6,765 queries) showed a unique finding. The queries on December 2010 were higher than December 2011 and 2012 although at that time the quiz competition had not yet been introduced.

TABLE II. WEB OF KNOWLEDGE STATISTIC USAGE (2ND YEAR OF QUIZ COMPETITION)

Month	Year			Percentage Increment (%) between 2012 & 2011
	2010	*2011*	*2012*	
October	3,003 queries	6,480 queries	7,801 queries	20.3
November	3,465 queries	6,670 queries	5,128 queries	-23.11
December	7,717 queries	5,616 queries	6,765 queries	20.5

ii. Sample 2: Wiley Online Library

Next, the second sample database was Wiley Online Library. This full-text database used the download criteria as the number for statistic usages rather than the number of queries, searchers, or requests. Wiley Online Library introduced the quiz competitions for the first time in 2012 to USM Library. The quiz competition was called "SPRING into Wiley Online Library 2012". The quiz was put on Asia Pacific level. The quiz period was from 27 March 2012 until 11 May 2012. The analysed statistics data were selected from April 2012 until May 2012 and compared with April 2011 until May 2011. As shown in Table III, the study found that in April 2011, there were 18,389 downloads, while in April 2012, the number increased to 18,423downloads with percentage increment of 0.2% only. For May 2011, there were 15,731 downloads and the number increased to 24,207 downloads on May 2012 with high percentage increment of 53.8%.

TABLE III. WILEY ONLINE LIBRARY (1ST QUIZ COMPETITION)

Month	Year		Percentage Increment (%)
	2011	*2012*	
April	18,389 downloads	18,423 downloads	0.2
May	15,731 downloads	24,207 downloads	53.8

Until November 2013, Wiley Online Library did not run any quiz competition. Therefore, there was no supplementary comparison study between the first year and the second year for Wiley Online Library.

iii. Sample 3: Elsevier

The study was continued to get another sample from Elsevier. USM Library just involved actively on Elsevier's quiz competition since 2013. The quiz competition named 'the ScienceDirect and Scopus Challenge 2013' involved two databases namely ScienceDirect and Scopus. There were two stages in the quiz competition. Stage 1 was in which the participants were required to answer questions related to using Science Direct and Stage 2 was for questions related to using Scopus. Both of the quiz competitions were put on Asia Pacific level. These two quizzes were separated into two periods. The quiz competition for ScienceDirect was from 15 March until 30 April 2013, while the quiz competition for Scopus was from 1 May until 15 June 2013. Both of databases used the searchers criteria as the number for statistic usages rather than the number of queries, downloads, or requests. The analysed statistics data for ScienceDirect were selected from March 2013 until April 2013 and compared with March 2012 until April 2012. On the other hand, the selected data for Scopus were from May 2013 until June 2013 and compared with May 2012 until June 2012. Based on Table IV and Table V, both databases showed negative percentages. In the first month of the quiz competition, ScienceDirect stated 14.06% decrease from 50,609 searches (March 2012) to 43,492 searches (March 2013). The statistics continued to drop from 45,021 searches (April 2012) to 34,492 searches (April 2013) 23.38% decrease.

TABLE IV. ELSEVIER SCIENCEDIRECT

Month	**Year**		**Percentage Increment (%)**
	2012	***2013***	
March	50,609 searches	43,492 searches	-14.06
April	45,021 searches	34,492 searches	-23.38

Scopus showed the same trend. From 15,763 searches (May 2012), the number dropped to 11,277 searches (May 2013) with 28.45% decrease. In June 2012, there were 14,542 searches compared with June 2013 with 8,824 searches, stating 39.32% decrease.

TABLE V. ELSEVIER SCOPUS

Month	**Year**		**Percentage Increment (%)**
	2012	***2013***	
May	15,763 searches	11,277 searches	-28.45
June	14,542 searches	8,824 searches	-39.32

The study tried to identify the causes of decreased impacts in both ScienceDirect and Scopus and found that:

i. It was due to the frequent disruption of access within the period of quiz competition so that the Elsevier database was unstable to access. The disruption happened due to wiring renovation project at USM Library.

ii. It was because majority of undergraduate students were focusing on exam weeks (March and April 2013) and semester break (May and June 2013) thus giving the low number of Elsevier database users.

d. Rate of satisfaction among the winners

This study was continued by investigating the rate of satisfaction among the winners. Among the participants in the three samples of quiz competition, EISU librarian selected five winners in the two quiz competitions as the respondents. Three winners were from the first year of the Web of Knowledge Discovery Quiz 2011 and another two were from ScienceDirect and Scopus Challenge 2013. A structured interview was made with three simple questions. The questions were as follows:

i. How would you rate the effectiveness of the questions in the quiz competition in developing your searching skill?
   a. Very high
   b. High
   c. Average
   d. Low
   e. Very low
ii. How would you rate the prizes offered in the quiz competition?
   a. Grand
   b. Reasonable
   c. Poor
   d. Do not want to rate it
iii. Do you still want to participate in the quiz competition again if you did not win anything?
   a. Absolutely yes.
   b. Not really.
   c. Have to think about it.
   d. No.

For the question (i), three winners said that the effectiveness of the questions in the quiz competition was 'Very high' in helping them develop their searching skill while another two chose 'High'. For the question (ii), two of the five respondents rated the prizes as 'Grand' and another three chose 'Reasonable'. For the question (iii), four of the five respondents chose 'Have to think about it' and another one chose 'Absolutely yes'.

From the analysis of the interview, overall, the past winners showed high satisfaction on the quiz competition especially on the promotional process and initiatives taken by the librarian. They agreed that the attractive prizes were the main objective for them to participate in the quiz competitions and they were glad that the database vendors were willing to sponsor the event. Moreover, the past winners also agreed that the quiz competition was also successful in enhancing their searching skills in using the database features.

V. SIGNIFICANCE/CONTRIBUTIONS

This study reveals a significant finding that quiz competition is an effective tool in promoting online database if the strategies are applied efficiently without any disruptions. In the first month after the quiz competition was initiated in the USM Library in 2011, the usage data showed 115.78% increase. It showed that the event was a big contribution to the ROI data. This finding proves that if the quiz competition was not conducted, there could still be low number of patrons using the database or the patrons did not even know the right technique to use the online database. Apart from that, limitation on time to promote any event related to the online databases can be solved if the librarians can use the right tool properly. The PDCA tool was very helpful in managing promotional activities to get immediate response from many patrons. Furthermore, The EISU librarians did the online promotional activities more than offline promotional activities. Although there was less physical interaction between the librarians and the patrons, which led to low use of papers and cost, the promotional activities were still a success in attracting the patrons to participate in the quiz competitions. Not only that, there were five winners from USM in the two quiz competitions. Giving the details on every aspect of the quiz competition in promoting could be the main reason to achieving some of the winners. However, the librarians should collaborate and work with various parties as a team to ensure the patrons will use the relevant database more efficiently and they do not depend on the quiz competition as the only promotional tool.

Keywords: academic libraries, online databases, marketing, promotional methods, electronic information services

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An Appraisal of Managerial and Technical Handling of Manuscripts Collection in Lahore, Pakistan

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I. BACKGROUND OF THE STUDY

Pakistan is although young in its birth but its land has an old civilization influence by Arians, Hindus and Muslims. Manyinvaders including Muslims and British's largely effected the courses of history. The recorded account of history are known as'Manuscripts'. 'Manuscripts' are source of memories and wisdom of mankind and are collective intellectual heritage of all nations. Their rarity make them precious and their long life they become fragile for handling. As a careful estimate there are about 150 thousand manuscripts in Pakistan either placed in institutions or within private collections. Manuscripts in institutions of Lahore constitute one third of the total manuscripts in Pakistan. This study revealed a number of their features and strengths as national intellectual heritage i.e. their contents, formats, origin, materials and other features. On the other hand a number of managerial and technical handling techniques and approaches were evaluated on international standards. Managerial and technical handling i.e. acquisition, appraisal, information organization, access, conservation, preservation and digitization were investigated with help of relevant research methods.

II. PURPOSE OF THE STUDY

This study is aimed:

1. To review the current situation of the precious manuscripts in libraries of Lahore;
2. To learn the appraisal process of manuscripts for the collection development and among these libraries;
3. To assess the state of MS access and usability;
4. To observe the conservation and preservation situation and procedures;
5. To analyze the digitization activities of manuscripts and their related issues.

III. METHODOLOGY

A. Design of Study

Qualitative research methods are used to conduct this study. Data collection tools i.e. documentary research and interview techniques are used. Detailed description of every manuscript collection in libraries of Lahore is presented to draw a broader picture of their historical, scholarly and cultural worth through documentary research. Investigation of managerial and technical processes is investigated with the help of semi-structured in-depth interviews. The segments of investigation are; identification and acquisition; access and usability; conservation, preservation and digitization of manuscripts. Seven selected libraries of Lahore (public or private) with manuscript holdings are selected as study population.

B. Population of Study

Selected cases represent the university library, public library, museum and archive. Libraries of following institutions were selected for this study:

- University of the Punjab
- Govt. Punjab Public library
- Dayal Singh Public library
- Lahore Museum library
- Government College University Library
- Department of Archeology Library, Punjab
- Punjab Archives

C. *The Important Research Questions*

This study intends to present a broader picture of manuscript management and technical handling in libraries of Lahore. Purpose of this study is aimed to achieve through following research questions (RQ):

RQ 1. What is the state of manuscripts in the libraries of Lahore?

a. The size and nature of the collection.
b. The number, education and skills of related staff.
c. The building, environmental controls and etc. for MS keeping.
d. The kind of services currently being offered for MS.

RQ 2. Which appraisal techniques are being used for identification of manuscripts?

RQ 3. What is the state of manuscript's collection development?

RQ 4. Which information organization methods are practiced to ensure the access and retrieval of information?

RQ 5. How libraries are ensuring the usability of manuscripts by users?

RQ 6. Which conservation and preservation techniques are used by these libraries?

RQ 7. What is the state of digitization of manuscripts and what obstacles are being faced?

D. *Research limitations/implications*

All possible measures were taken to avoid any limitation during study. However, it was found that institutions were sensitive about talking or showing their manuscripts. Two institutions never allowed visiting their manuscript control room a s per policy and security reasons. Interview questions were set for six different types of personnel. However it was often same person responsible for more than one duty. It reduced the number of interviewees yet the interview questions needed to be emerged accordingly. It was also found that due to very little pervious research and surveys on this topic with in Pakistan, exact facts and figures are missing or not matching in many cases.

E. *Practical & Social implications*

This is first study of its nature conducted in Pakistan about Pakistani MS collections. Findings of the study have practical and social implications. The findings will guide the policy makers to plan about the deprive situation of the manuscripts. It opens many neglected areas of research for ICT focused scholars and practitioners. It also increase social responsibility among professional to work for the care of manuscripts.

IV. FINDINGS

The results showed that in local circumstances the manuscripts are cared and presented well but according to international practices there are many flaws and gaps in procedures. This study is preliminary and thought provoking for the concerns to work for intellectual heritage and digital humanities.

A. *Abbreviations and Acronyms*

Manuscript
MS Manuscripts
MSs Conservation & Preservation
C&P

V. SIGNIFICANT/CONTRIBUTIONS

This study was conducted for Master of Philosophy in Library and Information Science Thesis. This is first time in Pakistan to conduct research covering all aspects related to MS management and handling. The conditions of MSs, their handling and management are none the less similar to other South-Asian countries. Findings of the study will highlight the issues related to the managerial and technical concerns of MSs.

Keywords- Manuscripts, appraisal, bibliographical control, conservation, preservation, digitization, Pakistan

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The King's Sacred: Manuscript Collection in Library of Radya Pustaka Museum, Surakarta, Center of Java, Indonesia

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I. BACKGROUND OF THE STUDY

Indonesia is a unique country that has cultural diversity and heritage that can be found in many forms such as manuscript, temple, site, etc. Those artifacts act as evidence that Indonesian rich with cultural heritage from their ancestors. Manuscripts are one of the most important heritage that convey nobles and great values of the past to the society. Kesultanan (Kingdom) Surakarta has thousands manuscripts that kept and preserved at the library of Radya Pustaka Museum (RPM).

The purpose of this study to determine how preservation has been done by RPM and identify aspects of culture that makes the Library of RPM manuscript collection is considered sacred by the community. This research is a case study using a qualitative approach that aims to gain a deep understanding. Data were collected through interviews and observation. Interviews are conducted semi-structured interviews, which adhered to the list of questions that had been developed previously.

Library of RPM is housed in the Radya Pustaka Museum whose location is in the Cultural Tourism Sriwedari Park, Slamet Riyadi Street 275, Surakarta, Central Java. The special characteristic Radya Pustaka Museum is a statue R.Ng. Ranggawasita, under the statue it says Java is an excerpt *Sabdajati manuscript* and *Kalatidha*. These manuscripts collection are belongs to the Royal Family (Sultan) of Kesultanan Surakarta. There are 3,619 sheets of manuscript that kept at the library. There are two kinds of manuscripts writings; *carik* manuscripts (authentic original) and *tedhakan* manuscripts (copy). Almost these manuscripts were made by *papyrus, dluwang,* and *european papers*. One of the most popular collection is *Qoran* (manuscript), which is written by *carik*. This is because Islam is the religion followed by the King.

The manuscripts of the Sultans and its family then become as cultural representament of the Royal family (Sultans) which are respected as sacral. Fathurahaman and Chambert-Loire (1999:95) notes that *Surakarta is one of the barns Java and Java kuna (ancient) manuscript in Indonesia, in addition to Yogyakarta. Because, Java is the oldest tradition and produce texts in the largest amount*. In its tradition Javanese record its history and culture of the past though the tradition runs exclusively in the noble crown. Theodore Pigeaud quoted Faturahman and Chambert (1999:95) argued that *Javanese literature that came to us in manuscript form only a small part of the whole writing produced by Javanese authors for centuries, starting from pre-Islamic period up to the 19th century*. Further description of the state of the manuscript collection of Java (very rich) and business inventories has been suggested by T. Behrend (1993:407) states that the general collection in Indonesia and in Europe hold more than 19.000 Java manuscript, and many more that are in the hands of the people, both in Indonesia and abroad.

However, the manuscript of which is considered sacred, causing the manuscript itself may not be touched by hands as learned and explained in the text books on the method of preservation. Otherwise the condition becomes alarming, brittle with age. Based on the age factor, a collection of manuscripts in the Library of RPM included in the category of objects of cultural heritage, because of age manuscript more than 50 years. Research of Susetyo-Salim (2011) on the conservation of manuscripts of Surakarta, suggesting that conservation efforts (active and passive) were performed at the Library of RPM include laminate, fumigation and binding. It's just that not all of the text has been handled well by the method of preservation.

Preservation does not only include physical protection of materials, but also protects the contents of the information. In other words, re-writing, redeployment, and the use of safe containers for documents to be applied in order to expand access to information that may be lost when the original is damaged or destroyed. Based on the number and level of use Library of RPM manuscript collections is relatively high, because many researchers who come and examine the contents of this manuscript. Making preservation of the manuscripts should be implemented. Preservation is not only because of the physical manuscript that naturally would be damaged, but also because the script is owned by Library of RPM shows the sanctity of the King. So its role in the community is important.

In the past, the common people (*Kawulo alit*) are not allowed to read the books (which is a manuscript). Because in ancient times only Kings and family and palace which has allowed to see and read the manuscript. Javanese community is feudal society in which one's status or position in the social system strata of society are centered to the king. So people who are at the lower strata, in this case the common people (*Kawulo alit*), feeling embarrassed and scared to touch and interact with the strata above it (*Abdi ndalem*). This happens because the Java community and family always idolize King Palace. So the texts as a result of the activities of the poets writing can only be read by the King and the royal family.

The main goal of Library RPM (*Paheman*), among others, is to preserve the art of Javanese culture, to educate the nation in order to become knowledgeable and to improve spirit of nationality (Bauwarna, 2000:602). So that, collection of Library RPM reflects not only the value but also the knowledge of the Java community that has developed since the beginning of human civilization. In addition, this study suggests Islam is a religion that has long entered into the King, Royal Family and Javanese community. Its proven by their manuscript collections. While the books are the essence of the manuscript that has been transliterated and then written back that it is locally owned community knowledge of Java, such as the books of Balai Pustaka. Not only the text of books owned by the Library RPM written in traditional text of Java, but also written in Dutch, French, Japanese and English. This shows how important the role of libraries in preserving and sharing the information in the text (manuscript) is. In addition, this research opens a new understanding of the importance of culture in library and information science research.

***Key words**: The King's Sacred, Preservation, Culture in Library, Manuscript, Rare Collection, Library of Radya Pustaka Museum (RPM)*

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Knowledge Diffusion through Islamic Architecture: A Bibliometrics Reflection

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I. BACKGROUND OF THE STUDY

Islamic built environment is unique in many dimensions. On the aspect of design for example, Mosques are designed globally to serve spiritual, moral, social and educational purposes. Due to this obvious reason, a study needs to be undertaken to explore growth and development of the Islamic Architecture literature. Sharing of appropriate knowledge and information is considered vital to successful goal achievement in any aspect of human endeavor. Therefore it is quite pertinent in this information age to know the extent to which Islamic Architecture literature is developing.

II. PURPOSE OF THE STUDY

The purpose of this paper is to bring to the light of the day the contribution of scientists, architects, researchers and scholars towards growth and development of Islamic architecture literature and to generally examine the nature of contributions by the intellectuals in the field.

III. METHODOLOGY

In order to achieve the noble purpose mentioned above, a comprehensive list of journal articles on the Islamic architecture researches published during the period 1962-2011 was generated for analysis from *'Avery Index to Architectural Periodicals."* architectural database. This architectural database is globally considered popular and comprehensive in recording architectural literatures. The range of the data used for the research constitutes fifty (50) years. A total of one hundred and fourteen (114) articles by one hundred and three (103) authors were identified. In accessing the database, the term "*Islamic architecture*" was used for searching relevant data from the database. In order to have comprehensive information on the growth of the subject literature, the articles were grouped into five-year period from 1962 through 2011. Ten groups emerged and each of the groups was analysed manually, and separately.

To accurately determine the growth of the literature, year by year counting of the relevant journal articles was done thoroughly and the result of each year was recorded separately. Comparison of the result of each year was done to exactly find the extent of growth of the literature. The final analysis was done using the Microsoft Excel 2010. Nature and pattern of authorship was also determined by separating single authorship from the collaborative authorship journal articles. Furthermore, Lotka's inverse law of scientific productivity was utilized for the literature of Islamic architecture to determine the extent of productivity of authors. The law can be conveyed as:-

Xn Y = C where:-
X = Number of authors
Y =Number of authors with **X** articles
n = Is an exponent with a fixed value of **2**
C = Is a constant depending on the subject or discipline

Lotka's law was also applied to the compiled data for the purpose of determining the productivity and efforts of the scholars in their various researches in this relatively new area in bibliometrics studies.

IV. FINDINGS

The finding of the study has indicated that the literature of Islamic architecture is currently receiving some interest and attention from the scholars. The result shows that from the initial stage, the growth was slow but over time it began to progress and picked up. The growth of the literature from the period 1977 was exponential. This shows clearly that, Islamic architecture has received a significant attention from the scholars particularly during this period of the study. It is quite important to know that research in Islamic architecture nowadays is very attractive among the scholars, authors and scientists. This condition contributes significantly towards growth of the literature, expanding readership, creating interest among networks of authors, researchers, architects and potential architects.

On the issue of pattern of authorship, single authorship dominates the literature (84.4%). This finding corroborates that of Thanuskodi (2011) on his research on Library herald journal, where single authorship outnumbered the rest with (52.17%). Considering the period or scope of the study 1962-2011, (49) years, one may draw another conclusion that, the literature of Islamic architecture confirmed the popular saying as Weintraub (1980) opined that, whereas scientists collaborate, humanist rarely collaborate. This further gives us important information that, the literature tilts more to arts and humanity discipline rather than the sciences discipline. Therefore, the issue of collaborative researches in the area was highly de-emphasised and not practiced seriously.

The finding shows that author productivity data for Lotka's law of productivity conveyed a very useful information that, Out of the 103 name of authors, 87 (84.4%) produced one article, 12 (11.65%) produced two articles. The calculation for the Lotka's law was, **n** = 2, **C** = 87 and the values obtained as a result of the application of the law could be seen in the fourth column of the table two (2). Furthermore, the five-year spreading of the literature has shown that, there is a significant growth of the literature from 1977 forwards. To further buttress on the productivity of authors in this growing area, the data in figure 2 shows the observed versus the estimated number of authors with **n** = 2 for the number of journal articles from 1 to 14. In this figure 2, the observed and estimated lines can only be distinguished in the middle of both the two lines. Generally, authors are said to be productive based on the number of journal articles they produced on a particular study, research or investigation on a subject or discipline. However, despite these findings, one could confidently say that, Lotka's formulation of inverse square law of scientific productivity is applicable to the growing literature of Islamic architecture.

Therefore, the conclusion of findings of the study clearly shows that, Lotka's law was found to be in conformity with the literature of Islamic architecture.

V. SIGNIFICANT/CONTRIBUTIONS

The paper enlighten on the state of the art research in Islamic architecture which has not been covered by any similar bibliometrics research or study. Most importantly the findings of this study will greatly contribute in the selection of relevant and appropriate library materials in the literature of Islamic architecture.

Keywords: knowledge diffusion, Bibliometrics, Islamic architecture, Literature growth, Lotka's law.

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Cataloging Arabic Script in Koha: IAIS Library Experience

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I. BACKGROUND OF THE STUDY

The IAIS Library commenced soon after its parent institution started operation in the last quarter of 2008. As a library of a small research institution, the IAIS Library needs to be very selective and cautious in its activities. Concurring with the institute's subject concern and niche areas, the Collection focuses on Islam, with approximately 50% in Arabic language. Generally, the Collection focuses on the Qur'an, Hadith, Islamic jurisprudence, Islamic economics, policy studies and governance, modernity, globalization and selective related topics. They are categorized as books (monographs), and journals (serials); the books are subdivided according to the type of publications: references, the general books, biographies, official publications and controlled access.

The library adopts the international library standards; the Library of Congress Subject Heading (LCSH) and the Library of Congress Classification Scheme (LCCS) are used. One of the reasons is to facilitate cooperation and resource-sharing with other libraries; and the needs of the users who are mainly experienced scholars, involved in research, consultancy, seminar presentations, and writing/publishing; many of these users are also internationally known and active.

The main challenge of IAIS library in implementing ILS is in the search and implementation for the most suitable system, which supports Arabic catalog and searching at the same time maintaining cataloging and searching capabilities of English text. The software also has to be within the budget constraint of the organization. Based on the above requirement, budget constraint and availability of local support, Koha Open Source integrated library system was selected.

In October 2010, implementation of Koha ILS version 3.02 at IAIS library was officially commenced. It started with implementation strategies, technical requirements identifications, and parameter setup of the system. The implementation also involves data migration of the existing records (approximately 1,300 titles, in Microsoft Excel format and some in the PUSTAKA system). A third party free catalogue editing tools namely MarcEdit was used to speed up cataloging and batch data editing processes together with z39.50 client and batch bibliographic import tools available in Koha was used. Currently IAIS library have approximately 2177 titles and has upgraded to Koha version 3.12. IAIS library OPAC can be accessed at http://office.iais.org.my.

II. PURPOSE OF THE STUDY

Koha is an open-source Integrated Library System (ILS) developed in New Zealand and deployed for the first time in January 2000 for the Horowhenua Library Trust. Koha is a fully-fledged software with basic and advanced features. IAIS library have more than 50% Arabic collection, the library requires an integrated library system that meets all requirement of a research library, including capabilities in handling Arabic catalog records. The objective of this paper is to describe the experience of International Advance Islamic Studies (IAIS) Library in implementing Arabic script catalog using Koha open source integrated library system.

III. METHODOLOGY

The paper describe how to implement Arabic Script Cataloging in Koha using vernacular transliteration approach. First, user requirement was identified and analyzed. Based on the requirement, Arabic Script Cataloging implementation strategy was developed. Only title and author needed to be cataloged in Arabic. It was followed by Koha customization to accommodate arabic catalog, index and searching requirement. Tools such as Library of Congress MARC 21 Format for Bibliographic Data was used in developing arabic script cataloging implementation strategy. For Koha cutomization, community support was used as a tools for developing customization strategy. A search test on OPAC was done on both installation, previous and after transliteration indexing to confirm the result.

IV. FINDINGS

After Koha customization has been done, catalog indexing and searching is working as intended. Search test in OPAC reveal the result before and after customization as illustrated in table 1. Search test is conducted to confirm two objectives: i) Precision of search hits in Title index and ii) Precision of search hits in Author index. Before applying Arabic indexing transliteration rules, search term: "الموسوعة" for Title returned 249 results. Most of the records returned do not match the search term. The search precision is between 9.95% to 23.7%. After customization, the same term "الموسوعة" for Title returned 20 search results with precision at 100% as shown in fig. 4. Table 1 shows further test on search results.

TABLE I - SEARCH TEST BEFORE AND AFTER APPLYING ARABIC TRANSLITERATION INDEXING

Test No	Search Term	Result Hits (Before)	Result Hits (After)
1	Author: القرضاوي	215	51
2	Author: قرضاوي	425	51
3	Title: الموسوعة	249	20
4	Title: الاسلام	432	43
5	Title: اسلام	429	43

Results shown in Table 1 also revealed that search term "ال" and without "ال" produce consistent hit after applying Arabic correction indexing. Koha are able to accommodate Arabic script catalog, indexing and searching. Library needs a careful strategy plan on how to implement Arabic script catalog. In the process, we have identified community support as a vital aspect in successful open source software implementation. In this case, the support from Arabic Koha Community through knowledge sharing has contributed to the successful implementation of Arabic script catalog in Koha at IAIS Library.

V. SIGNIFICANT/CONTRIBUTIONS

This paper can become a useful to other libraries, particularly libraries with substantial Islamic collection in Arabic script, looking to procure and implement an open source integrated library system. In the case of smaller libraries, this may well be a basis for sharing and cooperative cataloguing, especially with reference to Arabic language materials.

Keywords: Integrated Library System (ILS); open source library system; Arabic catalogue; research library - case study; KOHA library system;

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The Relationships Between Information Security Management Practices and Organizational Agility: A Conceptual Framework

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I. BACKGROUND OF THE STUDY

Organization that is being able to adapt successfully and efficiently to unexpected changes in business environment or able being agile in such environment is having a key in gaining a competitive advantage in the global market. As for that having an attribute of agile capability is required to works in such unpredictable business environment. These attributes are known as Organizational Agility (OA) and often to achieve OA, organization is increasingly incorporating IT system as enabler of agility in organization based on the notions that IT systems enabled in speeding up activities that allow intelligent and autonomous decision making and smoothening distribution operations with collaboration efficiently. However, IT itself is a double-edged sword. Although it's capable to improve organizational performance, but it threats to individuals and organizations are also inevitable if they are improperly managed and governed. With the modern and globally connected business environment, the information assets of organizations are constantly under attack and require regular protection from various types of threats that will hinder them for excelling well and survive. Surprisingly, absent from previous studies is the argument on the aspect of how information security management as internal control practices of organization's information assets could contribute to OA.

II. PURPOSE OF THE STUDY

The literature suggests that OA has three important elements which are; the customer agility, partner agility and operational agility (Dunlop-Hinkler et al., 2011; Venkatraman and Henderson, 1998). Even, the studies on each elements as construct of OA has received a lot of attentions by scholars for the past ten years (e.g. N. Roberts and V. Grover, 2011 and Sambamurthy et al, 2003) and most of these studies aimed at the contribution of IT systems towards achieving agility. Yet, despite the growing body of research on effects of IT systems to OA is well conducted, absent from these studies is the argument on the aspect of how IT security governance and particularly the information security management and internal control of organization's information assets could contribute to accomplish OA. Against this concern, this paper attempts to provide conceptual understanding on the relationships of information security management (ISM) practices on OA capability.

III. LITERATURE ANALYSIS

A. *The Organizational Agility*

Organizational Agility (OA) refers to an organization's ability to compete and thrive in an unstable business environment by quickly detecting and seizing opportunities and tackling threats (Trinh-Phuong .et. al, 2010). OA is regarded as the enabler to organization's performance and also has been increasingly recognized as the critical factors that help organization to achieve competitive advantage (Ganguly et al., 2009; Seo and La Paz, 2008; Mathiassen and J. Pries-Heje, 2006; and Sharifi and Zhang, 1999. Evidently, an agile organization can efficiently adapt to unexpected changes in business environment and with this ability, such organization is said to have the key in gaining a competitive advantage in the global market (Ganguly et al., 2009). Whenever there is a need to respond to the unexpected changes, an agile organization is capable to quickly and innovatively assemble its technology, employees, and management with communication infrastructure (Kodish et al., 1995).

Two critical criteria or attributes that have been stressed by researchers when discussing agility are speed and flexibility (Lu and Ramamurthy, 2011; Yusuf et al., 1999; and Gunasekaran, 1999). In line with speed and flexibility, agility has also been categorized into operational agility, customer agility and partnering agility (Sambamurthy et al., 2003). Operational agility is the ability to execute the identification and implementation of business opportunities in quickly, accurately, and cost efficiently. Customer agility is the ability to learn from customer, identify new business opportunities and implement it together with the customer. Partnering agility is the ability to leverage business partner knowledge's, competencies, and assets in order to identify and implement new business opportunities. Due to the comprehensiveness, we adopt these three dimensions of agility to be included into the proposed framework.

B. Information Security Management Practices

The aforementioned discussion on various types of organizational agility has apparently highlighted the importance of information and information technology. In dealing with all three forms of agility, organization will heavily depend on information. In the course of doing and running the business, organization use and produce voluminous amount of information. In the same light, when dealing with customers expectations, organizations have to capture huge amount of information from them. Likewise, a great deal of information is constantly exchanged with business partners. Equally important to information is the information technology which acts as the tool for capturing, processing, storing and managing all forms of information. Previous study had empirically shown the relationship between IT implementation and organizational agility (Zain et al., 2005). Given the importance of information and information technology, an effective information security management practices is therefore very critical. Security breaches on organizational information or information technology can cause damages to businesses in the form of disruption of internal processes and communications; the loss of potential sales; loss of competitive advantage; and negative impacts on a company's reputation, goodwill and trust (Hoffer and Straub, 1989). All these damages will to some extent affect and reduce organizational agility.

The ISM practices as entails in the ISO/IEC 2700:2013 are the central focal of this study. The standard specifies the requirements for establishing, implementing, operating, monitoring, reviewing, maintaining and improving a documented Information Security Management System (ISMS). It specifies requirements for the management of the implementation of security controls and it is also intended to be used with ISO 17799:2005, a security Code of Practice, which offers specific security controls to select from.

Implementing ISMS involves with three (3) key aspects of an organization namely physical aspect, management aspect and technical aspect [30]. Previously, the ISO/IEC 27001: 2005 consists of eleven (11) domains, but the newly revised version ISO/IEC27001:2013 [31] has added three more domains which are supplier relationships, cryptography and operational security (by separating it from communication and operational management previously) that make up total of fourteen (14) domains altogether. The ISO/IEC 27001:2013 Code of practice for information security management recommends the following management practices which act as independent variables to this study as; i. organizational security, ii. Technological security and iii. Physical and Environmental Security.

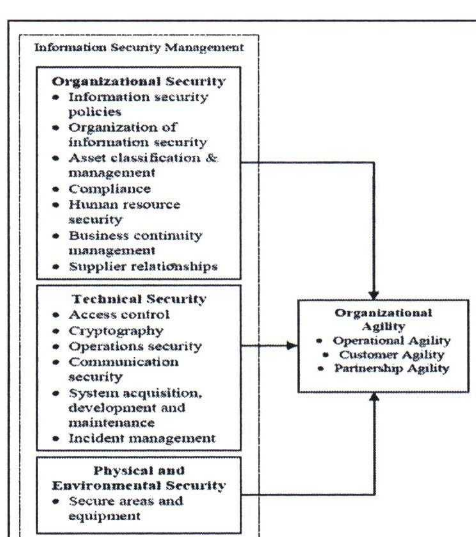

Figure 1: The Conceptual Framework

IV. SIGNIFICANT/CONTRIBUTIONS

The framework developed in this paper provides an opportunity for further investigation. Hence, in order to validate the framework and the corresponding prepositions, a survey research is planned to be conducted involving companies operating within the area of Multimedia Super Corridor (MSC) in Malaysia. Apparently the unit of analysis would be the firm or business organization. Potential researchers who are interested to adopt the model can also consider testing the model in other setting, other than that MSC status, such as public listed companies operating in other geographical areas.

Keywords- organizational agility; information security management; information technology; ISO / IEC 27001:2013; ISMS

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Threats to the Safety of Malay Manuscripts: A Review

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I. BACKGROUND OF THE STUDY

Malay manuscripts, commonly written in Jawi script, are very valuable heritage for the nation that are preserved for years. This is because Malay manuscripts contain all the intelligence regarding Malay's glorious intellectual thinking and civilization that can be studied by today and future generations.

However, Perpustakaan Negara Malaysia (2006) claimed that many Malay manuscripts were recorded or written on materials that are fragile. Examples of those materials are paper, leather, palm leaves, stone, bamboo, wood and animal skin, and they are all susceptible to various types of threats that can jeopardize their safety. Siti (1997) mentioned that palm leaves are fragile materials that can damage easily. Hunter (2007) stated that the fragile nature of paper is a major problem for archivists, as well as librarians. Bettington (2008) claimed that most papers found in archives today do not meet archival requirements – that is, it doesn't remain stable over time. Therefore, these heritages should be protected from any kind of threat that can endanger their safety. This is to ensure that these valuable heritages can be utilized for as long as possible.

Definition of terms

In helping the reader to understand about the topic, significant concepts would be discussed and explained first. Those concepts are record, Malay manuscript, threat, and safety.

- *Record*

Smith, Ginn, and Kallaus (2002) defined record as information that is being kept, unconcerned with the media and its properties, managed and accepted by an organization, that can be used as operation's evident that contains kept values that are needed to be preserved for a period of time. As stated by Quible (2005), record is an informative document, in the form of paper and electronic, that is used to perform many functions. Akta Arkib Negara 2003 (Akta 629) defined record as materials in the form of written text, or any other form, that stated facts or occurrances besides in recording information, and it includes papers, documents, registers, printed sources, books, maps, plans, drawings, photographs, microfilms, cinematograph films, recordings, and any record that is produced electronically, without given consideration regarding its physicality and any type of its copy.

Based on the definitions above, it can be concluded that record is referred as information that is kept in any form of media, and it is produced by an organization or individual, for many purposes and functions, especially in stating the facts and occurrences, in proving rights or responsibilities and as well as to be used as a remark of any activity that was carried out as future reference. Record can be presented in many forms.

- *Manuscript*

Roe (2005) defined manuscript as "*valuable historical or literary records of people or families created, received, assembled, or accumulated as they conducted their daily personal activities.* According to Hunter (2003), manuscript is "*...either a handwritten document or the first draft of a book or article. Manuscripts are generated by individuals or families.*"

Based on the definitions, it can be said that manuscripts are the written record, whether they are written by hand or by typing, that are composed and owned by an individual or a family, that are derived because of their implementation of their personal daily activities.

- *Malay Manuscript*

Perpustakaan Negara Malaysia (2002) defined Malay manuscript as a handwritten art piece, commonly written in Jawi script, and being published within the early of 16^{th} century until the early of 20^{th} century. Malay manuscripts were written on materials such as papers, leathers, palm leaves, bamboos, stones, barks, and as well as on animal skins. All the knowledge that were embedded in Malay Manuscripts cover the subject of literature, history, religious texts, medical, legal, constitutions, charms, and tips. Figure 2 shows an example of Malay manuscript.

- *Threat*

Whitman and Mattrod (2003) defined a threat as any object, person or other entity that may endanger an asset. Cambridge Advanced Learner's dictionary defines a threat as "*a suggestion that something unpleasant or violent will happen, especially if a particular action or order is not followed.* Based on the definitions, it can be defined that threat to manuscripts is any object, person or other entity that may endanger the Malay manuscript. Danger here means as examples like the manuscript is lost, damaged, destroyed and that might make the contents to be incomprehensible.

- *Safety*

Whitman and Mattord (2003) defined safety as a quality or state of being safe from any harm caused by a threat, either consciously or unconsciously. Therefore, the security of Malay manuscripts can be considered as a quality or state of being safe, as the Malay manuscripts are being protected from any harm caused by the threat, whether the threat occurred intentionally or not.

II. PURPOSE OF THE STUDY

The purpose of this study is to discover the threats and as well as the methods in protecting Malay manuscripts. It is hoped that the discussion will help the reader understand and aware of the safety aspects in protecting Malay manuscripts.

III. METHODOLOGY

In order to fulfill the purpose of the study, this paper has reviewed some literatures pertaining to the types of the threats and as well as the methods in protecting these Malay manuscripts. Zainuddin (2010) stated that literature search will help the researcher to focus on the research problem based on certain aspects found to be important in the published studies. Kor & Teoh (2009) mentioned that literature review convinces readers about the significance of a study.

IV. FINDINGS

Based on the literature, it is discovered that there are some types of threats, which have possibilities to endanger the safety of Malay manuscripts. This section will discuss the types of threats that need to be taken into consideration seriously, especially by the owner, curator and Malay manuscripts' repository. This section will also review the methods in protecting the safety of Malay manuscripts from each of the threats. In demonstrating those threats, it will be divided into two main categories. Those categories are external threats and internal threats.

External Threats

External threats mean the threats are not coming from the Malay manuscript itself. The causes of the threats come from external factors that can jeopardize the safety of Malay manuscript materials such as the temperature, humidity, light, dust, water, fire, pests and natural disasters. It would be further discussed on these external threats as follows:

a) *Temperatures*

Perpustakaan Negara Malaysia (2006) claimed that temperature that is too high and excessive can affect the Malay manuscripts that were written on papers to wrinkle, turn yellowish, and will eventually eradicate into dust. The changing in the temperature from low to high and vice versa, over-temperature, or sudden rise of the temperature, would also affect the expansion and contraction of the physical condition of the manuscript. This condition can cause physical condition of the manuscript to be weakened and damaged.

Therefore, it is important to keep the Malay manuscripts in storage area that has good air circulation and appropriate temperature of between 18^0 C to 22^0 C. If the storage area has no air-conditioning facility, fans can be used for air ventilation. Savumthararaj (2008) claimed that it is better to have a storage facility that is installed with 24-hour operational air-conditioning facility.

b) *Moisture*

The moisture level in the Malay manuscripts' storage space should be controlled attentively. This is because Roe (2005) claimed that high humidity will cause the growth of fungi (fungus and mildew) on the manuscripts. Meanwhile, Forde (2007) mentioned that low level of humidity will cause manuscripts, especially those which were made of papers, to become dry and will eventually begin to experience the process of decay.

According to Forde (2007), relative humidity level that is appropriate in keeping manuscripts in the storage space should be in between 50% to 55%. She added that in achieving the environment, the humidity level in the manuscripts' storage should be controlled with "dehumidifier" or "silica gel." Excessive water vapor in the air in the storage space will be absorbed to reduce moisture with the use of those apparatuses. This will avoid the growth of fungi on the manuscripts.

c) *Light*

Light consists of two main sources, the sun light and lamp light. As for both of the light sources, there are types of light rays. The most dangerous ray is the UV rays. According to Plumbe (1966), when papers are exposed to UV rays, the process of oxidation will occur. This will make the paper to weaken thus will make the papers to turn yellowish, easily damaged, and broken.

To protect these paper manuscripts from the rays, some methods must be implemented in order to reduce the level of exposure of the manuscripts from the sources of light. For example, William (2006) has proposed three methods. Firstly, the room or storage space of the manuscripts should not have windows. If there are windows, those windows need to be covered with curtains. Secondly, light switches need to be turned off when the room of the Malay manuscripts' storage space is unoccupied, and the lights must be covered with light filters. Thirdly, the manuscripts must be kept in boxes, files, envelopes, and other suitable storage containers.

d) *Dust*

If the storage space of Malay manuscripts suffers high rates of humidity, dust accumulated in the storage space would encourage the growth of fungi (fungus and mildew) on the manuscripts. Forde (2007) claimed that these fungi would damage the paper manuscripts as it produces an enzyme that can soften the paper as it will start to consume all the nutrients in the paper. Small and sharp particles would also damage paper manuscripts, and it is harmful to human's health.

Gorman and Shep (2006) claimed that these threats of dust can be controlled by means of clean storage space, and it is important to clean this space with vacuum cleaner. This includes cleaning up shelves and cupboards where the Malay manuscripts are kept. Do not use broom and cloth as it only removes dust to other places, not permanently get rid of it.

e) *Water*

Water can also be a threat to Malay manuscripts. The reasons of this claim have been highlighted by Lavender (2001). First, he claimed that the water can cause manuscripts to be dirty and muddy. Second, wet manuscripts will swell, and it is weak and hard to manage. Its ink will also dissolve. Third, wet manuscripts will stick together if they are not quickly separated. Fourth, sluggish manuscripts will encourage the growth of fungi such as mold and mildew. Fifth, the acid content in manuscript papers will increase if the papers are exposed to water. Last but not least, manuscripts that are exposed to water would be much easier to be attacked by pests such as termites.

Water threat can be controlled in many ways. As claimed by Bettington (2008), one of the ways is to make sure that the manuscripts' storage space is not built in a flood-prone area like by the riverside and low area. Besides that, pipe lines and water tanks should not be placed in or near the storage space. Apart from that, Malay manuscripts should be kept at least 6 inches from the floor, and the storage space's roof and wall should be in good condition, and make sure that all the windows are closed when it is raining.

(f) *Fire*

Hunter (2003) stated that fire could destroy records in a matter of a second. Therefore, Malay manuscripts storage space should be far from fire-prone sources or places like canteen, kitchen, oil-depots, equipment store, chemicals storage and etc. Fire-fighting equipments should be installed in the storage space. Some examples of fire-fighting equipments are sprinklers, fire extinguishers, smoke detectors, first aid vessels, alarms, emergency phones and fire-escape door. All employees of an institution that preserves Malay manuscripts should undergo fire-drill trainings at least once in six months or a year.

g) *Natural Disaster*

Whitman and Mattord (2003) stated that natural disasters could threaten the record's safety because natural disasters happen unexpectedly without even a little warning before its occurrence. In Malaysia, common natural disasters are floods, fires, storms, and landslides.

One method to minimize damages due to natural disasters is that the institution responsible in managing the manuscripts prepares the Disaster Preparedness plan. Read and Ginn (2011) mentioned that disaster action plan is a document that sets out the procedures to be implemented in avoiding disaster of the records, preparation procedures during the disaster of the records, and procedures of disaster recovery of the records. For public institutions, expert advice in preparing the plan can be obtained from the National Archives of Malaysia.

h) *Pests*

Plumbe (1966) stated that some of the pests that can destroy the manuscripts (especially those that were made by papers) are silverfish bugs, cockroaches, termites, powder post beetle, and rats. These pests favor manuscripts as the manuscripts contain chemical substances like glue, gelatin, and cellulose, which are these pests' favorite food sources. Termites and rodents are not only damaging Malay manuscripts, but can also damage the cupboard and the wooden shelves used in the storage of Malay manuscripts.

Balloffet & Hille (1992) claimed that in order to protect manuscripts from the pests, certain precaution measures need to be done. Firstly, manuscripts storage space should be installed with air-conditioner. This is because air-conditioned storage space is less often attacked by pests compared to the storage space that does not have air conditioning facility. Secondly, the storage space of manuscripts should always be sprayed with an appropriate insecticide such as DDT, dieldrin, pyrethrum, and benzene gamma hexachloride. To get the best results and to ensure the safety of staff, services from pest-control companies can be asked to perform this task. Thirdly, wardrobes and wooden shelves should be replaced with non-rusting iron. Fourth, manuscripts storage space should be declared as a protected area from food and drinks. This is because the remnants of food and drink can attract pests. Last but not least, storage space of manuscripts should be fumigated. Fumigated can kill the pests effectively. Gases commonly used for this activity are methyl-bromide, ethylene oxide and thymol vapor. However, these activities should be done with cautious because the gas used can be dangerous to human life. As a safety precaution, it is advisable to obtain the services of a pest-control company to perform these activities.

i) *Human*

William (2006) mentioned that human could also threaten the safety of a record deliberately or not deliberately. Examples of threats caused by human, firstly, they store and handle the manuscripts carelessly that they might ruin or lost it, and secondly; they stole the manuscripts and sold it for easy money.

To avoid Malay manuscripts from being destroyed or damaged by man, some measures can be implemented. For examples of the measures, Gorman and Shep (2006) proposed that storage space of manuscripts should be made prohibited. This is to avoid staff or individual who have not been authorized to take care of the manuscripts to enter the storage space and probably try to steal it. Then, manuscripts storage space should be declared as a non-smoking area, as well as non-eating and non-drinking area. Next, employees who are given the responsibility to manage the manuscripts and the researchers who study them should be given trainings in handling and managing the manuscripts accordingly.

Internal Threats

Internal threat means any threat to the safety of Malay manuscripts that is caused by the manuscripts' materials itself. This threat is categorized into two types:

a) *Threats Arising From Processed Materials to Produce Malay Manuscript*

Perpustakaan Negara Malaysia (2006) claimed that most of Malay manuscripts use papers. Forde (2007) stated that papers were produced by the process of mixing raw materials and chemical substances. Most of the raw materials are from plants such as woods, rags, straw, bagasse, esparto, or grass. Chemical substances used are soda, sulfer, alum, rosins, and etc. During the manufacturing process of this paper, acid is produced. If the content of the acid is too much in the paper, it can reduce the quality of the paper and further damage the Malay manuscripts. These acids can also be absorbed into the Malay manuscript paper when the manuscript is used and stored. The acids are caused by dust, oil, and environmental pollution.

Efforts have to be taken to avoid the manuscripts from being damaged or destroyed by the acids in the paper. For example, Manning & Kremp (2000) proposed that manuscripts should be handled with care and stored in a clean place that is free from pollution. Manuscripts need to be kept in containers that are acid-free. For manuscripts that are ruined by acids or any other threats, it needs to be quickly sent to conservators for preservation process.

b) *Ink*

Perpustakaan Negara Malaysia (2006) claimed that one of the components of Malay manuscripts is ink. This is because ink is used to write the Malay manuscripts. However, Feather (2004) claimed that some of the ink used has a lot of quality acid that can damage the paper and make the color to fade. Any Malay manuscript that is ruined by ink or any other threats, it needs to be quickly sent to conservators for preservation process.

V. SIGNIFICANT/CONTRIBUTIONS

This discussion shows that there are different types of threats that may endanger the safety of Malay manuscripts. This paper has divided threats to Malay manuscripts into two categories namely, external and internal categories. External threats that have been discussed are the temperature, humidity, light, dust, water, fire, natural disasters, pests and humans. Internal threats that have been discussed are threats caused by the processed materials in the production of Malay manuscripts, and threats that are caused by ink. It is hoped that it can enlighten the readers on the types of threats that can endanger the safety of Malay manuscripts and as well as the methods in protecting the manuscripts. With this knowledge, it is hoped that it will help to ensure this invaluable heritage; the survival of Malay manuscripts can be protected for the benefits of present and future generations. The discussion in this paper can be regarded as an introduction to the topic. Therefore, it is hoped that other researchers will study and discuss this topic in detail in the future.

Keywords- records; manuscripts; Malay manuscripts; threats to Malay manuscripts

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Disaster Readiness of Records in Organization

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I. BACKGROUND OF THE STUDY

Records are vital component to an organization. It is considered a strategic resource and it is important in ensuring the ongoing operation of the organization. Records are also evidence of transaction done in the organization. This has put records as something that need to be well maintained and managed. One of the aspect in good records management is to preserve the records so that it can be easily accessed when needed. Records must be kept from danger or harm and potential hazards must be identified and managed.

Disaster is considered as a threat to records. Disaster can cover a wide range of incident whether it is minor or major. Disaster can be divided into categories such as natural disasters that include natural flood, earthquake, wildfires, hurricane, tsunami while manmade disaster can include arson, theft and fire.

Realizing the need to protect records from disaster, records and archival institutions around the world had developed disaster related guidelines to help records managers in safeguarding their records. This guideline covers a wide variety of records format, from paper-based to electronic. While disaster management guidelines have been available, records are still being destroyed during disaster. The main problem is although an organization has developed its own disaster management guideline, it is not know whether they are ready to face disaster to their records. A study on disaster readiness is deemed important to know the level of preparedness of the organization.

II. LITERATURE REVIEW/ANALYSIS

Various definitions for records can be found in literatures. Records can be defined as documents regardless of form or medium created, received, maintained and used by institution whether its public or private or an individual, in pursuance of legal obligations or in the transaction of business of which they themselves form a part or provide evidence (Millar, 1997). Another definition saw records being regarded as a medium that can provide evidence(Shepherd and Yeo, 2003), created and received in the conduct of business activities (Smith, 2007). Records are vital to an organization in several aspects such as supporting delivery of services, supporting administration, documenting the rights and responsibilities, legal documentation, evidence of the work of public authorities and lastly for future research.

With all the definitions presented above, it is worth to note that records can be regarded as an important asset to an organization. Such important asset should be protected from any danger or harm so that it can continue to play a vital role for their holding organization.

In order to help organizations secure their records, disaster management program need to be done in the organization. Disaster management guidelines specifically for records had been developed and written by various records and archival institution around the world. Organizations can easily adopt and adapt these guidelines into their environment. The main question is whether having a disaster management program means organizations are ready enough to face disaster on their records.

Disaster is a menacing threat not only to humans but also to community and organizations. In Malaysia, a study revealed that most disaster are natural disaster (Shaluf and Ahmadun, 2006). Natural disaster are in the form of flood, landslides and tropical storm. Disaster can be from minor scale incident to a full major catastrophe. Disasters are complex events with each stage related to each other (Kelly,1998).

The relationship between vulnerability and disaster exist where without hazard and vulnerability there will be no disaster (Singh, 2006). Therefore, preparing an organization for disaster is important to minimize the risk. Previous studies had shown that having a disaster management plan does not mean the organization is ready in facing disaster. A lot of factors need to be considered especially training, awareness, drills and the comprehensiveness of the disaster plan itself.

Measuring disaster preparedness is not a new concept as a tool for measuring disaster preparedness was created. This measuring disaster preparedness tool can be used to develop guidelines in measuring disaster readiness for records in organization.

III. SIGNIFICANT/CONTRIBUTIONS

This paper is important as it suggest gaps in disaster management for records in organizations. Disaster guidelines for records have been developed by various organization worldwide but a study on whether organizations are ready to face disaster is needed. From this study, we can know how many organizations do actually have a disaster management plan and how whether the plan coverage is enough. Other readiness aspect such as training, drills, awarenes, financial and management support can also be studied in order to determine the preparedness of organization in facing disaster. It is hoped that by having a study on disaster readiness will show the importance of having a high level of disaster readiness for records.

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Implementation of Electronic Records Management System (ERMS) at the National Archive of Malaysia

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I. BACKGROUND OF THE STUDY

Electronic Records Management System (ERMS) is one of the most important aspects in managing electronic records. It was not only mend for digital forms of records but also be able to monitor both types either in physical or electronic forms. In this research, it was shown that the use of ERMS becomes a compulsory thing in managing the records in organizations. National Archive of Malaysia (ANM) was being chosen as an organization for a case study in this research. Then, the use of TRIM Context as a platform in managing the records at ANM becomes the strength of this research. While testing the software performance, ANM comes out with the standard and works in line with the ISO. Then, acceptance level of users towards the software was also being identified and discussed in the data analysis. Finally, this research has proven that an implementation of ERMS at ANM gives a positive impact to the organization, staff, and the software as well.

II. PURPOSE OF THE STUDY

The objectives of the study are as follows:

i. To study the implementation of ERMS among ANM's staff in terms of system implementation.
ii. To find out the factors that influenced the implementation of the ERMS solution.
iii. To determine the ERMS specifications for ANM in terms of standard compliance with ISO.
iv. To identify the benefits of using ERMS solution among ANM's staff.

III. LITERATURE REVIEW

There are numerous articles, books and journals will be reviewed in order to create an authentication of this research in generating and integrating the ideas with the previous research or study. According to *Reed, Barbara, (1997),* the ERMS solution becomes a tool in designing and evaluating the electronic record keeping system and it shows the importance of the storage. For ERMS solution, it includes the portion or function of the electronic recordkeeping system because it comes together in one solution. The way of designing and implementing the solution is based on the policy or business rule of each organization. By handling the electronic record in electronic form, all records can be kept or stored in a proper storage area with the specific location that has being assigned.

This is the thing that needs to be aware on any organization that deals with the ERMS solution. In this case, the learning and understanding process on the record itself is very important. This review is fall under categories of factor influencing the usage of ERMS solution in the organization. By experiencing the functions and features of the system, each activity can be done in less time with a proper manner.

Then, according to *CITU (2000),* the concept of electronic record management must become the strength of the organization in managing and implementing the system. In any approach or system, the record management should be able to manage and organize the record effectively without having any problem in the process of appraising and disposal. Therefore, ERMS solution must become the best platform in everyday transaction to ensure all organizations use the same solutions and activities in managing their record. By enhancing the system that is already being used in the system, it will generate the new environment in the system without facing any problem and miscellaneous during the system implementation. The research or analysis on the existing system should be conducted in order to ensure there is no repeating error comes into user screen during the process of using the ERMS solution. This issue will fall under the factors that influence the use of ERMS solution in the organization. According to *U.S. Department of Energy (2000),* the record management system or application must have the standard to be act as an ERMS solution. All the ERMS solutions must comply with the standard to ensure each of the aspect in record management is being fixed in and can be used in managing the record. The word "mandatory" means that it is compulsory. Meaning that the architecture on any ERMS solution must comply with the standard that provided by the ISO. Most of the solutions were already complying with the ISO but, it seemed like they must be able to comply with other specific standard on ERMS standard such as NARA or Moreq. These two standards are the pioneer in the record management concept and understanding because they have involved in record management field for too many years. In this review, it falls under category of standard that must be complied by any ERMS solution before it can be used by the organization.

The use of *ERMS* might become limited because there is no way to escape from complying with the standard and practice of record management. According to *Yakel, Elizabeth (2001),* it shows the awareness on the benefits that are finally being realized by the people especially on the importance of the electronic record management system. In the beginning of ERMS use, it is only focus on the specific organization until everybody realizes that there are lots of benefits and advantages that can help them in handling their job effectively and efficiently. The ability to handle and manage all records in any format is the strength of ERMS. The traditional or conventional process may take a longer time to be completed or achieved. By having the ERMS, all the information and record can be classified and filed in the proper arrangement and manner.

These are the things that the author wants to point out in terms of relevancy in using and handling the record in electronic format. In this research, this review falls under the benefit of ERMS and the importance of ERMS towards the development of the system in the organization. According to *Jaana, Kilkki, (2002),* the ERMS solution helps the organization in handling all the records effectively. It also shows that the record can be accessed through or from anywhere without facing and having a problem. The problem of the system is not directly on the system itself but rather on the way of how people manage the system by themselves.

The ERMS solution also helps department to do an appraisal and disposal process without having or facing any problem. In this case, the ERMS solution is the main activity that needs to be done or used effectively without arguing on any changes or development. The record and information can be delivering easily and faster than before. This is because the means of handling the system are based on the basic understanding on the record management. In this review, it falls under category the benefit of having ERMS in the organization. According to the *Karen Handel & David W. Carmicheal (2003),* the use of electronic record could help the organization and the business transaction operated in more easier and faster way. But, this activity or method must have the standard and act that can bring those of records as protective information.

IV. METHODOLOGY

The research methodology includes the way of data is captured and analyzed. The specific software that has being used in this study becomes a tool in identifying each of the method that is already being used in the study. The sample of population, research method and data analysis design represent on how the data or information will be collected and captured later.

The aim of this research is to identify the significance of ERMS solution in managing all the records either in a form of paper or electronic at Arkib Negara Malaysia. Therefore, 5 departments were being selected based on its function and activities in order to identify the implementation and efficiency of the ERMS solution that has being used by them in managing the record throughout the entire organization. The methodology on this research was questionnaires. The questionnaires have being distributed to 20 staff that comes from 5 selected departments. It means that each of the department provided 4 people to answer the questionnaires. The questionnaires were presented in the combination of open ended and close ended questions in order to share with the respondents on the system performance and functionality.

V. FINDINGS

As a result of this research, it can be seen from the overall result of data analysis which had been collected through 20 sets of questionnaires. The findings determine the aspect of questionnaires either it is able to answer the research questions or not. The process in identifying the key aspect on this research will be generated in order to ensure the information that contained in data analysis can be fully utilized. Based on the data analysis that had already being defined before, the result or use of each data will be generated in this research.

Meanwhile, some other aspect or portion might be included in this research in order to fully answer the research questions. The purpose of this process is to bring a significant answer from the user in order to fulfill the research objective. Research question plays an important role in acting as a tool in finding the information from the user of the system. Then, the findings will be generated according to the respondent's answer and also being calculated in order to get the percentage of each question and answer.

At the beginning of this research, there are a few sample of figure or table that brings the importance on this research. Then, the analysis and result of each table or figure are generated one by one. The need to clarify all of this is because of the research question. From data analysis, it seems like all the information is important. But in this case, only a few of the data will be selected as findings of this research. The data that will not being used in these findings is considered as supportive information.

The overall results and findings that have being collected from the respondent's answer are presented in this research. Then, the findings and results will show the fulfillment of this research objective. This will bring the precision and relevancy of the data in order to do an analysis and findings based on the questionnaires. The implementation of ERMS can be fully identified by clarifying on each explanation on this research. This means that this research will answer the entire questions from this research without missing any important point.

Table 1: ERMS Suitability

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	18	90,0	94,7	94,7
	No	1	5,0	5,3	100,0
	Total	19	95,0	100,0	
Missing	System	1	5,0		
Total		20	100,0		

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The suitability of the system can be viewed based on the use of ERMS through the entire organization of ANM. This is because the use is not only focuses on the registration department but it is also on the overall department at ANM. This is where the ERMS showed the availability of the system in terms of business rules and standard. The system becomes the most suitable system because ANM wants the system that has compliance through a record management concept and also to the ISO standard. This is where this system becomes the most suitable system that is being used by ANM. The specification of the system is also being recognized connected and builds a great relationship with all activities at ANM.

The table above shows that 18 respondents agree on the suitability of ERMS at ANM. This situation shows that the use of ERMS brings a lot of benefits and effective to be used in the organization. Most activities at ANM are directly related to the record management. The ability on each system functionality showed that ANM is very suitable to apply ERMS within their working environment. The environment which enables and includes the implementation of ERMS seems very important to ANM. ANM use ERMS to manage both types of record either in a form of physical or electronic.

There is one respondent who feels that the system is not suitable to be applied in ANM. This is because he might not use ERMS to all activities within his working environment. This result shows that ERMS is the most suitable application that should be used in managing all the records in the organization. Meanwhile, some of the activities visualize that ERMS is a right application that should be used in monitoring the movement of records. The flexibility of the system brings the implementation and suitability of the system.

Table 2: Importance of ISO 15489

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	12	60,0	63,2	63,2
	Sometimes	5	25,0	26,3	89,5
	Seldom	1	5,0	5,3	94,7
	Never	1	5,0	5,3	100,0
	Total	19	95,0	100,0	
Missing	System	1	5,0		
Total		20	100,0		

The importance of standard compliance also contributes to the implementation of the system. The ability in managing ERMS based on the standard and compliance brings an important issue to ANM. It can be seen from the questionnaires that are already being distributed to the users showed the unexpected result on ERMS. The awareness on the importance of ISO 15489 is not being fully understood to all workers and users. This is because they are generally focused on the act and policies that govern by ANM. The policies that are being stated and assigned by ANM showed the activities that need to be completed by each individual in the organization.

The standard and policies give them guidelines in ensuring every activity and transaction can be performed and managed according to the business rules. Based on the table above, it shows that 63.2% of the users always think and feel on the importance of standard especially on ISO. This is because ISO is the main standard that needs to be complied in order to have an excellent system in managing documents and records. ISO is the major standard that must be used in generating any ERMS solution in order to protect the record effectively. The effective system can be clarified based on its standard. The systems that comply with the ISO will become the priority in managing the record in the organization.

In this case, more than half of the ANM respondents are aware about this matter. This is because; most of them were from record management field and deals with record management in their daily operation. The main point on having the standard is the means of protecting and securing the information from being stolen or lost. The standard will generate the access control in ensuring each of the activity brings the implementation on the use of system. The implementation in this point of view might be focused to the ability of the system in tracking the record. The system can also monitor movement for records by having the standard on each type of records. This is where the system brings implementation to ANM.

The response on this issue is different form one respondent to another. This is because most of them are aware about this matter, only 2 or 3 respondents do not think about this matter at all. The problem is, when there are some activities done in the system; they do not complete the activity according to the standard. They only complete the work based on their conventional working style. The possible output that will generate does not parallel with the top management needs. This is the situation where some of the records cannot be viewed or managed well by the system. The system is already being connected to the record management standard and the problem will occur if the user avoids following the rules and procedures in managing the records in the system.

The main aspect that needs to be emphasized is on the standard itself. The more or less users understand the system; it will affect the use of ERMS and the implementation of the system. One of the most important activities that need to be more detailed is on the use of the system especially in the functional activities. The functions and features of the system can be more effective to be used if the user is really particular on the standard. Then, the system can operate well according to the organization policy and objective. This is where the questionnaires on the importance of ISO 15489 have being distributed to the users.

VI. SIGNIFICANT/CONTRIBUTIONS

This study has come out with several outputs and will become the reference to any public agencies in understanding the business rules of the organization especially for the public agencies. In the movement of the information technology, the government has stated that each of the organization must have the system on electronic records management. This is where the ANM brings their capabilities in having the information on the records management portion. The advantages and implementation of each activity must be well performed and managed in the organization. This is where this research becomes an output on the use of ERMS in the organization.

The public agency such as ANM, has an authority in managing and implementing the system. This means that all activities must be tied up to the record management concept. The purpose of this study is to evaluate the level of understanding which can be taken from user's response. The response from the user becomes an evidence of this study as to ensure the acceptance of each worker at ANM. Then, as far as benefits and advantages that they have experienced in the system, it will lead to the implementation of the system. The output of the system can summarize each activity that is already been done by the system. ANM bring an effective system in order to become the first government agencies that lead to the electronic record management system environment. The nature of their working environment also becomes a reference to other users in different organizations.

There are several contributions to the records management:

- The knowledge society can use this study as their reference in order to create electronic records management system within their working environment.
- The staff in any public and private agencies can use this study to monitor their organization activities.
- The organization can bring this study as their reference material in order to give a deep understanding on records management to their staff.
- This study contributes to the ANM collection in their project implementation.
- This study becomes a main tool in solving the problem in the organization that they have already being involved.
- This study can be used to solve the problem in the decision making process.
- This study gives awareness for the users in understanding on their standard and compliance.
- ANM can bring this study as their main output on the first phase of their implementation.
- ANM can also use this study to train their new staff.
- This study also helps the record manager and administrators to manage the system effectively.

Keywords- Implementation, Record, Records Management, Electronic Records Management System (ERMS), National Archive of Malaysia (ANM).

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Research on Digital Library Acceptance and Continued Use: Review of Theories

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I. BACKGROUND OF THE STUDY

The digital library is a new information system/technology that is beginning to be capitalized upon by libraries around the world to enhance information service provisions to their users. Although this information system/technology is still evolving, libraries have been offering this product for their clientele to use for some time. Since it is a new information system/technology with many implications for the organization, in this case specifically the library, the issue of its acceptance is of importance for its future development. This paper reviews some of the literature that is pertinent to research on the digital library acceptance and continued use research including the variable of intention to use of the digital library which also explains its continued use, and the significant variables interplay among these variables. Finally, the paper concludes all of previous studies have been inspired by the Technology Acceptance Model (TAM), the Unified Theory of Acceptance and Use of Technology (UTAUT), and two adapted UTAUT models, namely Nationality Based Unified Theory of Acceptance and Use of Technology (NUTAUT), and the Service Oriented Unified Theory of Acceptance and Use of Technology (SOUTAUT). TAM and UTAUT are models that are generally used by researchers to measure acceptance and intention to use digital library systems.

II. *PURPOSE OF THE STUDY*

The digital library is a new information system/technology that is beginning to be capitalized upon by libraries around the world to enhance information service provisions to their users. Although this information system/technology is still evolving, libraries have been offering this product for their clientele to use for some time. Since it is a new information system/technology with many implications for the organization, in this case specifically the library, the issue of its acceptance is of importance for its future development. This situation has attracted researchers from a variety of backgrounds such as information systems management and library science to study the extent of its acceptance by the library community at large. In this context, an interesting development in digital library research is that, researchers from an information systems background have utilized some of the established information system acceptance models to study the use of digital libraries by their users. Models such as the Technology Acceptance Model (TAM) (Davis, 1989) and the Unified Technology Acceptance and Use of Technology Model (UTAUT) (Venkatesh et al.,2003) have been adopted and adapted by digital library researchers to study the acceptance of digital libraries by their users. Prior to their use in digital library acceptance research, these models have been used quite extensively by information systems researchers to examine the acceptance of various other types of information systems.

This part of the paper focuses on the relevant information system acceptance models by describing their development and how they have been adopted and adapted to study digital library acceptance in libraries.

III. LITERATURE REVIEW/ANALYSIS

A. *Technology Acceptance Model (TAM)*

The Technology Acceptance Model (TAM) developed by Davis (1989) is an information system acceptance model. Theoretically and empirically, information systems researchers have found that although TAM has a very simple structure, it has a greater explanatory power in examining adoption behaviour of information systems than other sophisticated models such as the theory of reasoned action and the theory of planned behaviour (Davis, Bagozzi, & Warshaw, 1989; Mathieson, 1991; Taylor & Todd, 1995). Therefore, TAM is one of the most frequently used theoretical framework in addressing why users accept or reject an information system (Legris, Ingham, & Collerette, 2003). TAM clearly explains that users' intention to use the information system determines the actual usage of the information system. In this context, intention to use the information system is related to users' beliefs about the information system. There are two kinds of users' beliefs; they are perceived usefulness of the information system, and perceived ease of use of the information system. Perceived usefulness of the information system means the extent to which the user believes that his/her job performance will be enhanced as a result of using the information system. Meanwhile perceived ease of use of the information system means the extent to which the user believes that using the information system will be free of effort. TAM also proposes that any effects of external variables on the usage intention of information system are mediated by these perceptions.

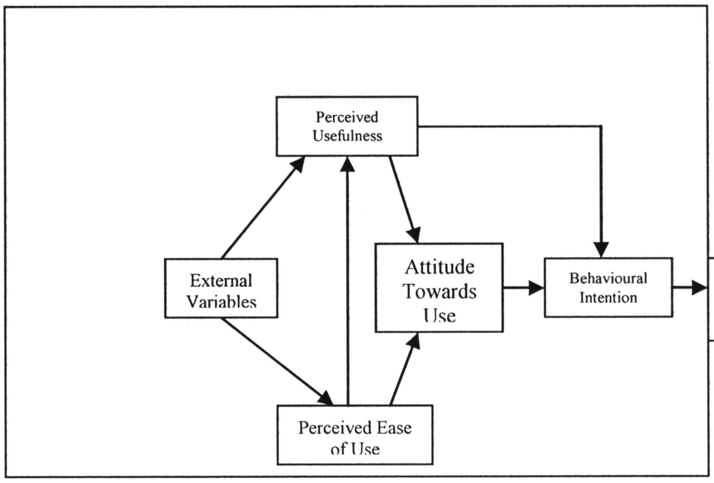

Figure 1: Technology Acceptance Model (TAM)

B. Application of Technology Acceptance Model (TAM) in Digital Library Research

The Technology Acceptance Model (TAM) began to be applied in digital library research in 2002 with studies conducted by Hong (2002) and Thong et al. (2002). Since then a number of other studies have been conducted, including Heinrichs et al. (2007), Masrek et al. (2010), Ramayah (2006a), Ramayah (2006b), Ramayah, Arafi & Ignatius (2004), Ramayah et al. (2004), Kim (2006), and Thong et al. (2004),

A study was carried out by Thong et al. (2002) at the Open University of Hong Kong to examine not only the effect of perceived usefulness and perceived ease of use on the intention to use the digital library, but also to examine the impact of a set of external variables on the Intention to Use the Digital Library through perceived usefulness and perceived ease of use. The set of external variables were Interface Characteristics, Organizational Context, and Individual Differences. This is graphically shown in Figure 2 below.

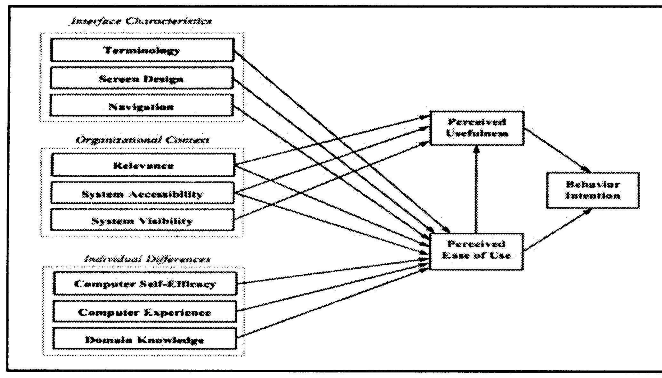

Figure 2: Research Model in Thong et al. (2002)

- *Intention to Use a Digital Library*

Usability in the context of their study means the capability of the digital library to be used by users easily and effectively. The dimensions of usability are the perceived usefulness and the perceived ease of use. Their findings showed that both perceived usefulness and perceived ease of use have a significant impact on intention to use the digital library. Furthermore, perceived ease of use also exerted an indirect effect on Intention to Use the Digital Library via perceived usefulness.

The sets of external variables investigated were the interface characteristics, organizational context, and individual differences. This means that, students tend to be more willing to use a digital library if they perceive it is useful to their studies and also when they realise that digital library is easy to use. If they found that the digital library is difficult to use, then they tend to perceive that it is not useful to them.

- *Interface Characteristic*

A good interface design will help users to use the system. The dimensions for interface characteristics are terminology, screen design, and navigation.

Terminology means the words, sentences, and abbreviations used by the system. Accurate terminology could assist the users in using the digital library.

Screen design relates to the way information is presented and arranged on the screen of the digital library. A good screen design could assist the users in identifying relevant information on the screen.

Navigation refers to the ease of moving around the digital library system by users when using it. Providing good navigation aids would help the users to use the digital library easily.

In relation to the interface characteristics, the findings of Thong et al. (2002) showed that all the three variables were significant determinants of perceived ease of use, with navigation found to be relatively less significant. This means that clear and consistent terminology is important to users of digital libraries. Similarly a good screen design is crucial with proper and logical arrangement of information on the screen. As for the navigation aspect, proper cues like navigation aids can prevent users becoming disoriented and lost while maneuvering within the digital library.

- *Organizational Context*

Organizational context relates to the influence of the system's organization on the digital library's success. Relevance, systems accessibility, and system visibility are the dimensions of organizational context.

Relevance refers to how the digital library system fits into the work practices of the users. Users would also perceive digital library system to be easy to use if it is relevant, in that the information needed can be found and acquired in a short time.

Systems accessibility refers to the ease of locating and accessing the digital library system by users. The users would be more likely to find the digital library useful if they can locate and access it easily. Furthermore, if digital library system is easy to use with the availability of software or computers, then users would perceive it to be easy to use.

System visibility refers to the exposure of the digital library system to users so that users are aware that the system is available. This would influence the usefulness of the system to the users. As such, the researchers Thong et al., (2002) concluded that in relation to organizational context, their findings showed that organizational context variables had a significant effect on the intention to use digital libraries through both perceived usefulness and perceived ease of use. Among the three variables, relevance was found to have the strongest effect on perceived usefulness, and was greater than the effect of perceived ease of use. This means that establishing a fit between digital library content and users' information requirements is crucial. Accessibility can be achieved by installing more computers with Internet connection and proper software for the purpose of gaining access to the digital library. Visibility can be improved by conveying the benefits of digital library to users and also advertising its availability to the users.

- *Individual Differences*

According to the researchers three factors related to individual users may influence their acceptance of digital libraries; namely, computer self-efficacy, computer experience, and domain knowledge.

Computer self-efficacy refers to an individual's judgment of his or her capability to use a computer; hence this would affect behaviour intention through perceived ease of use.

Computer experience relates to the users' familiarity with computerized systems and hence could influence their propensity to learn how to use a digital library.

Domain knowledge refers to users' knowledge in the subject domain. This can affect users' performance in using the digital library because of their familiarity with technical terminology in searching and also confidence in making judgments.

In their findings, all the three variables pertaining to individual differences were found to be significant to enhancing users' confidence in using the digital library. Computer self-efficacy was a stronger indicator of perceived ease of use compared to computer experience. Courses on using computers to equip students with computer literacy could help students gain more confidence in using a new information system such as a digital library. As for domain knowledge, when users had more knowledge of a specific subject domain while searching the digital library, they could manipulate their searching more easily, thereby facilitating their use of the digital library.

C. The Unified Theory Of Acceptance And Use Of Technology (UTAUT)

One of the main concerns in researching information system acceptance is to utilize a model or a framework that can correctly and strongly predict the acceptance of the information system. This has resulted in as many as eight models or frameworks developed by information systems researchers. To date, among them are:

a. Technology Acceptance Model
b. Theory of Planned Behaviour
c. Combined Technology Acceptance and Theory of Planned Behaviour Model
d. Motivational Model
e. PC Utilization Model
f. Innovation Diffusion Theory
g. Social Cognitive Theory
h. Theory of Reasoned Action

Taking into consideration all the eight models above, Venkatesh et al. (2003) conducted a systematic analysis and comparison of them from which they developed a new model known as the Unified Theory of Acceptance and Use of Technology (UTAUT) model. After being utilized and tested in many studies of acceptance of information systems the UTAUT model has been found to provide twice the prediction capacity of information system acceptance (70% prediction capacity) than TAM (35% prediction capacity). The original UTAUT model is shown in Figure 3 below.

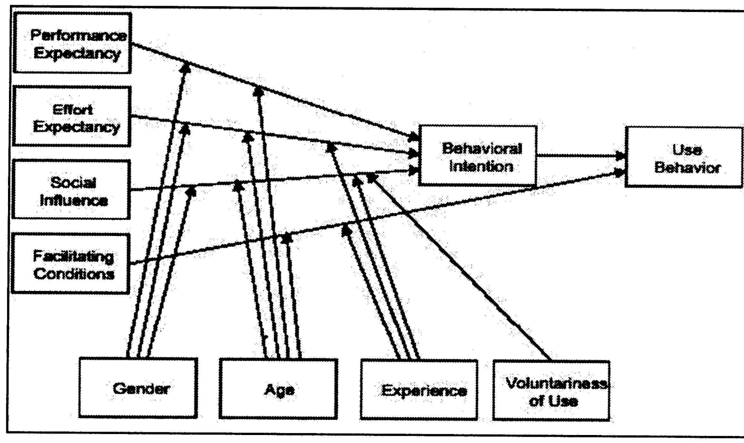

Figure 3: UTAUT Model (Venkatesh et al., 2003)

Basically, the UTAUT model consists of four (4) independent variables: Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Facilitating Conditions; four (4) moderating variables: Gender, Age, Experience, and Voluntariness of Use; one (1) mediating variable: Behavioural Intention; and one (1) dependent variable: Use Behaviour.

a. Performance Expectancy means the degree to which a user believes that using the information system would improve his/her job performance;
b. Effort Expectancy (EE) means the degree of ease in using the information system
c. Social Influence means the degree to which an individual perceives that it is important that others believe that they should use the information system
d. Facilitating Conditions means the degree to which an individual believes that organizational and technical support exist to assist him/her in using the information system
e. Gender is either male or female
f. Age is the age of the user
g. Experience refers to how long the user has used the information system
h. Voluntariness of use refers to the use of the information system that is either mandatory or voluntary
i. Behavioural Intention refers to the likelihood that the users would use the information system
j. Use Behaviour refers to the acceptance of the information system by the user

Owing to the fact that the UTAUT model has high level of prediction capacity, it has been adopted and adapted by several researchers to investigate various types of information systems, such as acceptance of computers in Bentley College (Garfield, 2005) ; acceptance of a web log system (Pu & Kishore, 2006); use of hybrid media applications (Louho, Kallioja, & Oittinen, 2006); adoption of wireless mobile communication in Europe (Carlsson, Carlsson, Hyvönen, Puhakainen, & Walden, 2006); use of wireless LAN technology in smaller enterprises in the USA (Anderson & Schwager, 2006); use of course management software (Marchewka, Liu, & Kostiwa, 2007); acceptance of EpiHandy (Engebretsen, 2005); acceptance of Tablet Personal Computers (Moran, 2006) ; E-Business Quality Model (Allen & Kishore, 2006); human-robot user studies in institutions for the elderly (Heerink, Krose, Wielinga, & Evers, 2006).

With its high capacity for predicting the acceptance of an information system by users, the UTAUT model has also been utilized and in given circumstances adapted for research on digital libraries. The following discussion focus on the utilization of UTAUT model in several digital library research studies.

D. Application of the Unified Theory of Acceptance and Use of Technology (UTAUT) in Digital Libray Acceptance Research

Tibenderana et al. (2010) adapted the UTAUT model and developed SOUTAUT (Service Oriented Unified Theory of Acceptance and Use of Technology) to measure levels of end-users' acceptance and use of hybrid library services in eight Ugandan universities which had implemented ICT library services. SOUTAUT was developed by replacing some of the constructs in UTAUT with other constructs that were deemed more appropriate for the environment of the study. In this context, the constructs of "effort expectancy" and "voluntariness" in UTAUT were replaced respectively by "relevance" and "awareness" constructs for the SOUTAUT model. This was to enable the study to determine differences among library end users' acceptance and use of e-library services, and therefore the researchers regarded the constructs of "relevance" and "awareness" as more appropriate to the service of the digital library. The SOUTAUT model is shown in Figure 2.4 below.

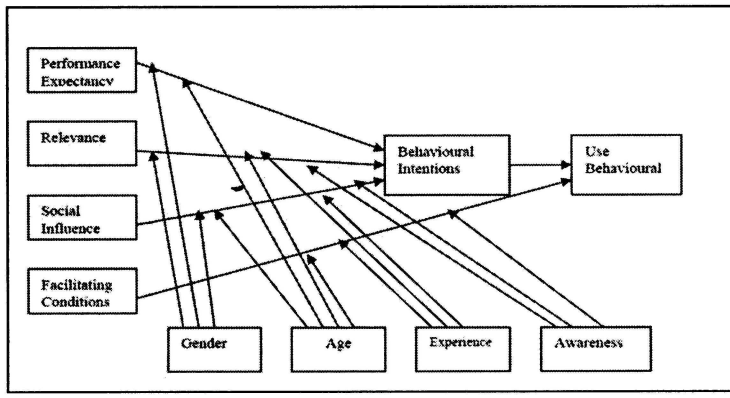

Figure 4: SOUTAUT Model (Tibenderana et al., 2010)

Specifically, the study intended to determine the level of acceptance and use of electronic library services by end user communities in universities, the efficiency of technology adoption in university libraries as determined by the UTAUT model, and the impact of various UTAUT variables and other variables not included in UTAUT model on end-users' acceptance of electronic library services. Findings of the study reveal the following:

For the universities studied, end users expressed a relatively high inclination (30 per cent) towards behavioural intention to accept and use electronic library services, a relatively low level (9 per cent) of usage behaviour of the electronic library services, and a moderate expectation of the benefits from the services (18 percent variance). Performance Expectancy did not have an effect on the behavioural intentions to accept and use electronic library services. As for relevance (a construct added by the researchers in the study), it was shown that e-library services were relevant in the students' day-to-day academic pursuits. The study also revealed that one of the driving forces of behavioural intention to use electronic library services was the Social Influence construct. This means that university library end-users in Uganda were influenced by their social groupings. In relation to the construct of expected benefits, the study revealed that end-users gained what they expected when using electronic services. The study also found that the most prominent factor contributing to non-acceptance and use of e-library services was lack of awareness amongst end-users about the facilities associated with the services. The relevance construct was more salient for experienced individuals. Relevance construct was a strong determinant of individual's intention to use e-library services, and for older and experienced male workers.

In another study of digital library use that adapted the UTAUT model, Orji (2010) developed a Nationality Based UTAUT known as NUTAUT. Apart from the variables that have already been mentioned, the NUTAUT model incorporates an additional variable known as "Nationality" into the model. This was included by the researcher in order to account for the Nationality aspect of the students in the study, with the assumption that the UTAUT independent variables would impact on the acceptance and usage of digital library differently when moderated by gender and nationality simultaneously. The NUTAUT model is shown in Figure 5 below.

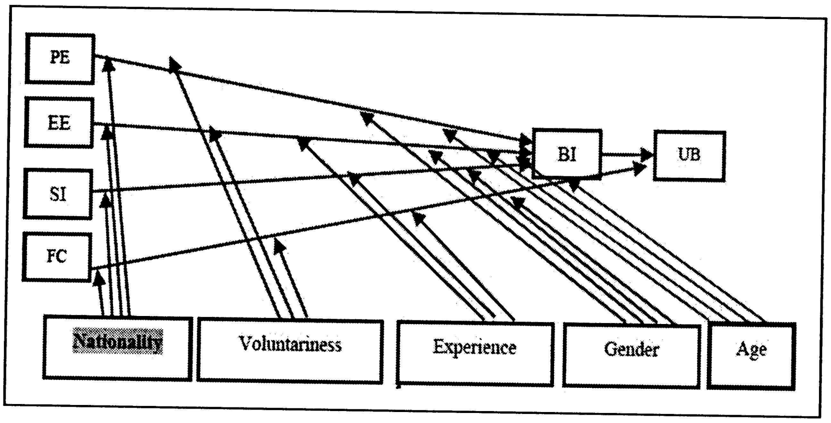

Figure 5: NUTAUT Model (Orji, 2010)

IV. FINDINGS

With a total of 116 student participants, the findings from this study revealed that gender and nationality moderate the effect exerted on behaviour intention by social influence. The importance of the social influence was more pronounced for males and females in the international category. There was also a significant difference in the effect exerted on behaviour intention by Performance Expectancy between the international and national groups. Therefore, Performance Expectancy was an important factor for males regardless of their nationality, while effort expectancy determined acceptance for females more than performance expectancy, regardless of nationality. More importantly, this result reveals that perceived Performance Expectancy of a system does vary based on gender. Gender and Nationality will moderate the effect exerted on behaviour intention by effort expectancy such that the influence will be more pronounced for males and females of the national category than for their international counterparts. This study also confirmed that the NUTAUT model is a robust model in predicting acceptance by both male and female students.

V. CONCLUSION

Thus far, the discussion has centered on all the variables found in the research that are related to the acceptance of the digital library and intention to use it. All of these studies have been inspired by the Technology Acceptance Model (TAM), the Unified Theory of Acceptance and Use of Technology (UTAUT), and two adapted UTAUT models, namely Nationality Based Unified Theory of Acceptance and Use of Technology (NUTAUT), and the Service Oriented Unified Theory of Acceptance and Use of Technology (SOUTAUT). As indicated earlier, TAM and UTAUT are models that are generally used by researchers to measure acceptance and intention to use digital library systems.

***Keywords*- Digital Library; Technology Acceptance; Information System.**

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Divulging Knowledge Sharing Attributes in Healthcare Communities Working Environment Through ICT Application

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I. BACKGROUND OF THE STUDY

Envisaged to revolutionize Malaysia's healthcare coordination to be more assimilate, dispersed with an endeavor to endow sufficient, reachable and excellence healthcare services, Information Communication Technology (ICT) development foreseen as the fundamental driving force for Ministry of Health (MOH) in achieving efficient productivity growth and transparent healthcare governance. The effort of strengthening Malaysia's health systems and address public health priorities has lead MOH to establish 7 vital National Institutes of Health (NIH) ever since the 7th Malaysia Plan in 1990s. To date, the network of health institutes has conducted enormous amount of research activities and employ numbers of its research findings in formulating health promotion, clinical practice guidelines, endorsement of enhanced medical equipments and etc. This study has focused in three (3) institutes which are Institute for Public Health (IPH), Institute for Health Systems Research (IHSR), and Institute for Health Behavioural Research (IHBR). The selection criteria for these institutes were done basically based on its different notions concerning ICT tools, ICT skills, and leadership roles in the concept of KS. It was selected in order to undertake and focus on ICT roles as enablers to disseminate knowledge, communication method, and medium for knowledge transfer between employees' in their daily activities.

II. PURPOSE OF THE STUDY

Any organization unable to create knowledge without its employees and the impact of knowledge on the organization is likely to be less effective if knowledge is not properly shared within the organization. The purpose of this research is to identify and explore the use of digital technology by means of Internet, and its dynamism that enables National Institutes of Health (NIH) not only to create knowledge rapidly, but also stimulating Knowledge Sharing (KS) activities among institutional workforces. Commonly-used KS method between the NIH professionals has proven profound outcome in obligating their job chores efficiently. However, great potential of improvement continuum cannot be executed without the role of leadership which also will be discussed as it provides great potential in improving work competency. ICT with its additional roles also helps at operational and functional levels of the organization by providing better means of knowledge access and storage.

III. METHODOLOGY

Both quantitative and qualitative research methodology has been used in this study to gain information about the real situation of KS implementation in NIH. Aside of a survey, grounded theory approaches were used to develop an overview of knowledge sharing tools and processes via in-depth interviews, observation, and field notes to investigate the execution of KS practices via ICT. The results are concluded into four (4) sections respectively as (i) ICT facilities and designs, (ii) knowledge sharing methods, (iii) leadership roles, and (iv) ICT Impacts towards productivity and employees' perceptions. Involvement from Directors, Head of Departments and ICT officers from each institute of study facilitated this research to understand and determine whether existing digital technology is able to capture and analyze the vast amount of healthcare knowledge and information, as well as methods for improvement. Comprehensive use of ICT in daily routines indicated greater opinion in deciding how ICT should be placed and employed.

IV. FINDINGS

A. YEARS OF SERVICE & ICTT LITERACY

Generally, there are significant differences among the four (4) sections. This research will also highlight and elaborate further findings and results from the analysis conducted on current ICT framework which should clearly determine personnel's responsibilities and extract ideas on the understanding of KS definition, KS processes and tools, top management roles, and challenges faced by these professionals in sustaining job efficiency with the use of provided computing facilities. Different concepts on information and ICT policies imposed by each institute steered to a diverse method in synergizing the use of ICT and its functions. Auxiliary, the progress in implementing the knowledge sharing strategy is not systematic across organizations. In some departments and divisions, the knowledge sharing agenda has leap-frogged and ICTs has yet to be embedded within most of the institute's business processes. As a result, ICT is adding value to knowledge sharing strategies in NIH. However, the organizations were suggested to improve its approach in systematically capturing and reapplying knowledge. Furthermore, digital technology literacy also discovered to become a major challenge that constitutes as one of the many factors that affect the sharing activity aside of organizational culture, intellectual property rights, and employees trusts. Generations differences, as early as generation X and generation Y contribute to different levels of ICT literacy. Regardless of divisions and job scope, generation Y were proven to be purely competence and ICT literate and act as the key players in the KS activities with the capability of using various digital technologies and better tendencies to share knowledge with the rest of the organization.

Table 1.0 Respondents' Division/ Job Scope

Job Function	*Valid Percent (%)*	*Frequency (n)*
Administration	19.0	20
Finance	26.6	28
Training	15.2	16
Customer Support	5.7	6
Information Technology	7.6	8
Others	25.7	27
System		0
TOTAL		105

Table 1.0 showed the results of 100 % respondents' involvement supplied useful information and be used for data analysis using both descriptive, means comparison and regression techniques. It also demonstrated in term of respondents' division or job scope of the respondents came from Administration Division, Finance, Training Division, Customer's Support Officer, Information Technology Division and 18 (30.5%) were respondents from various divisions such as a range of research units, logistic, quality, and etc. In describing the years of service and the duration of these officers to be purely competence and literate.

Table 1.1 Cross tabulation between years of service and ICT literacy

			ICT literacy			Total
			Advance	Intermediate	Beginner	
Years of Service	<1-3 Yrs	Count	24	17	2	43
		% within Years of Service	55.8%	39.5%	4.4%	100.0%
		% within ICT literacy	57.1%	43.5%	28.5%	45.0%
	4-10 Yrs	Count	9	18	2	36
		% within Years of Service	35.3%	52.9%	11.8%	100.0%
		% within ICT literacy	21.4%	46.1%	28.5%	28.3%
	>10 Yrs	Count	9	4	3	26
		% within Years of Service	56.3%	25.0%	18.8%	100.0%
		% within ICT literacy	21.4%	10.2%	42.8%	26.7%
Total		Count	42	39	7	105
		% within Years of Service	48.3%	41.7%	10.0%	100.0%
		% within ICT literacy	100.0%	100.0%	100.0%	100.0%

Table 1.1 showed that for the staffs who have less than 1 year to 3 years working experience already have the most rates as an advance (48.3%) and intermediate (48.0%) users, instead of the staffs with 4 to 10 years becoming advance (20.7%) and intermediate (36%) users. The results also showed that some respondents only becoming an advance (31.0%) and intermediate (16%) users after more than 10 years of working experience. This can be relating with the level of ICT literacy among the Y generation which have been exposed with the function and application of ICTs ever since in schools. Most of the younger generations do receive a basic ICT education ever since in schools and prolonged their knowledge at higher education institution. According to a study made by UNESCO (2000), Malaysia's Ministry of Education sees ICT as a tool to revolutionise learning as an effort to produce richer curricula which have brought Malaysia's young generations to be at the ranks of 17 among 25 countries of the research area.

B. ICT APPLICATIONS

This part analyzed the types of hardware prepared and normally used by NIH staffs and where it can realistically provide a function of improving interaction and communication within NIH community. Consequently, a list of hardware along o have been listed in the distributed questionnaires (*see questionnaire page 3*) segregated as available in the office and used in daily task and knowledge sharing activities.

Table 1.2 List of hardware available and applied in daily tasks

No	Types of Hardware	Available in the office				Applied in daily tasks			
		Yes		No		Yes		No	
		n	%	n	%	N	%	n	%
1.	Desktop	101	96.1%	4	3.9%	99	94.2%	6	5.8%
2.	Laptop	52	49.5%	53	50.5%	40	38.0%	65	62.0%
3.	PDA	11	10.4%	94	89.6%	11	10.4%	94	89.6%
4.	Video Camera	12	11.4%	95	88.6%	12	11.4%	95	88.6%
5.	Digital Camera	10	9.5%	95	90.5%	10	9.5%	95	90.5%
6.	Radio/ Cassette Player	15	14.2%	90	85.8%	15	14.2%	90	85.8%
7.	Photocopy Machine	105	100%	0	0%	105	100%	0	0%
8.	LCD Projector	51	48.5%	53	51.5%	48	45.7%	57	54.3%

9.	Printer	105	100%	0	0%	105	100%	0	0%
10.	Scanner	105	100%	0	0%	105	100%	0	0%
11.	Speaker	91	86.6%	14	13.4%	40	38.0%	65	62%
12.	CD/DVD Player	105	100%	0	0%	100	95.2%	5	28%

It's been characterized into two types within one form which divided into hardware and networking technologies. The list was outlined in order to identify the strands for basic components of ICT whether it is readily available in NIH, and fully utilized by the employees'.

Table 1.3: Most common ICT application used in KS activities between institutes

ICT applications	*No*	*Yes*
Email	0.0	100.0
Internet	0.0	100.0
Institute's Website	10.5	89.5
MoH Website	5.3	94.7
Knowledge Sharing System	61.4	38.6
Institute Library's Website	28.1	71.9

Illustrated in table 1.3, showed that Email is one of the common ICT's application used by employees with percentage of 86.7% (52). In addition, Institute's website and knowledge sharing system only be used by minority of the respondents which accumulate only 6.7% usage each. The progress in implementing the knowledge sharing strategy is not systematic across the organization. In some departments and divisions, the knowledge sharing agenda has leap-frogged and ICTs has yet to be embedded within most of the institute's business processes. As a result, ICT is adding value to knowledge sharing strategies in NIH. However, the organization needs to improve its ways of systematically capturing and reapplying knowledge.

C. *TOP MANAGEMENT ROLES*

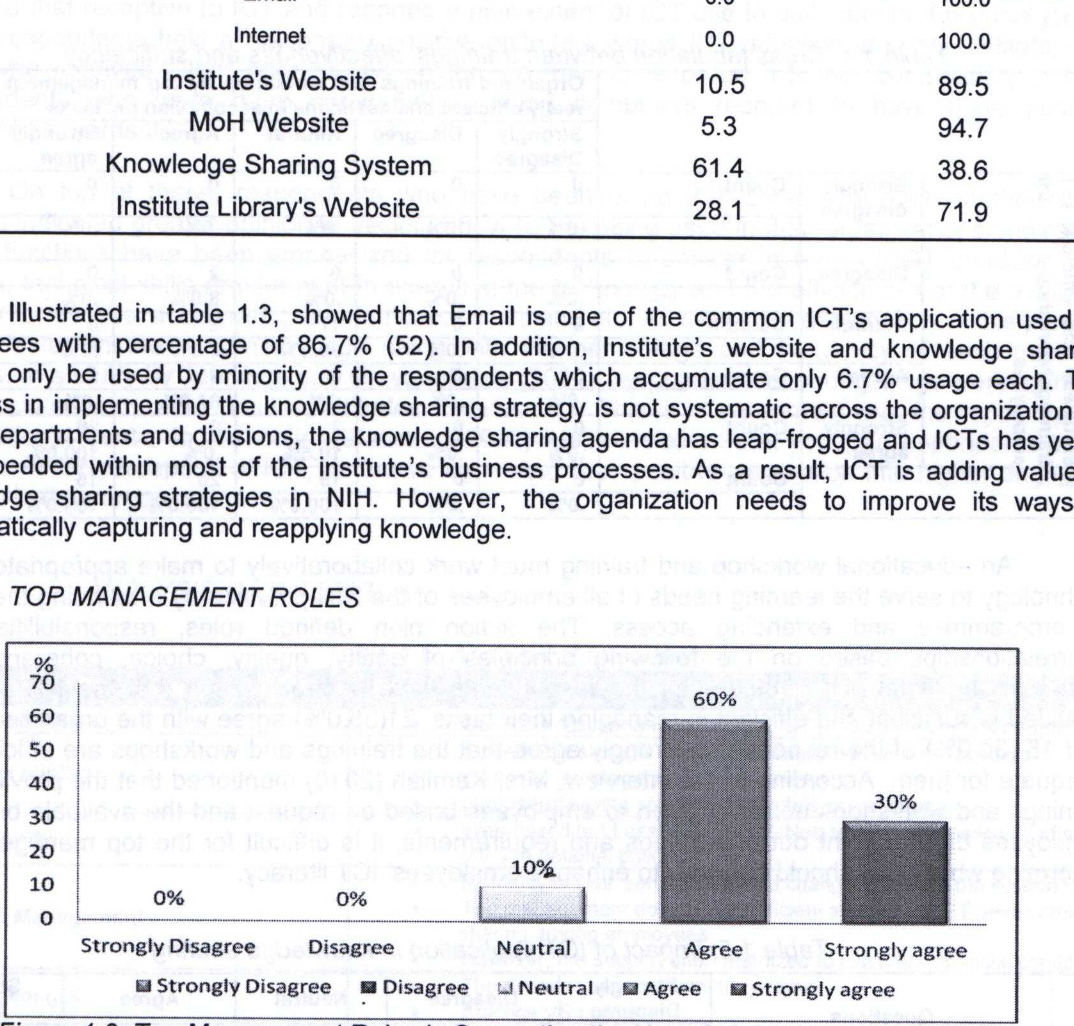

Figure 1.0: Top Management Roles in Supporting the Use of ICT in Knowledge Sharing

Top management commitment and support is the main factor that determines the tipping point between potential success and failure when developing and implementing business continuity management projects and systems (Sandesh Sheth, 2007). It has become a widely recognized fact that most failures in ICT implementation and development are indeed due to weak management. It can be poor management in general as suggested by Lee and Lin (2004), and lack of sufficient communication and underestimation of required knowledge and information (Huysman and Wulf, 2006). The findings from the above figure 1.0 dictate that respondent do perceive that top management do support the use and development of ICT. 70% (42) of the respondents accumulate as neutral and agree with the statement. While the remaining 30% (18) respondents answered strongly agree. This is supported through top management effort in providing sufficient budget for purchasing tools for ICT enhancement, along with organizing trainings and workshops for staffs regarding ICT applications. Based on the key point retrieved from the interviews with the four ICT officers, it state that each institutes will provide free basic trainings for staff on Microsoft processors (word, excel, access and etc) and statistical software (SPSS, ENVIVO etc,) yearly to enhance their ICT and statistical skills. Further, End User Training (EUT) also organized if there is new technology procured by the institutes for users' comprehension

Table 1.4: Cross tabulation between trainings' effectiveness and sufficiency

			Organized trainings and workshop by top management really efficient and assist me in accomplish my tasks					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly agree	
Top management provide sufficient and efficient ICT trainings/workshop for employees	Strongly disagree	Count	0	0	0	0	0	0
			.0%	.0%	.0%	.0%	.0%	0%
	Disagree	Count	0	0	0	2	0	2
			.0%	.0%	.0%	8.0%	.0%	3.3%
	Neutral	Count	0	0	17	2	0	19
			.0%	.0%	89.5%	8.0%	.0%	31.7%
	Agree	Count	0	0	0	21	0	21
			.0%	.0%	.0%	84.0%	.0%	35.0%
	Strongly agree	Count	0	0	2	0	16	18
			.0%	.0%	10.5%	.0%	100.0%	30.0%
Total		Count	0	0	19	25	16	60
			.0%	.0%	100.0%	100.0%	100.0%	100.0%

An educational workshop and training must work collaboratively to make appropriate use of technology to serve the learning needs of all employees of the NIH province by enhancing the quality of programmes and extending access. The action plan defined roles, responsibilities, and interrelationships based on the following principles of equity, quality, choice, coherence, and sustainability. Total of 17 (89.5%) of the respondents have neutral opinion that the ICT trainings provided is sufficient and efficient in managing their tasks. 21(35.0%) agree with the organized efforts and 18 (30.0%) of the respondents strongly agree that the trainings and workshops are efficient and adequate for them. According to the interview, Mrs. Kamilah (2010) mentioned that the provided ICT trainings and workshops normally given to employees based on request and the available budget. If employees did not point out their needs and requirements, it is difficult for the top management to determine what effort should be given to enhance employees' ICT literacy.

Table 1.5: Impact of ICT application in knowledge sharing

No	Questions	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
		%	n	%	n	%	%	n	%	n	%
Q 32	ICT Provided is in good condition and well function	0	0	6.7	4	23.3	14	63.3	38	6.7	4
Q 33	The provided ICT doesn't require high technical skills	0	0	6.7	4	25.0	15	61.7	37	6.7	4
Q 34	Available network is efficient for knowledge access	0	0	6.7	4	33.3	20	56.7	34	3.3	2
Q 35	Hardware/System failure seldom occurs	3.3	2	20.0	12	18.3	11	50.0	30	8.3	5
Q	Available system accelerate in	0	0	0	0	25.0	15	75.0	45	0	0

36	knowledge sharing rapidly and efficiently										
Q 37	Comfortable with current ICT condition and doesn't require any upgrades	10.0	6	30.0	18	16.7	10	40.0	24	3.3	2
Q 38	Information searching normally end completely and satisfactorily	0	0	13.3	8	33.3	20	50.0	30	3.3	2
Q 39	Knowledge accuracy is as expected	0	0	10.0	6	33.3	20	53.3	32	3.3	2
Q 40	Knowledge currency is as expected	0	0	3.3	2	38.3	23	55.0	33	3.3	2

A wide range of ICT such as laptop, LCD projectors speaker and scanner, as well as online tools and interactive courseware has been used to support knowledge sharing in NIH. With a large investment in the ICT infrastructure, and increased emphasis on the use of ICT in organization, employees are expected to be competent and effective in utilizing these tools. The study results indicated that receptive to ICT and reported a high extent of ICT use in daily and professional job. In broad, respondents held a reasonably positive attitude towards ICT adoption in every institute, and those who received either prior to and on the job training recorded a higher competency in ICT. Respondents who were more competent in using computers reported to have more positive perception towards ICT.

On top of these, respondents who have been using ICT comprehensively in their daily routines indicated greater opinion in deciding how ICT is being used in their organizations. Indicators of ICT functions have been emphasized for respondents to answer in term of ICT condition and function, technical skills requirement in operating the technology and the efficiencies of the available network for access, accelerating sharing capabilities and etc. Auxiliary, the explanation of this part will be elucidated in the remaining page along with the percentage and frequency of each question findings. In a study by Jennings and Onwuegbuzie (2001), respondents of younger age were found to be associated with more positive attitudes towards ICT. This is in agreement with the report by the U.S. National Centre for Education Statistics (2002) which indicated that younger respondents score higher on their perception of ICT, and have translated their positive perception into higher degree of ICT use in their organization.

D. ANALYSIS OF INTERVIEW

Table 1.6: Analysis of Interviews

Discussions	Finding
1. Maintenance	Schedule Maintenances for each ICT products in every 6 months
2. Data mining	• Systematic storage that comprise all the civil servants data • purposes for integrity and transparency • purpose of saving space for Institute's server space
3. Security	Web-based but Local network (eGNet) to ensure the security of system and comply with the national policy
4. Top Management	• Mentality of civil servants have to change to ensure the system use effectively • Top management do provide sufficient support for ICT development and knowledge sharing among employees. • However, the support often restricted to institute's financial condition
5. Challenges	• The dynamic of government agencies • Practice VS policy • Technical problem such as Hardware, system and network failures

The table above is the overall analysis of key point extracted from interview with ICT officers. However, the main focus of the discussion is about NIH's condition regarding the ICT development. As stated in MOH circular, "Surat Pekeliling Am -Tatacara Penggunaan dan Keselamatan ICT KKM", (Bil 2/2009). Interviews with Officers from IPH, IHBR and IHSR who maintain the ICT application of each institute were carried out. This interview enable to gain general understanding from administrator point of view on the critical Issue in developing ICT expansion, processes and procedures for identifying, disseminating and embedding good practice in knowledge sharing. The above Table 1.8 underlined 5 key points which emphasized by NIH or government particularly which has been embedded in ICT professionals practices. The result from the analysis, haul out a clear personnel' responsibilities and extract information about the ICTs maintenance schedule, data mining, security, top management roles and challenges faced by these professionals in sustaining the efficiencies of each tools for future use.

V. SIGNIFICANT/CONTRIBUTIONS

- *CORPORATE MEMORY*

This study has led to a proposal in creating a Corporate Memory (CM) using virtual network for NIH future planning. A knowledge repository to accumulate both tacit and explicit knowledge for NIH in producing competent productivity growth and transparent healthcare governance. By having CM, it will provide significant contribution in health sector improvement and health care system restructuring through facilitating decision-making across projects, particularly at policy level within Health Ministry. Employees will be able to identify existing and accessible knowledge, in order to transfer and apply this knowledge to solve specific tasks better and faster.

The Needs
Effective Communication & Decision Making
Palpable responsibility of the corporate memory is to carry out the department's cross-functional task in order to enable parallel industrial trade. In addition, it can run as a jumper that can bypass communication's red-tape and delays of required authorization due to the organizational hierarchy. A simple answer or permission required will take hours to be granted as this information has to go through various management levels. Moreover, it can be worse if the company has a large decentralized corporate structure. All these can be overcome if a corporate memory is developed. It can provide direct communication among department's staffs and give a local decision-making power. This will also give a quick response to centralized information supply as well as resulting in happy and well-entertained customers who will certainly come back.

Expertise and Experience
For employees, besides universities and college learning, the best way to learn about their roles and participation in their organisation's competitive surrounding is from their daily tasks. It is how they deliver each personal competency that reflects their capability for their own career enhancement. The corporate learning system mentioned is a self-education process of learning based on other people's experience. It can be adapted through on-job training, workshop seminars and knowledge sharing with a variety of seniors that ultimately will "marry" various types of knowledge and solutions. These exchanged information and knowledge will self educate them for huge career input. Through the project, they learn something beneficial and at the same time, it can be circulated within the organization. The lessons learned can be either negative or positive experience that relatively can be a revolutionary idea that completely changes their current business process. So in the future, if a similar project or problem occurs, they just have to refer to their corporate memory and the task or solution can be performed efficiently, perhaps with some small modifications.

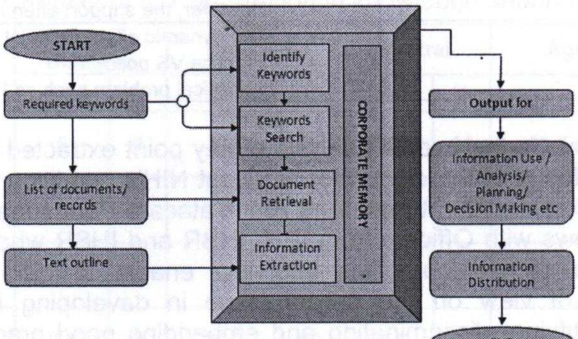

Figure 2.0: Information Retrieval Workflow

The Infrastructure

In-depth Content Planning :Content Analysis

All the material that intend to embed within the corporate repository must be indentified and collect to plan the source and type of data restored inside it besides determining the location or source of the data and output of the system.

Metadata Approach

Metadata had been defined as "data about data". It enables content to be retrieved, tracked and assembled automatically. It makes content of the Corporate Memory is accessible plus enables user to reuse, track status, generate report, and routing workflow or project status.

Development blocks and Hardware

A comprehensive planning for hardware requirements and tests for organization's available infrastructures design must be reviewed before the installation progress done. The review must conclude as follows:

Sum of nodes

A node is member of a server cluster. This is a system that works in the server installation. Every node attached to one and another and communicates in the cluster through one or more independent networks and access all cluster configuration data..

Line speed and number of remote sites

The transmission rates or the lines speed that will be occupied by must depend on the quality existing phone line and type of equipment that used in for the Corporate Memory project's hardware and networks. The ADSL (Asymmetric Digital Subscriber Line) is a frequently form where it's downstream the devoted data travelling from internet or server to PC and upstream data travelling from user PC.

Domains

A Domain name will be act as an identification label that lead to the physical location or address topology of a network. It is track able for either Internet or Intranet Corporate Memory setting. The respond normally involve with the changes of IP address.

Type of Database

There are many types of database which carry its own distinctive function. The classifications of the database for the Corporate Memory can be divided into two which are based on its functions and based on the data model. The two categories of function database are Analytical Database and Operational Database. The Analytical Database allow user to retrieve the required data, but cannot modify it in any way. It's normally used for organizational inventory. While the Operational Database permits user to change, and manipulate the data. This will facilitate user to update their knowledge content in the Corporate Memory repositories.

The Advantages

Protecting new and existing information

Individual information and knowledge must be easily accessed by other personnel in the organization. The storing and maintenance for both information and knowledge must be consistent and properly tagged so that it can be easily retrieved. Especially for those who require the specified information urgently, it must be obtainable at the right place and a right time.

Formation of new knowledge

Companies endure by the unstoppable expansion of new knowledge enhancement are pertaining on creative ideas, failure analysis, and daily job experiences. These failures or success can be adopted in corporate memory as records.

Collaborating existing information
An organization is not stepping towards success if all available knowledge and useful information are not integrated into the production of their latest products or services. In fact, it is a mushrooming trend that products and services were built by multi-disciplinary squad. Where corporate memories is the main repositories that ensure the production's knowledge access became faster and easier. It is argued that good knowledge management involves the continuous streamlining of these processes to improve the learning capacity of the organization. Therefore, a corporate memory must be controlled in such a way that will maximally assist each key player. In actual organizations scenario, the interacting processes are normally difficult and everything require money and might waste valuable time.

Unique asset
The information enclosed in daily activities' papers such as strategic plans, account ledgers, meetings' minutes, blueprints, e-mails, pictures and softcopies can be restored for future used as ground-breaking ideas for business growth, product reference, audits or critical business decision requirements. This unique asset will definitely become a savior for the organization itself and boost their image as a technology wise and savvy corporation.

VI. RECOMMENDATIONS

This section primarily underlines the discussion in the findings represented and summarizes recommendations that can be proposed for future research. All the elements, characteristics and attributes on the roles of ICT in knowledge sharing activities have been derived in order to emphasize possible solutions that should take into consideration by NIH. This can be recognized as a true learning organization in providing betterment towards NIH competitive advantage.

1) Procurement of information systems (IS), ICT equipment, software development, and consulting services, suggested to be carried out in accordance with the applicable "Procurement Manual and Guidelines" from any successor in the ICT areas. This consequently will assist in providing an efficient ICT system for employees to use in terms if daily business transaction and interoperability between institutions

2) When procuring hardware, it is recommended for each institute's to ensure that appropriate warranties are obtained and adequate to take care of any defects. Maintenance terms for the hardware after the warranty period should also be negotiated in advance.

3) Only licensed software whereby such licenses must be contrary to the Intellectual Property Act of 2003 and would result in legal penalties (both criminal and civil liability). For this reason, these terms must be fully negotiated in advance by ICT officers to comply with current market trends and requirement by the workforce. This is in result with most comment received by the ICT officers whereby there are major amount of obsolete technologies bought by government agencies which did not meet the requirement of good knowledge sharing communication channels.

4) Drawing from the lessons of experience from World Summit of the Information Society (WSIS) in Geneva, Switzerland in December 2003 on the launch of a broad knowledge management program in a global organization like NIH, eight pillars of knowledge management instruments must be adapt to support the NIH's initiative in defining a clear strategy based on the business needs of the organization by keeping small central KM unit which oversees overall implementation, making available budgets to allow communities to function, supporting the development of communities of practice, keeping information technology user-friendly and responsive to its users needs. This will set a metrics to measure progress of knowledge sharing activities and determine the involvement of ICT.

5) All staff including senior management and middle management staff in Government organizations must be competent in the use of ICT in their daily work, and necessary awareness and training should be provided to achieve this competency. They (senior management) should implement suitable incentive schemes for staff that are proficient in ICT or obtain relevant qualifications in ICT. Further, ICT certification for all staff in government

organizations should be encouraged to obtain government approved computer qualifications. Moreover, all government top management should undergo adequate training to enable them to perform their duties in ICT related projects.

6) Measuring the performance of NIH ICT development and knowledge sharing program is a difficult, and sometimes ambiguous, undertaking. On one hand, the return on the significant knowledge sharing investments needs to be evaluated. On the other hand, the evolution of behavioural changes throughout the organization should be measured. At the outset of its program, the NIH should focused mainly on measuring inputs (such as budget deployment and recruitment of ICT staff) and activities (such as the number of help desks, communities, and knowledge collections available on-line). As implementation progressed, the focus must expand to measure outputs or outcomes, of the overall impact of the ICT and knowledge sharing program. As a result, the causal relationship between inputs and impact remains, at best.

7) A policy or standards of information access through ICT implementation must be set in every agency based on the information secrecy and its purpose according to employee's level to avoid misconduct. There is need for greater collaboration and smart partnership between the private sector and NIH in order to educate and improve the awareness among its employees. The level of awareness should be raised, through the process to educate them, especially for novice users to assist all efforts in creating strong base of ICT working culture and to be a knowledgeable worker.

8) Procedures and terms for support and maintenance of software, and future modifications should be planned and documented in advance this will give a good impact on staffs' perception towards the roles of ICT applications. To ensure the any networking sites or tools are easy to use for the novices to navigate, efforts need to be made in educating them on how to manage the system through training either internally or externally.

9) System security must always be up to date to avoid any misconduct or information breach. Meanwhile, servers' speeds need to be enhanced to ensure its readiness to receive many visitors simultaneously. Based on the findings, majority of the users comment that the access speeds were too slow especially in the morning. Users reported to use the system at that time to update and retrieve information.

VII. CONCLUSION

In most organizations, building a repository of knowledge collections is easier than shifting the company's culture towards knowledge sharing. At the outset of its program, the NIH should focus mainly on measuring the overall impact of the ICT and knowledge sharing program resulting the causal relationship between inputs and impact remains at best. Organizations must consider how assistive technologies can be leveraged to help bridge performance gaps and enable people to fully contribute to their organization's knowledge outputs. Here ICT will both be a benefit providing an efficient means to access Government information and present new challenges, such as how to deal with dynamically changing documents which may never exist in printed form. Mainly, companies nowadays are focusing on digital content without realizing overlapping information due to duplication or inconsistence maintenance had lead to inefficiency and low quality products and services. At a micro-perspective, the employment of a corporate memory is to profit from previous experiences in the company to improve the quality and efficiency of dynamic opportunistic project management and coordination. With knowledge sharing, knowledge gained and assembled in one place is made accessible to the other parts of the organization by keeping them in a knowledge repository, namely corporate memory. Even though an increasing number of organizations had started the move, the number is still too small. Most still have not recognized the potential and benefit that can be gained from intellectual action.

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Factors Promoting Knowledge Sharing Using Virtual Mode for the Researchers in Government-Linked Companies

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I. BACKGROUND OF THE STUDY

Knowledge sharing has been recognized as an important focus in Strategic and Knowledge Management field, where knowledge is seen as the most important resource which organization possess. Previous researchers also define knowledge transfer as the process through which one group, department, or division is affected by the experience of another. They further point out the transfer of organizational knowledge can be observed through changes in the knowledge or performance of recipient units.

People nowadays are utilizing virtual mode and web-based technology such as Internet, Intranet, social media and other online technology. This is where knowledge can be extracted, shared and distributed around the globe and people are starting to interact and socialized using the latest online media and technology. On that note, many scholars had identified the virtual environment as the effective platform for knowledge sharing and collaboration. The experts have suggested virtual communities as cyberspace community that have various internet-based chat and collaboration that include discussion forums, chatting space, discussion or online bulletin board, wikis, blog and other online platforms.

Developing a knowledge sharing behavior is a challenge for the most knowledge-savvy organizations such as the Research organization. As behavior is difficult to pin down and is often underestimated in efforts to change how organization works. Developing a behavior which values and practices knowledge sharing is a multi-year effort involving attention to social, organizational, managerial and technical components of this behavior. Past efforts have often assumed that implementing technology such as media online will be enough to promote knowledge sharing. While this has been consistently demonstrated as an ineffective practice, frequently the majority of an organization's knowledge resources are devoted to technology and not to the other factors, which stimulate knowledge sharing.

Based on the previous researches, various gaps or barriers were cited by the experts on knowledge sharing, that include functional silos, individualism, in-effective means of knowledge capture, inadequate technology, internal competition and managerial gaps in the organization. Several common reasons given by people who reluctant to share their knowledge are the pride syndrome because people have pride in not having to seek advice from others, not realizing how useful particular knowledge is to others and also lack of trust.

Despite strong efforts to systematically define processes and technology solutions, previous studies have stated that 70% of organizations implementing a company-wide strategy for knowledge sharing fail to realize improvement in performance or to develop core competencies such as innovation and research development. Among the critical factors highlighted by the experts are failure to emphasize knowledge sharing as a business objective, failure to embedded knowledge sharing in daily processes and failure to implement technology that facilitates the knowledge sharing.

II. PURPOSE OF THE STUDY

The objective of this research is to evaluate key factors that promote the knowledge sharing behavior among the researchers through the virtual platform. Synthesizing from the previous theories and models, this research has suggested five important predictors or key success factors for promoting knowledge sharing behavior – performance expectancy, effort expectancy, social influence, facilitating condition and attitude towards knowledge sharing. For that purpose, this study has evaluated each factor that contributes the success of promoting the knowledge sharing behavior among the researchers, using the latest virtual technology.

III. METHODOLOGY

This research will use Quantitative approach for the collection and analysis of data by conducting surveys and questionnaires from the researchers in this organization. The research methodology uses a case study approach and an exploratory study; its aim is to explore the concepts, causes and facts, which determine people's attitudes. The list of respondents obtained from the respective research organizations is the basic population and the Stratified Random Sampling technique will be used. This sampling design will provide the most efficient technique when differentiated information is needed regarding various strata within the population. The population of researchers will be divided into mutually exclusive groups that are relevant, appropriate and meaningful in the context of this study.

This research will be using sampling from five Research and Development organizations from selected Government-Linked Companies (GLCs). These research organizations will be selected as respondent because it represents major GLCs that host the largest number of researchers with the technical expertise from the Energy sectors. These researchers also involve in various research activities for the benefits of the nation.

IV. FINDINGS

Synthesizing from the previous theories and models; namely Theory of Reasoned Action, Technology Acceptance Model and Unified Theory of Acceptance and Use of Technology, the conceptual framework of this research is developed. From the relevant theories and framework, this research suggested five important predictors or key success factors for implementing virtual knowledge sharing behavior. The first factor is Performance Expectancy, referring to the ability to obtain significant rewards after using the system. The second factor is Effort Expectancy which described the acceptance of the new system, such as Virtual platform is determined by easy-to-use factor. The third and fourth factors that can promote virtual sharing behavior were social influence and user's positive attitude or belief. The last factor that was identified in this study was Facilitating Conditions that refers to the ability of users to operate and utilize the system and the technology assistance that is provided by the environment.

V. SIGNIFICANT/CONTRIBUTIONS

This research is very significant because it will suggest a theoretical framework or methodology for implementing a sharing and collaboration culture for the research organization using the latest virtual platform. It will also identify the impact and contribution of this platform in managing the innovation and developing intellectual capital and assets in the respective research communities. This research is also important since the issue has not been explored with the particular research organization that related to GLCs in Malaysia. On that note, this study is very vital for the Malaysian government to assist in development of the knowledge-based economy for public sectors and GLCs towards realizing the nation's Vision 2020.

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Organizational Factors and Knowledge Sharing in Islamic Banks in Malaysia

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I. BACKGROUND OF THE STUDY

The importance of research comes from that of the research variables in contemporary organizations and societies. This importance is likewise revealed through the ways by which organizations could be provided with information and communication technology to expand the possibilities of KS, which could not have been achieved previously, as well as to provide real opportunities for KS to contribute to their strategic development. This study provides significant influence and impact in determining the success of the sharing of warranted knowledge among employees of Islamic banks to achieve organizational competitiveness. The research findings provide useful information and deepen the understanding of Islamic banks in motivating their employees to engage in KS practices. The objective for this study To evaluate the KS activities among the staff of Islamic banks (IB) and conventional banks that added the service Islamic banking to their system banking (CB) in Malaysia. This paper aims to assess the level of KS among the staff and managers of a number of Islamic banks in Malaysia. Through questionnaires and interviews, we evaluate the exchange of experiences and knowledge based on documents and all elements of knowledge, to identify the factors hindering KS in Islamic banks. The results of our survey are analyzed using SPSS software.

II. PURPOSE OF THE STUDY

This study investigates emphasis on the need to create a knowledge sharing (KS) culture in organizations and to implement business strategies. At the same time, organizations worldwide have been trying to undertake initiatives in introducing effective knowledge management (KM) by embedding KS practices in their daily work processes to achieve organizational performance. Today, banks are beginning to understand the relevance and importance of knowledge management systems and of KS. Similarly, banks are beginning to appreciate knowledge as the most significant and valued asset that leads to effective organizational performance. This research aims to investigate the role of certain factors in organizational culture for the success of KS. Factors such as interpersonal trust and communication among staff, information systems, rewards, and organizational structure play an important role in defining the relationships among staff, creating possibilities for breaking the obstacles to KS in the Islamic banking sector in Malaysia.

A. *Problem Statement*

Malaysia has differentiated itself from other Islamic countries, as its government has implemented a parallel system wherein Islámic and conventional banks function alongside each another, as opposed to full Islamisation [1]. Insufficient personnel training is one of the issues in this study [2]. Many Islamic banks recruit their employees from conventional banks, and these employees sometimes experience difficulties in understanding Shari'ah rulings. Conventional banks that implement a parallel system (Islamic banks) allow institutions to offer Islamic banking products and services using their existing infrastructure, including staff and branches [3]. The issue is whether to hire non-Muslim staff or staffs who possess no information or knowledge on Shari'ah. One problem faced by conventional banks (CB) that added Islamic banking services to their systems (CB) is that they hire non-Muslim staff members and individuals who have no knowledge about Shari'ah principles. This can bother their customers who are availing Islamic banking services as well as distort the non-application of religious texts. To help overcome these problems and gain a deeper understanding of its staff members, the CB needs to support KS among its staff. The new staff members are also trained on KS, the correct application of religious texts, and the procedures in Islamic banking services.

III. LITERATURE REVIEW

- ***Islamic banking***

  "Islamic banking has become a substantial and fastest growing industry during the last four decades. It has followed the Islamic transactions rules and principles (Shari'ah) to carry out their business" [4], [5], [6]. According to Shari'ah principles, any payment or receipt of interest is strictly prohibited, although the Islamic bank offers products and services that are more or less similar to those offered by a conventional bank.

- ***conventional banks that added the service Islamic banking to their system banking (CB)***

  Malaysia differs from other Islamic countries in that its government has implemented a parallel system wherein Islamic and conventional banking can function alongside each another, rather than adopting full Islamisation. This implementation is the first step of the country towards the development of a dual system where Islamic banking and the conventional system function parallel to each other [7].

- *Islamic banks*

  Malaysia, as one of the first countries to introduce Islamic banking, is deeply committed to developing a complete Islamic financial system. The Malaysian government established the first Islamic bank in the beginning of the 1980s, and followed by the Bank Muamalat. These Islamic banks have been independent since their inception. [8].

IV. METHODOLOGY

THEORETICAL FRAMEWORK OF THE STUDY

Organizational Knowledge Capability

The core capabilities of knowledge organizations are important in providing information and knowledge-based services [9]. KM initiatives may fail if the investments and capabilities of organizational resources are inappropriately handled [10]. Effective KM must contribute to an organization's performance through the development of organizational knowledge capability [11]. An organization's capability to learn or acquire the required knowledge from other organizations is vital for the success of the KS process [9]. Thus, an organization improves its effectiveness by setting the enhancement of knowledge capabilities as the foundation of its development. Furthermore, organizations usually invest on process improvement, work effectiveness, learning, and supporting knowledge-facilitating technologies [12], as shown as figure (1).

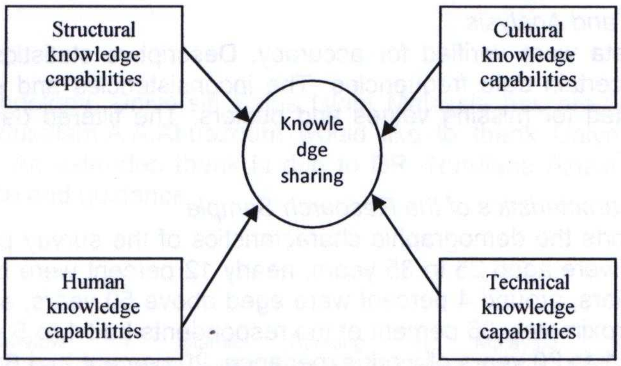

Fig. 1 A framework linking organizational knowledge capabilities to KS [9]

Research Methodology

Research design refers to the procedure for collecting, analyzing, interpreting, and reporting data in research studies [13]. The research design must be based on the research work's purpose, and on what suits the research problem. The current thesis has an exploratory nature. Exploratory research normally uses qualitative techniques for data gathering, because qualitative methods are less restrained to a specific theory or research question [14]. It is also more open to using a wide range of evidence and uncovering related issues. Quantitative methods, such as surveys, can also be employed in this type of research [15]; [14]. Thus, the current work adopts a mixed-method procedure to maximize the benefits of both approaches [14].

In connecting the two data types, the researchers realized the need for further data collection to support the results after analyzing the first set of data. Therefore, the second phase of the data collection, which is intended to explain the results from the initial phase, has been found to be marginal and supportive [13].

- Data Collection
  This research gathered data from questionnaires answered by staff members of Islamic banks (IB) and CBs. The gathered data during the first phase were supported and explained by interviews with some staff members. As shown as figure (2).

The Research Process

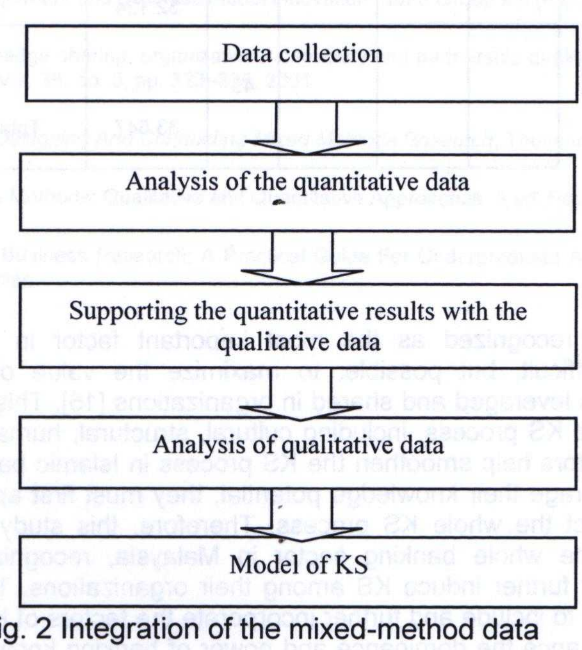

Fig. 2 Integration of the mixed-method data

V. Results and Discussion

Data Processing and Analysis

The collected data were verified for accuracy. Descriptive statistics, coding, and data entry were performed to ascertain data frequencies. The inconsistencies and errors were eliminated, and the data were adjusted for missing values and outliers. The filtered data were then verified through a reliability test.

Demographic Characteristics of the Research Sample

This section reports the demographic characteristics of the survey participants. About 58 percent of the respondents were aged 25 to 35 years, nearly 12 percent were below 25 years, 24 percent were aged 36 to 45 years, around 4 percent were aged above 50 years, and only 2 percent were aged 46 to 50 years. Approximately 36 percent of the respondents had 1 to 5 years of work experience, nearly 20 percent had 11 to 20 years of work experience, 20 percent had 6 to 10 years of work experience, 20 percent had worked for over 20 years, and 10 percent only started working less than a year ago. Approximately 46 percent of the participants were operational staff members, 40 percent were middle-level managers, and nearly 14 percent were senior/executive managers.

- *Regression*

Regression analysis was adopted in the study, and the adjusted coefficient of determination (R average) was valued at -0.043, which served as the basis for assessing the moral relationship between the dependent and independent variables. In other words, the contribution of the independent variables in explaining the change in the dependent variable can be derived using array deviations. Table 1 shows the standard error of 0.714.

Table 1. ANOVA

Sig.	F	Mean square	df	Sum of squares	Model
0.001	0.498	0.356	4	1.422	Regression
		.7140	45	32.124	Residual
			49	33.547	Total

VI. Conclusion

Knowledge is recognized as the most important factor in determining the survival of organizations. It is difficult, but possible, to maximize the value of knowledge by adequately understanding how it is leveraged and shared in organizations [15]. This research studies the factors and their effects on the KS process, including cultural, structural, human, and technological factors. These motivational factors help smoothen the KS process in Islamic banks. In order for the banking institutions to fully leverage their knowledge potential, they must first appreciate and look forward to the enablers that affect the whole KS process. Therefore, this study is anticipated to eventually facilitate and assist the whole banking sector in Malaysia, recognizing and understanding the influencing factors that further induce KS among their organizations. The findings can also enable researchers and banks to include and further incorporate the factors of KS that are determined in this research to further enhance the dominance and power of banking knowledge. Furthermore, banking institutions can also refer to this study and use it as a guide to successfully implement KS in their organizations.

Acknowledgment
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Competitive Intelligence in Organizations: The Roles and Challenges for Library and Information Professionals

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I. BACKGROUND OF THE STUDY

Competitive intelligence (CI) is regarded as one of the most important management tools in today's business organizations. Many leading organizations have benefitted from it particularly in assisting them acquiring competitive edge in business affairs over other organizations that do not have CI initiative. CI is about utilizing intelligence rather than information. Nevertheless, intelligence is derived from analyzed information collected from various sources and types. In this context, intelligence is related to information in which library and information professionals (LIPs) are very familiar with. Therefore it is only appropriate that LIPs should at least be involved, if not lead, the CI work in their organizations and revive their corporate library as the center for CI function. This would be an opportunity for LIPs to reinvent their roles and making their profession and their library establishment important to their organizations. CI is a new domain to LIPs. As such, they may not know how they can be relevant to CI work. CI work is conducted through a process called CI cycle which consists of five phases namely planning, information collection, information analysis, dissemination of intelligence, feedback and evaluation. In all of these phases, there are tasks that need to be performed effectively in order to ensure success of CI work. Through the examination of the tasks, the authors found that most of the tasks, if not all, are related to the knowledge and skills possessed by LIPs through their formal education and training and their professional exposure. This paper is focusing on this aspect of CI by discussing how LIPs can perform the tasks effectively hence showing their relevance to CI work. The discussion is based on the experiences of the authors in teaching and learning about strategic information management (SIM) in which CI is one of the domains of specialization and library and information science is regarded as the foundation of SIM.

At the height of hyper global competition among business organizations, competitive intelligence (CI) becomes very important as a management tool to assist organizations weather the competitive climate. Leading companies such as Ericsson, Nokia, Airbus, L'Oreal, Motorola, Nestle, Mitsubishi, Toshiba, Canon, Toyota to name a few, have benefitted from systematic CI [Rouach, D & Santi, P, 2001].

Business organizations with CI initiative have better knowledge of their competitive landscape, comprehend their customers better, choose their business partners suitably, and quick to develop proactive competitive strategies to capitalize on the opportunities and able to manage threats to their business. They are also aware of their weaknesses by knowing the strength of their competitors. They are seldom being astounded by their competitors because they knew earlier about their competitors' move through the early warnings supplied by the intelligence that they gathered. They are always on top of competition because they enjoy the competitive advantage resulted from informed strategic decisions guided by intelligence. With intelligence, organizations are able to introduce product and services that meet the market needs. The intelligence that have been gathered is used to build profiles of their competitors, suppliers, partners, customers, and key decision makers and important individuals in the industry. [Bose, Ranjit, 2008]; [Wright & Calof, 2006]; [Vedder,R.G et al., 1999]; [Fahey, L, 2007]; [Fuld, L.M., 1995]; [Kahaner, L., 1996].

Those are among the benefits that organizations could acquire and enjoy through CI. In this context, what is CI and how is CI conducted? Can library and information professionals (LIPs) be involved in CI work considering intelligence is derived from information? How can LIPs be considered relevant to CI? Therefore, this paper is written with the purpose of answering the above questions. It is written based on the experiences of the authors in teaching and learning about strategic information management in which CI is one of the domains of specialization and library and information science is regarded as the foundation of the domain.

What is intelligence?

Basically, CI is about utilization of intelligence (not information) by organizations to obtain competitive advantages. Prior to this development, we used to hear that information is the source of competitive advantages for organizations. Why is there a sudden shift of source for competitive advantage? In order to answer this, it is therefore important to differentiate intelligence from information. The foundation of intelligence is indeed information. This is to mean, intelligence is derived from information originated from a variety of sources and types that has undergone appropriate analysis. The purpose of the analysis is to add value to the information by making it relevant and relate to the context of the situation. So the main difference is the analysis. Because it is more relevant and contextual, intelligence is considered more valuable compared to information. As described by Fuld (1995), intelligence is not reams of database print-outs, not necessarily thick or densely-written reports, not spying, stealing, or bugging but intelligence is analyzed information. Along the same line, Kahaner(1996) differentiates intelligence from information by stating that information is factual while intelligence is information that has been filtered, distilled, and analyzed.

Defining CI

Experts define CI in many ways [Yuan and Huang, 2001]; [Prencipe, 2000]; [Cook & Cook, 2000]; [Bouthillier, F & Shearer, K, 2003]; [Miller & Prescot, 2001]; [Murphy, C, 2005], [Vibert, C, 2004]; [Vriens, D.J., 2004]; but all of them agree that CI is legal in the context of competition. This is important to be highlighted because the connotation intelligence in CI is different from what the military connotes. Therefore, based on all the available definitions, we define CI as:

Collecting information from various sources in a legal manner and analyzing it to suit the context and situation in which it is needed, disseminating it through a proper channel in the right format at the right time and to the right users.

The CI Cycle

Basically, most CI guru agree that CI work is conducted through a process called CI cycle. Although there are some minor variations to the CI cycle as proposed by different experts, conceptually they agree that intelligence is produced through a cycle. Therefore, the CI cycle consists of the following phases:

- Planning for CI
- Information Collection
- Information Analysis
- Dissemination of Intelligence
- Feedback and Evaluation

In each of the phases in the CI cycle, there are tasks that need to be performed by the CI team. The completion of the tasks to their utmost will determine the success of the CI work. Individuals with knowledge and skills that are suitable for the task are needed. It is normally impossible to find an individual with all the knowledge and skills for all the tasks and for all the phases. As a result of this, CI is normally being conducted by a team. The CI team is led by a CI manager who oversees CI work to its completion. This part of the paper discusses the CI cycle by focusing on the tasks in each of the phases as depicted in figure 1. The discussion of each of the phases are concluded with the views from the authors describing the knowledge and skills of LIPs and their relevance with the tasks in the phases. In other words, the authors would like to substantiate that LIPs could play an active role in CI work considering their professional training in library and information science.

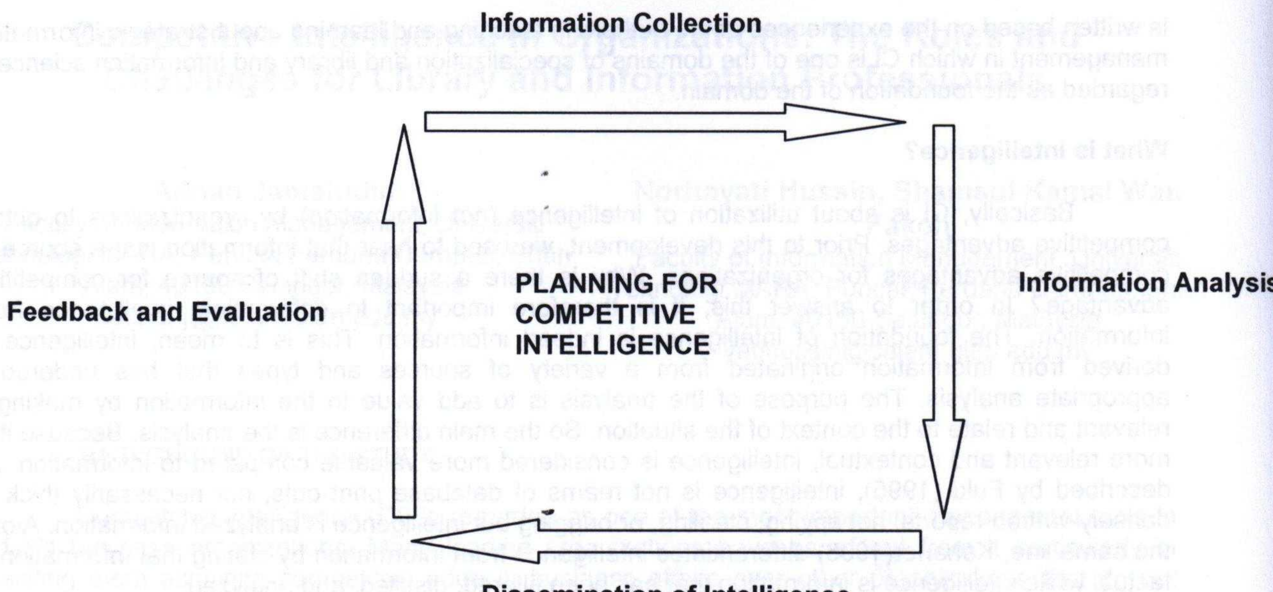

Figure 1: The CI Cycle

Phase I: Planning for CI

CI work simply begins with the utterance of intelligence needs by the management of the organization. Although the intelligence needs are uttered by the management, it is important that their intelligence needs are really understood by the CI team. Most of the time the intelligence needs are not properly and clearly uttered and it is the task for the CI team to probe deeper into their intelligence needs. The probing task is a very daunting one especially when it involves senior management thus it should be carried out by experienced individuals with relevant knowledge and skills in the CI team. In addition, the probing has to be carried out quickly so that the intelligence needed could be provided on time for the management to act upon it.

Probing into the intelligence needs of the CI users is normally done through the interview sessions between the CI users and the CI team. Sometimes the probing takes time and the interview may take more than once depending on the complexity of the intelligence needs. As indicated earlier, the sole purpose of conducting the interviews is to really understand the intelligence needs of the CI users which include aspects such as the type of intelligence needed, the purpose of the intelligence needed, the time of the intelligence is needed, and the dissemination method of the intelligence. Upon completion of the interview sessions, a list of Key Intelligence Questions (KIQs) is being generated by the CI team. KIQs are merely a list of questions that are related to the intelligence needs of the CI users. Using their understanding from the interviews, CI team interprets and translates the intelligence needs into intelligence questions. The KIQs will be forwarded to the CI users for them to confirm with their intelligence needs. Once the KIQs have been confirmed, CI team can begin with their next aspects of their planning tasks so that the KIQs could be answered hence fulfilling the intelligence needs of the CI users. At this juncture, it is important to reiterate that generating accurate KIQs is crucial for the success of the CI work.

How can LIPs be relevant and play their role in this phase of CI cycle? Judging from their formal training and professional exposures in the library and information field, LIPs have wide knowledge and skills of interacting with their information users. Their work is to understand their users in order for them to render excellent information service. They have methods and techniques to solicit the information needs of their users. One of the techniques formally taught to LIPs in their library and information training is the reference interviews. What is a reference interview? To put it simply, a reference interview is basically an interview normally conducted by reference librarian in order to understand the information needs of the patron so that the relevant and accurate information could be provided to the patron at the end of the interview. This technique of interview has been successfully practiced by LIPs more than a century ago to solve many of their patrons' information problems. Since then, reference interview technique has advanced according to the advancement of information and communication technology in the library. This is to mean that, LIPs have the advance of knowledge and skills in determining user needs pertaining to information. Therefore, with the knowledge and skills of this technique, LIPs could play their role and participate in determining intelligence needs of CI users hence able to generate precise KIQs.

Phase II: Information Collection

Information collection is about identifying the sources of information, collecting the relevant information in relation to the KIQs, and storing it for future use especially for the analysis phase. These tasks require an individual who has the professional knowledge and skills to carry out the collection task effectively.

Information is available in abundance. With the advancement of information and communication technology together with the birth of Internet, all kinds and types of information could be acquired. Therefore identifying sources of information becomes more overwhelming on the part of the CI team. There are many sources of information such as the libraries, government agencies, non-governmental organizations, business organization, trade unions, chamber of commerce, web sites, and databases. In addition to that, information can reside in books, monographs, reports, journals, patents, human beings, annual reports, minutes of meetings, and newsletters and bulletins.

With the myriad of information sources and types, collecting the relevant information will surely take time. Therefore suitable methods, tools, and techniques of information collection need to be applied in order not to fall into the trap of information overload. CI team has to balance between getting just the right amount of relevant information and the time taken to do so. It is opined that, only about 15% of the CI work should be spent on information collection. If too much time spent on this task, it will definitely delay the dissemination of intelligence to the CI users. Delayed intelligence provides no advantage to the CI users.

Information that has been collected required to be stored systematically. This is to ensure easy retrieval for any purpose of further processing of the information in the future. As more and more information is collected to answer the KIQs from time to time, storing of the information needs a suitable classifying system.

Identifying information sources, collecting them, classifying, and storing for easy retrieval are the forte of LIPs. In this context, LIPs have wide knowledge and skills which they acquire through their formal training and professional involvement. There is no other professions known on this earth that could equate the ability of LIPs concerning the management of information resources. Unquestionably therefore, LIPs would be the most relevant professional to be involved and responsible in information collection task in CI work.

Phase III: Information Analysis

Information Analysis is the heart of CI work. Information that has been collected and stored in the previous phase is retrieved to be analyzed. The purpose of information analysis is merely to produce intelligence that would answer the KIQs generated earlier in the planning phase. The intelligence would be of no use if it does not address the KIQs which mean that the intelligence is not meeting the CI users' intelligence needs. Since information analysis is the heart of competitive intelligence, failing to perform it effectively would mean a failure of CI work.

In the context of CI, intelligence is a product that is made up of information gathered from multi-source and multi-type that has undergone analysis process using specific tools and techniques. There are many tools and techniques of analysis and they can be grouped into five categories namely Strategic Analytical Techniques, Competitive and Customer Analysis Techniques, Environmental Analysis Techniques, Evolutionary Analysis Techniques, and Financial Analysis Techniques [Fleisher, C.S and Bensoussan B.E. 2003].
Examples of tools for Strategic Analytical Techniques are:

- Industry Analysis
- SWOT (Strength, Weaknesses, Opportunities, and Threat) Analysis
- Value Chain Analysis

Examples of tools for Competitive and Customer Analysis Techniques are:
- Competitor Analysis
- Customer Segmentation Analysis
- Customer Value Analysis
- Management Profiling

Examples of tools for Environmental Analysis Techniques are:
- Issue Analysis
- Macro Environmental (STEEP) Analysis
- Scenario Analysis
- Stakeholder Analysis

Examples of tools for Evolutionary Analysis Techniques are:
- Experience Curve Analysis
- Patent Analysis
- Product Life Cycle Analysis

And tools for Financial Analysis Techniques are:
- Financial Ratio and Statement Analysis
- Strategic Funds Programming
- Sustainable Growth Rate Analysis

It is important to reiterate that regardless of the analysis tools used in the analysis of information to generate intelligence, the intelligence must ultimately answer the KIQs that have been solicited from the CI users from the very beginning of the CI cycle.

In contrast to information collection, LIPs are not trained specifically to analyze information. Their task is to provide relevant information as requested by their users. They are not particular about how the information is to be utilized. In comparison with what CI team is doing with information, it looks like LIPs could not contribute much to the task. In here lies the challenge for LIPs to equip themselves with the knowledge and skills of information analysis. It is important to note here that these analysis tools are not difficult to learn and used. Learning them will only need logical and analytical thinking ability which LIPs surely have as a result of their professional experiences and exposures.

Phase IV: Dissemination of Intelligence

Intelligence that has been produced from the analysis phase needs to be disseminated and communicated to the CI users who initially requested for the intelligence for actions or decisions to be taken upon it. In this respect, it is important to ensure that the intelligence should not be made known to others who are not supposed to know about it. Intelligence is regarded as intelligence for as long as it is not publicly known. Intelligence is an advantage to a specific individual and the advantage will diminish if it is known to others.

Dissemination of intelligence is dependent upon the preference of the intelligence users. Some prefer the intelligence to be presented to them orally, some would prefer a short written report, and some would prefer it to be communicated through emails or other technological means. The preference of the intelligence dissemination in actual fact should already be determined at the planning phase so that the intelligence could be designed accordingly. The most important aspect about dissemination of intelligence is the time factor. This is to mean, intelligence should reach CI users on time for decisions to be made and action to be taken. In addition to that, intelligence should be formatted according to the preference of the CI users. A good intelligence is an intelligence that is disseminated to the right users, in the right format, at the right time, and through the proper channel. The work of dissemination particularly in relation to information based resources is again the forte of LIPs. They have been involved in dissemination task since the beginning of their professions. There are already some established techniques applied by LIPs in disseminating information to their users which could be adjusted to suit the dissemination of intelligence task in CI. Selective Dissemination of Information (SDI), Current Awareness Service (CAS), Contents Page, Annotated Bibliographies, E-Reference, and Portal services are among the techniques used by LIPs for their information services.

With wide experience in conducting dissemination of information for their users, LIPs would not have any difficulty in performing the task of disseminating intelligence to CI users. In fact, LIPs could use the same techniques in disseminating information for disseminating of intelligence.

Phase V: Feedback and Evaluation

Like any other information-based service, feedback and evaluation are important for the purpose of improvement. In CI service, feedback and evaluation relate to various aspects of improvements. One of the most important aspects is to build the trust with CI users. In order to gain the trust of CI users, the intelligence has to be of high quality and highly usable to the CI users. Therefore feedback from CI users is important to enable evaluation to be carried out on the intelligence provided.

Feedback and evaluation need to be carried out immediately after the intelligence has been utilized by the CI users. By doing so, the CI users would find it easy to provide the feedback since it is still fresh in their mind about the use of the intelligence. Comprehensive evaluation of CI service can only be done with meaningful feedbacks provided by CI users.

Evaluation of information-based service is not unfamiliar to LIPs. Services offered by LIPs in the library and information centers are regularly evaluated to measure their effectiveness to users. In fact the formal education and training of LIPs stresses on the importance of measuring information services. Courses such as Measurement & Evaluation of Library Services and System, User Needs and User Studies, Reference and Information Services are among the courses that educate and train LIPs to perform evaluation tasks in their daily professional work [Faculty Information Management, 2010]. Therefore, with the knowledge and skills of measurement and evaluation, LIPs can be relevant in carrying out and participating in evaluating CI services. They could bring their measurement and evaluation perspective of information services into the measurement and evaluation of CI services.

The discussions above thus-far have shown how LIPs with their formal education and training in information work can be of relevance in carrying out CI work. This is not surprising because in actual fact, the essence of CI i.e. intelligence is derived from information i.e. the essence that LIPs are familiar and skillful about. Therefore, it would not be too extreme to say that, LIPs are more suitable and relevant in carrying out CI in organization compared to other professions. It is imperative to realize this so that LIPs can take the opportunity to broaden their capability with their unique and rare knowledge and skills hence making their profession more prominent in the organization.

CI in Malaysian organizations is still not popularly known and practiced. A possible factor to this situation might be because organizations perceived that there is no definite professional who could perform the CI work in the organization. As stated earlier, because the essence of CI is intelligence which is derived from information that has undergone analysis process, LIPs are regarded as the most suitable professionals to take that responsibility judging from their knowledge and skills. After all, LIPs have been all along providing information to users in the organizations. But, merely providing information to users in organizations is no longer a significant approach. Organizations regardless of their orientation are very concerned about competition that is becoming more global and stiffer. LIPs should play the role to assist their organizations to weather the competition climate and survive in their business. One of the ways is to do it through CI and LIPs can take the initiative to do it by making their corporate library as the operation center for CI rather than letting the marketing, planning, or research and development departments developing into CI functional center. [Marin, J & Poulter, A, 2004; pg.195]. LIPs should take this opportunity to develop into becoming the CI managers of their organizations. It would be a waste not only of their talent but also to the profession of library and information science specifically in Malaysia where LIPs are not very noticeable in terms of importance. The trend in which librarians are getting involved in CI work in more advanced country like the United States is beginning to show although it is not significant [Oder, Norman, 2001; pg.42].

Conclusion

LIPs should reinvent their role when they have the opportunity to do so. During the emergence of knowledge management (KM) decades ago, LIPs were challenged for their relevance to KM. Considering the essence of knowledge management is more related to information discipline rather than others, it would only be logical to see many LIPs particularly in Malaysia taking the lead to initiate knowledge management program in their organizations. Similarly, with the development of CI in which its essence is more related to information profession, LIPs should also once again capitalize on this opportunity to reinvent their role so that LIPs could move away from the "being information custodian to knowledge partners who have the entrepreneurial energy, the business knowledge, and the specialized skills to lever the power of information". [Choo, C.W.; 2000; pg.402]

Competitive intelligence has many benefits towards an organization. Some organizations have successfully reaped the benefits while some have failed and many more organizations are still grappling with it. LIPs can act upon this situation and revolutionize their corporate libraries and information centers into a CI centers to assist their organizations in gaining competitive edge. Only then libraries and information centers could become the life blood of the organizations and the functions and roles of LIPs would be perceived as equally important as the roles of marketing and sales employees in business organizations.

Keywords: Competitive Intelligence; Library and Information Professionals; Intelligence; Competitive Advantage; Strategic Information Management

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Trust Factor for Digital Health Information

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I. BACKGROUND OF THE STUDY

Using Information Communication and Technology (ICT) for healthcare development has been initiated by Malaysian government through the Telehealth Flagship Application is among the agendas of the Multimedia Super Corridor Initiative (MSC) which started in 1996. Jai Mohan and Raja Razali (2004) mentioned that The Telehealth Flagship Application in MSC agenda consists of four sub applications, namely the Lifetime Health Plan (LHP), Mass Customized and Personal Health Information and Education (MCPHIE), Continuing Medical Education (CME) and Tele-consultation Application (TCA). The use of digital health information from the Internet has increased the awareness of public about certain diseases and indirectly developed health education and promoting self care (Kaplan and Brennan, 2001; Brennan, 1999). Furthermore, leveraging digital health information from the Internet also reduces the Internet users fear and provide necessary knowledge to overcome their health problems.

But somehow, digital health information users when wrongly diagnosed ailments caused by the poor information provisions could face the serious consequences. But still, people will go to the internet when they need to get medical and health information as it was a fastest way for self diagnosis. This in fact was reported in the Pew Internet and American Life Project (2000) saying that 55% of adults in the US with Internet access use it for retrieving medical and health information. Among them, 70% reported that Internet information really affected their health decisions. This indicate that, digital health information really has the potential for improving individual health, but somehow it also assumed that although the usage of digital health information are increasing but the users have never been educated to use the right information through the proper guidelines. Therefore, it is important to find out what are the trusted characteristics of good digital health information which is important for the users and the providers, and what are the factors that people consider in trusting and distrusting digital health information over the Internet.

II. PURPOSE OF THE STUDY

It is unclear how healthcare professionals and public health advocates instill initial trust among the Internet users. As up to date, there is no specific guideline that has been created to guide the Internet users on how to evaluate and establish trust on digital health information. Thus, the main objective of this study is to investigate the key factors that enable local society to trust the internet as an important source of health information. This study will be using a quantitative component as an approach. The quantitative component will be a set of a questionnaire to be administered to patients in government health clinics, using multistage random sampling. This research is expected to produce a trust model in digital health information for healthcare professionals and a specific guideline for the mass population. These guidelines may be used by the Ministry of Health and other healthcare professionals in delivering digital health information both locally and internationally for the purpose of primary, secondary and tertiary prevention. It is hoped that this noble initiative will enable the government to enhance the health of the general population by providing a more effective and trustworthy health information through the internet in the near future.

III. METHODOLOGY

A questionnaire was designed and distributed to all 130 clinic attendees in the state of Kuala Lumpur, Malaysia. Respondents were asked detailed questions about the most significant factors relating to their trust on digital health information. The survey gathered information in the following categories:

- Profile of the respondents.
- The Internet usage.
- Authorship elements as factor for trust in internet health information
- Informational contents elements as factor for trust in internet health information
- Policy elements as factor for trust in internet health information

IV. FINDINGS

From the selection of criteria for website information content, the respondents emphasized that the sources of information on website informational content is the topmost requirement to gain trust. In fact having a most update information on particular website was also important to ensure the subject were relevant and not out to date. Citations and related references also stand on the topmost requirement for the health information to be trusted. This indicates that internet user has become literate and aware of the need of evaluating credible internet information to be used and trusted. The next important factor in the list of informational content elements of a website is the provision of the availability of a communication channel for the users to communicate and give feedbacks. This communicative element is reassuring and could lead to the trust building as well. Presenting information elements on the website is very important because poor presentation will drive customers away to a competitor's website. A good website with proper information presentation will encourage them to come back and also recommend the website to others. This is evident when, the respondents have cited 'less navigation pages for fast loading of information' as important elements as well. Apart from that, presentable text with the use of simple sentences is most preferred. Even though pictures and video features are nice to have, respondents feel that they are less important because not everyone has fast Internet access. Graphics, audio and video content will slowdown information download. Poor rate of information download will only frustrate potential customers and drive them away to another website. This is evident when these aspects were all given low priorities by the respondents. On the privacy aspect, our respondents have indicated that health websites should provide a 'logon password' facility to shows how secure the site is. This will make customers feel that the websites are governed by a professional people. A clearly stated 'privacy policy', 'providing a trust seal' and the 'a good editorial policy' is next on the list.

Keywords- health information, trust, information and content elements, security elements, privacy elements, health websites

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A New Catalyst of Information Sources: Audiovisual Archives as a National Heritage

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I. BACKGROUND OF THE STUDY

An audiovisual archive is part of our national heritage treasures. It is kept at the National Archives and can be referred by the researchers and publics. It also acts as historical sources and national cultural to the nations. It symbolizes national art achievement creativity and reflection roles as audiovisual media development in Malaysia (Dasar Koleksi Bahan Audiovisual Negara, Arkib Negara Malaysia, 2010). The National Archive of Malaysia through Pusat Pendokumentasian dan Pemeliharaan Audiovisual Negara (PPAV) was formerly established in 2008 with the approval from Malaysia government on 14th July 1999. PPAV currently been supervised under the Section of audiovisual archives which consists of 18 officers and support staffs. This section are divided into four sub-units which consist of Films, Audio, video and multimedia, Photograph and Support Services. The main function of this section is to enhance the ability of tracking, retrieval and documentation audiovisual archives that have been received by any sources such government agencies, private, NGO's, individual and others either local or international.

II. PURPOSE OF THE STUDY

Our society nowadays have less exposed with the existence of information sources besides in paper format. Information in audio visual is able to influence organization or individual in decision-making, as sources of information or references. National Archives of Malaysia (NAM) acted as agency catalyst in maintaining and conserve all audiovisuals material form national heritage. A systematic and well organized audiovisual archives management can expand interest of the society and encourage various researches in using audiovisual materials. Being in audio visual format, it can give more impact that cannot be obtained from the other information media. This research will identify the importance of National Archives of Malaysia through "Pusat Pendokumentasian dan Pemeliharaan Audiovisual Negara" (PPPAV) as major catalyst to provide audiovisual sources with the national heritage value. Other than that, this research will also explain the function of other respective agencies that are involved in managing and providing audiovisual records and archives. Nowadays, PPAV are managing an amounted of 20,000 hours of audio and video and 107,782 of photographs received from government agencies and individuals. This audiovisual archive consist of film materials (S8mm, 8mm, 16mm, 35mm, 65mm, and strip), audio material (record, cassette, CD and open real tapes), video and multimedia (VHS/S-VHS, u-matic, VCD/ DVD, Mini DV) and photographs (physical picture, digital, postcard, slide, glass slide and negative).

III. METHODOLOGY

A substantial part of data for this paper has been collected over many years through author's personal visits and interaction with the archivist who are responsible for managing audiovisual archives in National Archives of Malaysia. Over the last four years, the author has supervised students on academic visit at various records offices and audiovisual archives in Malaysia. This has provided the authors with numerous opportunities to inspect archive storage facilities and discuss various records and audiovisuals management issues with the host records officers and archivist.

IV. FINDINGS

A. *Collection of audiovisual archives in Malaysia*

National archives of Malaysia (NAM) is responsible to acquired, managed, controlled, maintain, making available archives, preserve and conserve audiovisual archive in form of videotape, gramophone disk (vinyl disk), recording tape, CD's and photographs. Evaluation is an important aspect of archival acquisition. The material has to be evaluated against material in stock, the purpose of the archive, the subject of the archive and so on (Helen P. Harisson, 1997). The collection acquisition policy of NAM in identification of acquisition their audiovisual collection is consisting on:

- Materials produced about Malaysia whether done local or overseas.
- Materials produced by or any public agencies, statutory industries about Malaysia
- Materials produced by Malaysian citizen whether about Malaysia or not
- Materials about Malaysia that generated by non-citizen whether local or overseas.

Currently, NAM is holding several types of audiovisual collection which acquire from various methods such purchase, donations, exchanges and in-house creation policy. PPAV also perform the recording documentation of places, building and importance event/ historical functions for research purpose. The total figure of collection is referred as below:

Table 1: Collection of audiovisual archives in National Archives of Malaysia

Types of audiovisual collection	Unit/hours
Photographs	107,782 units
Film	3,000 hours
Vinyl disk	2,000 hours
Video tape (VHS, U-Matic)	8,000 hours
Audio tape (cassette, open reel)	5,000 hours
Optical disk (CD/DVD)	2,000 hours

Audiovisual collection that are available in the NAM such "Sumpah Mahsuri", "Melaya Celebrate Merdeka Day", "Year On Malaysia 1955", "Baling Talk 1956", "Perang Dunia Kedua dan Defence Talks at Wisma Putra" and so on.

B. *Audiovisual archives services and facilities*

As a centre for documenting and care of national audiovisual, NAM is responsible in offering the various services to the patron who consists of government agencies and public. From the findings, NAM specialist in provide consultation services on management of audiovisual records. This consultation offered to any government agencies that maintain audiovisual records in their organization. This consultation covered mainlly in creation, production or publication of audiovisual records, storage and preservation of audiovisual records, disposal process and transferring of audiovisual records that have values to the National Archive.

There are a few methods that are available in consultation services offered by the archive. This method required the agency representative or individual approach NAM for attain the consultation services on managing audiovisual records. Before that, appointment must be set up through correspondence, email or telephone in order to confirm the attendance and officer availability for entertain customer. Besides that, online consultation services also offered through email or telephone call to respective archivist for catch quicker and effective advices. In addition, NAM also provides consultation services in form of seminar or briefing. These services normally requested by the agency or organization that are interested.

The storage facilities that are available in NAM are complete and systematic for audiovisual heritage storage. Overall, the repository are 23,500 square feet which capable to store various format of materials. An earlier study carried out by Standing Committee on Preservation and Conservation revealed that inadequate storage condition in the most information centers will affect the life of audiovisual archives (Abankwah, 2007). Considering this study, NAM took the initiative to manage every format and types of audiovisual archives in the storage and maintain in their specific repository.

Part of the archives developing role is to increase access to unique materials. Most audiovisual archivists would like to provide access services to the patron for current use, education and research purposes. NAM also provides the reference services and access to audiovisual records for analogue and digital format. This services is offered by referring to the "Peraturan Penyelidikan 1974" and "Peraturan Fī 2005" which the patron have to follow the rules and policies that been approved by NAM. Patrons that wish to have audiovisual copy for collection or research can purchase with NAM. Therefore this service is subject to the Copyright Law, 1987.

More to the point, NAM also provide public area for the patrons such as open area for visitor, souvenir shop for selling souvenirs like books, videos and other materials, research hall and special library which contain various journal, magazines, press cutting, working paper and others on history expansion, technology and documenting techniques and care of audiovisual records and archives. The auditorium can accommodate 200 people; the show room can accommodate 40 people. There are also exhibition area that displays audiovisual materials and equipment showed audiovisual development in this country.

C. *Challenges in managing audiovisual archives in Malaysia*

NAM as a national heritage institution that is responsible to effectively manage, store permanently and make it accessible of audiovisual archives to the members of the public. The main function of PPAV is to produce policies, standards, procedures and guidelines of acquisition, preservation and conservation of audiovisual materials, which can be use as a guidelines for all governmental agencies and other organization that deal with audiovisual records or archives. PPAV also act as advisory to these organization on audiovisual archiving in terms of plan, locate, evaluate, acquire and process the audiovisual records. Besides execute preservation, conservation and digitalization programs of audiovisual archives, PPAV also determine the physical and intellectual control of audiovisual materials in NAM custody.

There are many challenges in managing audiovisual archives for the entire nation. According to Zinyengere (2008) audiovisual recording in many African countries are endangered because of various factors including but not limited to the political and economical factors, legal statutes towards audiovisual materials, staffing, lack of training and funding, obsolesces of playback equipment, perception of society towards archives, climatic issues, technological awareness and the preservation and access of recording.

1) *Preservation and conservation challenges*

Dietrich Schüller (2008) in his article published for Training for Audiovisual Preservation in Europe (TAPE) found that only a small part of audiovisual research documents found its way to professional repositories, while the greater part is held by research institutions under sub-optimal preservation conditions, or still rests in the drawers of the researchers that have produced these sources and used them for their publications. Addition by the Schuller (1997) has clearly highlighted this problem which pointed out that a considerable input of energy and money is necessary to bring down tropical temperature and humidity and keep them at the values published in our standards. This study also found that, NAM also faced the same challenges in the process of preservation and conservation of audiovisual archives.

Preservation measurement and conservation technique for the paper based records is well understood and practices by all national archives, but in the audiovisual medium they might be a new paradigm of preservation that archivist need to explore. With the various types of audiovisual collection that are available in the NAM, it required a specific treatment and specialization for each of the audiovisual format. Additionally, the rapid pace of technological development makes recording systems and formats obsolete in even shorter cycles, leaving even carriers in excellent condition without dedicated replay equipment and consequently useless.

2) Required different storage condition

According to NAM, there are some practices for audiovisual storage requirement which include security, light, temperature, fire, moisture, dust, rodent, pest control and others. Audiovisual archives need some strict condition to the manager where it puts higher requirement in humidity, temperature, display method, even archives sites and other aspects. For example, video tape and recording files are destroyed due to improper storage magnetic, easy deterioration or broken. So, the archival repository should have the suitable magnetic measure and recording videos be place on cabinets and other magnetic measures. Mnjama, N. (2010) advised that to store audiovisual materials in institutions where appropriate storage and handling equipment is available.

The study found that, NAM stored their audiovisual records in the difference storage which are based on the types of media format, but the storage is in the same room or repository. It includes optical disk and magnetic tape in the same storage. It should be maintained in the difference storage area. When we asked about this, the officer told us that the collections that handled by NAM is still in small amount and this audiovisual collection will be separated in different storage when the collection increase.

3) Lack of public awareness on audiovisual archives

One of the greatest challenges for NAM in collecting and acquisition of audiovisual records and archives for national heritage in this country is the lack of public's awareness especially to the government agencies. They are responsible to deposit their audiovisual collection to the NAM. As a main creator of audiovisual heritage in this country, many government agencies did not transfer their valuable audiovisual records to the NAM compared to the paper based records. This is because they are not realized on the importance of preserving audiovisual records as the national heritage.

To date, NAM took the initiative visiting this organization and conducted survey and consultation on the nature, volume and content of audiovisual records. Besides, NAM also organized and implemented few programs in giving the awareness to the public's especially government agencies on their existence. NAM conducted "Majlis Bicara Lagu" in May 2010 which exposed the artists and producers about the function of PPAV as national heritage custody. NAM also hosted the 15th SEAPAVAA Annual Conference & General Assembly on 6th to 10th June 2011, "Hari Warisan Audiovisual Sedunia" in 2011 & 2012 which will be anannual event. The major objective of these activities and programs is to enhance the awareness of public especially government agency to deposit their audiovisual collection to the NAM for long term storage and also to preserve the national heritage.

V. RECOMMENDATION

In order to overcome the challenges, there is a need for new and effective strategies for managing audiovisual records and archives. Every archive has their own problems and challenges prevailing to activities of audiovisual archiving. In the case of NAM, the biggest achievement is by establishing specialized building for managing audiovisual archive. The problem and challenges that arises can be easily handled by the awareness of top management, capitalize the human resources, well-mannered financial allocation and obedience legislative. The other recommendations of this paper are as follows:

1. NAM should approach a special committee on preservation and conservation with the other authorizes agencies that also manage audiovisual records. This committee will act as a mandate of establishing and setting of standards in managing audiovisual records and archives of the country. The standards should closely refer to the guidelines of Federation of Film Archives (FIAF), International Federation of Television Archives (IFTA) and other international bodies in audiovisual archiving. The standard can be referred as best practices to every organization to improve and enhance the storage condition by considering the long term

protection, use of audiovisual records and archives and digitization is necessary for the future safeguarding of audiovisual archives.

2. NAM should manage the audiovisual archives specifically to the media format either in small or big amount of collection. This is important in order to avoid any destruction or deterioration in the early stage of audiovisual archives. Every storage room must be equipped with suitable equipment, appropriate storage container and provide security enforcement to all repository storage.
3. NAM is a main body in enhancing the awareness of audiovisual records and archives to the public in order to strengthen the management of audiovisual archives. NAM should give the exposure to the government agencies and public of their responsibilities in managing audiovisual archives to the national heritage. To improve archival work is a shared responsibility among the entire community. It should be supported by mass media and social networks since it is the concerned of the society in order to raise awareness to people especially with the interest on national heritage.

Keywords- Records management, Archives management, Audiovisual archives, National Archives, Preservation

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A Study on Selected Quranic Websites

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I. BACKGROUND OF THE STUDY

As Al-Quran is the book of knowledge and guidance and it is the main source of reference in Islam which contains general principles applicable for all times and places, it is expected that there would be a lot of websites devoted to Al-Quran. Using the search engine Google a click with the word "Quran" on 13 July 2008 gives a hit of 19.7 million, a search on 11 January 2010 gives a hit of 21 million while a search on 8 July 2013 gives a 218 million results in 0.34 seconds of Google search. The growth in hits on the keyword "Quran" is a manifestation of how important is Quran in the globalized society.

However, it is pertinent to note that a website may offer the best resources on Al-Quran , but if a user cannot access the site its usefulness will be reduced. Why should they waste their time on anything that is confusing, slow or that doesn't satisfy their needs? (Nielsen, 2000). As Conway and Dorner (2004) pointed out " a party may be providing large amounts of information on its website, but if this information is difficult to find, its usefulness will be reduced. Likewise, a website may offer a high level of interactivity, but if a user cannot access the site it will count for little." Based on the search results it seems that there is a tremendous increase in the number of Quranic websites hosted in the Internet. It is pertinent to note here that not all the 218 million Quranic websites are equally visible and accessible. Some are highly visible and accessible while others are not. Still (1997) pointed out "While anyone can create a web page just as anyone can write a poem or build a house, not everyone can do it well". The crux of the problems lies in the visibility and accessibility of those websites.

What needs to be addressed is whether there are differences in terms of visibility and accessibility of those Quranic websites. As these websites are around for quite sometimes already it is therefore appropriate to question on how effective are those websites.

II. PURPOSE OF THE STUDY

The objective of this study is to determine whether there are differences in terms of visibility and accessibility of the Quranic websites. Ten Quranic websites were selected for this study.

A Visibility

A valid indicator of website visibility and online stature would be the volume of web traffic to a given site. Higher quality websites tend to attract more links. It has also been shown that search engines generate a large proportion of web traffic and most modern search engine algorithms tend to return heavily–linked sites first. According to Rowlett (2006), linking is an extremely important way to increase website visibility. The greater number of quality links you have coming to your site, the better your visibility.

B Accessibility

The development of any website has to comply with the existing accessibility guidelines. It is futile to have a website that is difficult to access by users owing to non compliance with the existing standards on accessibility

III. METHODOLOGY

One of the techniques that can be applied to study the issue of visibility is using the software , *Alexa.* In their study on quality of website, (Lin et. al, 2004) reiterated the significance of *Alexa,* " With an installed base of well over 10 million toolbars, the *Alexa* traffic rankings represent the largest and most global sample of Internet usage available in the world." According to (Hanson, 2000) the rankings of *Alexa* are based on the user popularity. The website usage can be an indicator of online quality. Using *Alexa* fifteen Quranic websites were investigated for visibility.

The development of any website has to comply with the existing accessibility guidelines. It is futile to have a website that is difficult to access by users owing to non compliance with the existing standards on accessibility. To check for such irregularities a software, EvalAccess 2.0 was used to evaluate the fifteen Quranic websites for accessibility. It is an on-line web accessibility evaluation tool which has been developed using Web Service technology. This tool provides different methods for evaluating web accessibility: evaluation of a single web page, evaluation of a web site and evaluation of HTML mark-up. It returns a complete report of errors as a result of the evaluation. For the purpose of this study we are concerned only with Priority 1 errors. Priority 2 errors are excluded from our evaluation. Websites with zero Priority 1 errors means that they have satisfied the Web Content Accessibility Guidelines (WCAG).

IV. FINDINGS

Ten quranic websites were selected covering issues related to various applications and usage of the Quran, from understanding the Quran to the printing of the Quran. Efforts were made to cover as much as possible the dimensions of the Quran which are relevant to needs of the globalized Muslim society. Table 1 shows that the highest recorded web traffic was for Quranonline.com website with 31.32 million hits, followed by bestquranonline.com website with 30.53 million hits and quranchannel.com website with 6.47 million hits. The lowest recorded web traffic was for quranexplorer.com website with 0.32 million hits followed by Quranicaudio.com website with 0.46 million hits and quran.muslim-web.com website with 0.9 million hits. Although Quranonline.com website and bestquranonline.com websites recorded the highest traffic hits, they did not perform well in the inlink category in which the former recorded only 3 inlinks while the latter recorded only 1 inlink. In this category quranexplorer.com website recorded the highest with 3370 inlinks, followed by quran.muslim-web.com website with 1689 inlinks and Qurancomplex.org website with 1591 inlinks.

As linking is more important as an indicator of visibility, especially with the in links, the most visible websites would be the quranexplorer.com, followed by quran.muslim-web.com and the Qurancomplex.org. It is interesting to note here that the website, Qurancomplex.org is associated with the printing of the Al Quran for distribution worldwide and as such should be visible to Muslims all around the world.

TABLE 1 THE NUMBER OF IN LINKS AND WEB TRAFFIC

Name of website	*Inlink*	*Web Traffic*
Abouttajweed.com	216	1589733
Quranicaudio.com	1358	46963
Reciter.org	391	3738877
Quranonline.com	3	31324773
Quraan.com	250	4029731
bestquranonline.com	1	30533964
quranexplorer.com	3370	32712
quran.muslim-web.com	1689	90639

quranchannel.com	45	6478952
Qurancomplex	1591	139507

Table 2 shows the accessibility of the websites based on Priority 1 errors. It was found that one website is with zero Priority 1 errors, namely Abouttajweed.com. In most cases the Priority 1 errors are tolerable ranging from 1 to 7 errors except in the cases of Qurancomplex.org website with 95 errors. Generally it can be said that websites are quite accessible to users.

TABLE 2 ACCESSIBILITY BASED ON PRIORITY ONE ERROR

Name of Website	*Priority 1 Errors*
Abouttajweed.com	0
Quranicaudio.com	1
Reciter.org	6
Quranonline.com	1
Quraan.com	4
bestquranonline.com	7
quranexplorer.com	3
quran.muslim-web.com	4
quranchannel.com	1
Qurancomplex	95

V. CONCLUSION

This study on the selected Quranic websites has been able to identify several features that are important in ensuring the visibility and accessibility of the websites by employing *Alexa* and *EvalAccess*. The findings show that unless barriers to accessibility and visibility are removed then usability of the websites would be compromised. The return on investment for the Quranic websites would be maximally exploited if those prerequisites are given due recognition. This study has also come to grip with another issue of importance that is normally not taken seriously by the developers of website. The developers know that it is difficult for anyone else to point a finger at them since it is highly improbable for them to make mistakes during the development of the websites as they are following the guidelines as prescribed by WCAG and W3C. As humans are prone to make errors, there should be a mechanism to check for any act of negligence or ignorance in the execution of duties performed. The use of an objective tool such as *EvalAccess* will lessen the errors. This facility would not only be useful for Quranic websites as demonstrated in this study but also for validation of other websites as well.

As this study is limited in terms of scope of research whereby only ten Quranic websites were evaluated, its results could not be generalizable. It is therefore up to other researchers in the future to expand the cohorts for the Quranic websites so as to make it more meaningful and perhaps with theoretical underpinning. This study demonstrates that users are more likely in the future to navigate Quranic websites regardless of the type or nature of the websites.

Keywords; visibility; accessibility; Quranic websites; Alexa; EvalAccess;

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