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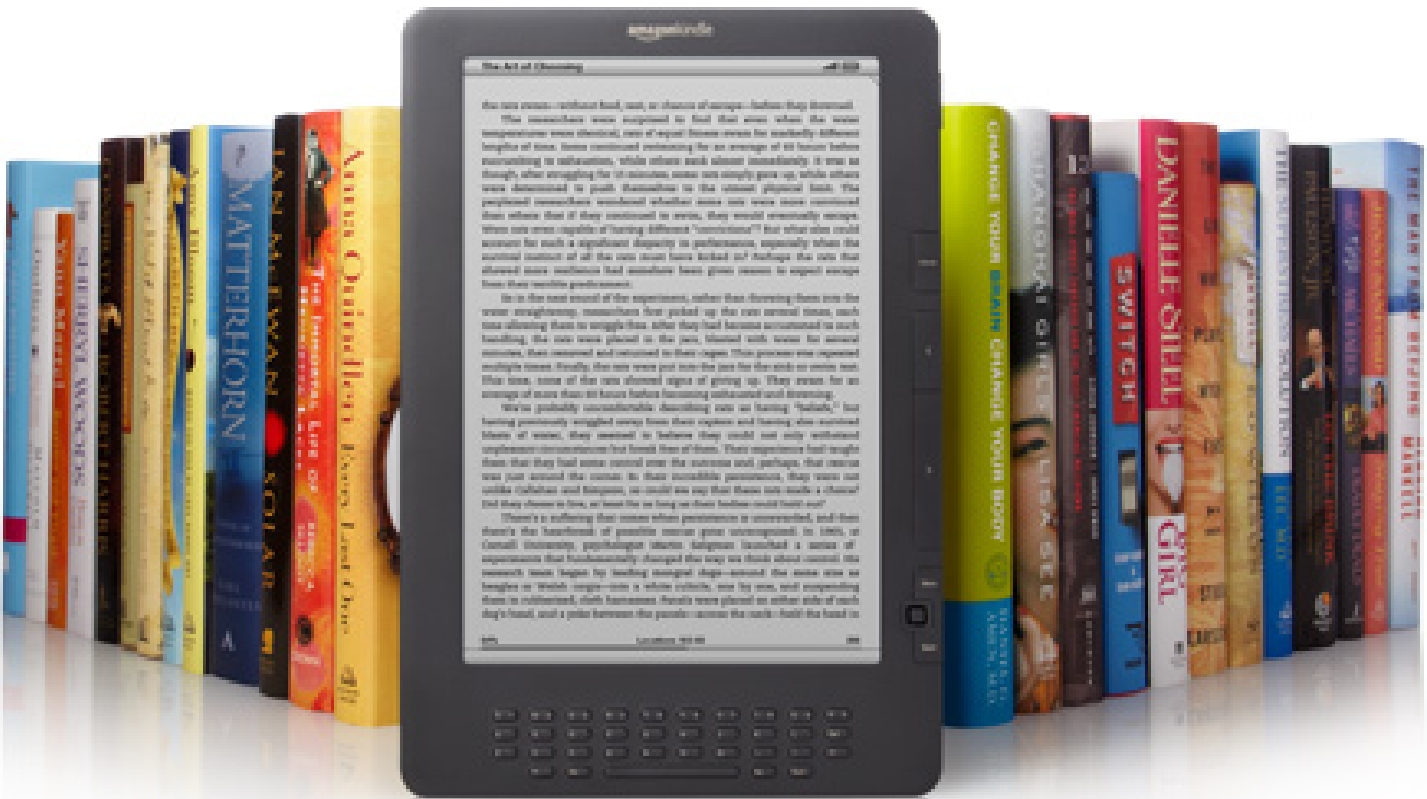
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E-BOOKS



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ABSTRACT

The method of writing towards communication is a medium erupted with the discovery of the stone, bark, clay, and animal skins by earlier civilizations. Human evolution began printing to support the creation of books. With the shift of the print medium to the internet, people began making electronic resources as a source of alternative readings. From there began the era of E-books by gaining more and more acceptance today. Next in the next rounds of this article explains how E-book brooding and how it evolved into a culture of human civilization today. In the beginning, e-books, which are limited to certain specific subjects, so exclusive and only used by a very limited group of users. Among these are the technical manuals on hardware, manufacturing techniques and books in the areas of information technology. However, with the advent of Internet technology in the early 1990s, it opens the opportunity for all to share access to referral sources and digital documents such as e-books online via electronic file transfer facility on the Internet. In the field of librarianship, E-books offer a variety of opportunities for service providers related to the library and so on. These services includes e-ISBN, Cataloging in Publication (CIP) and metadata.

Keywords : *E-book, Publication, International Standard Book Number, Cataloging in Publication, Resource Description and Access, Virtual International Name Identifier, International Standard Name Identifier, Digital Object Identifier*

Sejarah Ringkas Perbukuan

Alat komunikasi tertua manusia adalah ucapan dari mulut ke mulut. Pada ketika itu belum ada tulisan dan bacaan. Lama-kelamaan ucapan tersebut menjadi gambar dan juga tulisan. Manusia zaman dulu menulis di mana saja, mulai dari atas batu, kulit kayu, tanah liat, dan kulit binatang. Tulisan yang pertama adalah secara hieroglif ditemui sekitar 1800 SM di Mesir. Orang Mesir menulis di atas daun papyrus dan menggunakan 'Calmus' sebagai alat menulis. Buku daripada daun papyrus ini digulung. Selain Mesir, bangsa Romawi juga memanfaatkan daun papyrus untuk membuat tulisan.

Pada awal abad pertengahan orang Greek dan Romania pula menggunakan buku yang diperbuat daripada kepingan kayu nipis berlilin. Ia dinamakan Codex. Istilah Codex ini berasal dari perkataan Latin yang bererti blok kayu yang di atasnya dilapisi lilin. Kelebihanannya adalah Codex ini dapat diguna pakai berulang kali. Perkembangan perbukuan mengalami perubahan signifikan dengan terciptanya kertas yang sehingga kini masih digunakan sebagai bahan untuk menerbitkan buku. Pencipta kertas yang memicu dunia baharu perbukuan ini bernama Ts'ai Lun. Sehingga, pada abad kedua, negara Cina merupakan satu-satunya negara yang mengeksport kertas di dunia.

Penemuan mesin cetak merupakan satu lagi tahap perkembangan signifikan dalam dunia perbukuan. Sekitar tahun 1440 di Eropah Barat Johannes Gutenberg dari kota Mainz, Jerman telah mencipta kemasyhuran dengan sumbangannya kepada teknologi percetakan. Mesin cetak penemuan Gutenberg kemudian dikembangkan lagi sehingga kini. Teknik cetak yang dicipta Gutenberg bertahan hingga abad ke-20 sebelum teknik cetak yang lebih sempurna diguna pakai iaitu dengan menggunakan komputer.

Namun begitu satu revolusi telah berlaku hampir 400 tahun kemudian ketika buku mula diganti dalam bentuk elektronik. Ini berlaku apabila pada tahun 1989, Tim Berners-Lee telah mencipta World Wide Web. Ia adalah sebuah sistem jaringan dokumen hiperteks yang boleh dicapai melalui Internet. Dokumen dalam web dikenali sebagai laman web. Sesebuah laman web boleh mengandungi teks, imej, video, dan pautan kepada laman lain.

Apa Itu E-buku

Oxford Dictionary of English mendefinisikan e-buku sebagai *“an electronic version of a printed book, but e-books can and do exist without any printed equivalent. E-books are usually read on dedicated hardware devices known as e-Readers or e-book devices. Personal computers and some cell phones can also be used to read e-books.”*. Project Gutenberg adalah merupakan suatu inisiatif projek e-buku yang terawal di dunia di mana ia telah bermula sejak tahun 1971. Penghasilan e-buku di peringkat awal adalah berteraskan kepada prototaip desktop, di mana e-buku ini hanya boleh dibaca dengan menggunakan komputer riba atau komputer peribadi. Kebanyakan e-buku pada peringkat awal tersedia dalam format ‘stand alone’ dan diedarkan dalam format media storan seperti disket atau CD-ROM.

Pada peringkat awalnya, e-buku yang dihasilkan adalah terhad kepada bidang perkara khusus tertentu, begitu eksklusif dan hanya digunakan oleh kelompok pengguna yang begitu terhad. Antaranya adalah seperti manual-manual teknikal tentang sesuatu perkakasan, teknik- teknik perkilangan dan buku-buku dalam bidang-bidang berkaitan teknologi maklumat. Namun, dengan adanya teknologi Internet pada awal tahun 1990an, ia membuka peluang kepada semua untuk berkongsi akses sumber-sumber rujukan dan dokumen-dokumen digital seperti e-buku secara dalam talian menerusi kemudahan pemindahan fail elektronik di Internet.

Buku elektronik kini tidak lagi dilihat sebagai sesuatu yang begitu eksklusif atau hanya dibaca oleh kelompok tertentu sahaja, malahan ianya kini mampu dimiliki, mudah dimuat turun dan boleh dibaca oleh sesiapa sahaja. Terdapat pelbagai format e-buku dihasilkan diseluruh dunia ketika ini. Namun begitu, sehingga kini, format PDF merupakan format e-buku yang paling popular, masih relevan dan meluas digunakan, berbanding format fail e-buku yang lain.

Penggunaan e-buku akan menjadi salah satu media pembelajaran pada masa kini dan masa akan datang kelak. Terdapat banyak organisasi atau individu yang menulis atau mengalihkan sumber cetakan mereka kepada e-buku untuk memudahkan pembaca dan pemasaran secara terus di internet. Industri e-buku berstruktur hanya wujud di Malaysia kira-kira empat tahun setelah revolusi e-buku bermula di Amerika Syarikat sempena perkenalan peranti Kindle oleh Amazon pada November 2007.

E-buku mempunyai banyak kelebihan yang memberikan kemudahan kepada pembaca untuk membawa ke merata tempat e-buku ini tanpa beban yang berat. Disebabkan ia adalah data elektronik, saiz dan berat e-buku ini adalah jauh lebih ringan jika dibandingkan dengan buku-buku cetakan yang berada di pasaran. Sekiranya satu e-buku mempunyai saiz 7 MB, kira-kira 100 e-buku boleh disimpan dalam satu CD. Teks dalam e-buku juga boleh dicari dengan mudah, atau dirujuk silang menggunakan hyperlink. Ini menjadikan e-book format yang menarik untuk kamus, buku rujukan dan sesetengah buku teks.

Nilai Tambah (value added) Kepada Penerbitan E-buku

Menurut Online Dictionary For Library and Information Science (ODLIS) nilai tambah (value-added) bermaksud *“a service offered to a library by a vendor that enhances the product, thereby increasing its value in the market place, for example, the addition by the vendor of table of contents notes to the catalog records for titles. Also, a supplementary feature designed to facilitate or enhance an existing library service, for example, a search utility that helps users identify and locate items from library’s online catalog.”*

Dalam penerbitan e-buku ini, penerbit perlu mengambil kira beberapa nilai tambah yang perlu bagi memastikan e-buku yang dihasilkan mematuhi standard penerbitan e-buku antarabangsa. Pada ketika ini nilai tambah yang perlu ada bagi sesebuah penerbitan e-buku adalah :

(A) eISBN

International Standard Book Number atau dikenali sebagai ISBN ialah satu kod sepuluh (10) atau tiga belas (13) angka yang diperuntukkan kepada satu judul atau edisi buku yang diterbitkan oleh penerbit tertentu. ISBN diperolehi daripada International ISBN Agensi yang berpusat di London. ISBN yang diperolehi hendaklah dicetak di belakang muka surat judul dan belakang kulit buku. Perpustakaan Negara Malaysia (PNM) telah dilantik sebagai Pusat Kebangsaan ISBN di Malaysia mulai Ogos 1982. Nombor ISBN yang telah diperuntukkan tidak boleh diguna

semula. Adalah menjadi tanggungjawab penerbit untuk memaklumkan kepada Pusat Kebangsaan ISBN sekiranya ISBN yang dipohon tidak digunakan atau terdapat sebarang perubahan pada judul.

ISBN bukan sahaja diberikan kepada buku bercetak tetapi juga kepada semua bahan dalam bentuk teks tanpa mengira medium penerbitannya. Dengan syarat ini memenuhi kriteria yang ditetapkan oleh agensi antarabangsa untuk pemberian ISBN. Penerbit boleh merujuk kepada Pusat Kebangsaan ISBN di PNM untuk mendapat maklumat lengkap mengenai pemberian eISBN atau boleh merujuk kepada laman web International ISBN Agency di <https://www.isbn-international.org/content/isbn-users-manual>

Faedah ISBN

- (a) Memajukan dan memudahkan pemesanan dan perolehan buku-buku terbitan Malaysia pada peringkat kebangsaan dan antarabangsa
- (b) Mengiklankan penerbit-penerbit Malaysia dalam “Publishers International ISBN Directory (PIID)”
- (c) Memajukan penjualan buku-buku terbitan Malaysia di pasaran peringkat kebangsaan dan antarabangsa
- (d) Sebagai butiran penting di dalam deskripsi Bibliografi Negara Malaysia, direktori jualan buku, iklan, katalog penerbit dan entri katalog yang disediakan oleh perpustakaan atau penerbit
- (e) Digunakan sebagai nombor bersiri dalam pengawalan stok bagi judul-judul yang diterbitkan dan memperketat lagi hak milik buku bagi penerbit

(B) Pengkatalogan dalam Penerbitan (PDP)

PDP adalah perkhidmatan pengeluaran data katalog yang diberikan percuma oleh PNM kepada penerbit-penerbit di Malaysia sebelum sesuatu terbitan diterbitkan. Semua penerbit di Malaysia adalah digalakkan untuk menyertainya. Perkhidmatan ini merangkumi semua bahan monograf bagi judul atau edisi baru dalam semua bidang perkara yang akan diterbitkan di Malaysia.

Faedah PDP

- (i) Membantu perpustakaan dan pusat maklumat dalam proses pemilihan dan perolehan buku
- (ii) Membantu memberi promosi jualan kepada penerbit melalui penyebaran maklumat mengenai judul baru sebelum ianya diterbitkan
- (iii) Dapat menyeragamkan pengkatalogan perpustakaan secara standard diseluruh Malaysia
- (iv) Menyokong amalan pengkatalogan perpustakaan yang standard yang mana menggalakkan pertukaran maklumat mengenai penerbitan baru di peringkat kebangsaan dan antarabangsa

(C) Metadata

Metadata adalah ‘data mengenai data’. Ia adalah maklumat yang menerangkan mengenai data/maklumat sesuatu produk. Ia merangkumi kesemua persoalan berkenaan data/maklumat tersebut seperti siapa, apa, bila, di mana, kenapa dan bagaimana (who, what, when, where, why, and how about). Metadata membolehkan agensi pembekal data menerangkan secara menyeluruh mengenai sesuatu dataset bagi membolehkan pengguna data berkenaan faham mengenai keupayaan dan batasan dan menilai keupayaan sesuatu dataset bagi kegunaan yang dikehendaki oleh mereka. Ia merupakan satu kaedah berstruktur untuk menggambarkan sumber, keadaan, kualiti dan ciri-ciri lain bagi data tersebut. Analogi metadata pada manusia adalah seumpama dokumen pengenalan dirinya.

Pada ketika ini istilah metadata telah dibincangkan secara meluas dalam aktiviti pemasaran buku secara dalam talian. Ia digunakan untuk merujuk kepada data bibliografik yang terdapat pada bahan tersebut. Maklumat yang terdapat di dalam metadata ini sangat berguna kepada penerbit untuk memasarkan e-buku. begitu juga kepada agensi maklumat seperti perpustakaan. Adalah disarankan penerbitan e-buku di Malaysia menyediakan maklumat metadata ini kepada penerbitan mereka. Metadata ini dapat mengoptimumkan hasil carian pengguna untuk mengakses buku tersebut dan juga penting kepada perpustakaan.

Penerbit juga perlu memastikan skema yang digunakan untuk menyediakan metadata ini menepati dengan standard antarabangsa seperti ISO2709, Dublin Core dan XML. Skema ini perlu berupaya melaksanakan migrasi data dengan

baik. Metadata di dalam e-buku perlu berupaya untuk dimuat turun ke dalam Sistem Perpustakaan Bersepadu (Library Management System) bagi sesebuah perpustakaan.

Persediaan Perpustakaan Negara Malaysia Ke Arah Persekitaran Dunia Digital

(i) Resource Description and Access (RDA)

PNM telah menggunakan standard RDA semasa mengkatalog bahan perpustakaan secara rasminya pada 3 April 2014 yang lalu. Standard RDA ini telah mula digunapakai secara berperingkat menggantikan Anglo-American Cataloguing Rules (AACR) mulai tahun 2011 bagi memenuhi keperluan dan kesesuaian persekitaran dunia digital masa kini.

Standard RDA ini penting bagi menggabungkan karya yang sama dalam format dan ekspresi yang berbeza pada satu paparan rekod bibliografi. Standard ini juga bukan sahaja digunakan di perpustakaan, malah ia boleh digunakan di semua institusi yang terlibat dengan pengurusan maklumat seperti di Muzium dan Arkib.

Standard RDA ini adalah merupakan persediaan awal kearah web semantik dan linked data. Web Semantik berupaya untuk membolehkan pengguna untuk mencari, berkongsi, dan menggabungkan maklumat dengan lebih mudah. Ia merupakan suatu kaedah di mana mesin berupaya melakukan lebih banyak kerja yang melibatkan proses mencari, menggabung dan bertindak ke atas maklumat di web. Manakala linked data pula adalah kaedah menerbitkan data berstruktur supaya ia boleh saling berkait dan menjadi lebih berguna. Ia dibina berasaskan teknologi Web standard seperti Hypertext Transfer Protocol (HTTP), Resource Description Framework (RDF) dan Uniform Resource Identifier (URI).

Standard RDA ini berupaya bertindak seperti "google" di dalam Online Public Access (OPAC) perpustakaan. Dengan 'single search' pengguna akan mendapat maklumat yang diperlukan dalam satu paparan OPAC. Contohnya sekiranya sebuah buku bertajuk "ABC" terdapat dalam format bercetak dan elektronik, buku tersebut juga telah diterjemahkan ke dalam beberapa bahasa asing, dan lokasi bahan tersebut berada. Semua maklumat tersebut dapat dipaparkan dengan 'single search' sahaja.

(ii) Virtual International Name Identifier (VIAF)

VIAF merupakan satu projek antarabangsa hasil usahasama di antara Library of Congress, Perpustakaan Negara Perancis, Perpustakaan Negara Belanda dan Online Computer Library Center (OCLC). Ia diwujudkan untuk memudahkan akses failkuasa dan kawalan bibliografik di peringkat antarabangsa. Matlamat VIAF adalah untuk memasukkan semua rekod failkuasa di dalam satu pangkalan data bagi membolehkan perkongsian di peringkat global secara percuma.

Menurut *Online Dictionary For Library and Information Science (ODLIS)* Failkuasa adalah "a list of the authoritative forms of the headings used in a library catalog or file of bibliographic records, maintained to ensure that headings are applied consistently as new items are added to the collection. Separate authority files are usually maintained for names, uniform titles, series titles, and subjects. All the references made to and from a given heading are also included in the file."

Pengguna boleh mengakses kepada maklumat bibliografik tanpa mengira bahasa, skrip tulisan dan ejaan melalui web. VIAF juga tidak terikat dengan mana-mana sistem pengkatalogan atau format bibliografi serta Sistem Perpustakaan Bersepadu (LMS). Pada masa ini dokumen perjanjian VIAF ini sedang diteliti oleh Penasihat Undang-undang Kementerian Pelancongan dan Kebudayaan Malaysia sebelum diangkat kepada Jemaah Menteri untuk kelulusan.

Penyertaan Malaysia dalam consortium VIAF ini bukan sahaja dapat mengangkat nama penulis tempatan tetapi juga karya yang dihasilkan dapat diakses diperingkat antarabangsa. Secara tidak langsung, ekonomi negara dapat dijana dengan peningkatan industri penerbitan tempatan.

Halatuju Perpustakaan Negara Malaysia

(i) International Standard Name Identifier (ISNI)

ISNI merupakan satu standard global pensijilan ISO 27729 yang dibangunkan sebagai satu sistem pengenalan identity kepada penyumbang kerja-kerja kreatif. Mereka yang terlibat termasuk penulis, artis, penyelidik, pencipta penerbit dan mereka yang terlibat dengan aktiviti kesenian. Identifikasi ISNI tidak terhad kepada individu sahaja malah boleh juga diberikan kepada organisasi yang bertanggungjawab dalam penghasilan kerja-kerja kreatif. ISNI juga menyediakan satu blok khusus kepada penyelidik iaitu Open Researcher and Contributor ID (ORCID).

Setiap penyumbang sama ada individu atau organisasi diberikan kombinasi enam belas (16) digit nombor yang unik yang mewakili identiti mereka sebagai pengenalan diri terhadap kerja-kerja kreatif mereka. Dengan menggunakan kombinasi enam belas nombor yang unik, ISNI menyediakan satu kaedah untuk membezakan identiti yang berbeza dengan nama yang sama dan mendapatkan semula identiti dengan lebih dari satu nama. Nombor ISNI (16digit) dilihat penting kerana ia merupakan rangkaian data yang menghubungkan data melalui pangkalan data yang berbeza yang membolehkan maklumat dikongsi dengan lebih mudah dan tepat.

Kini ProQuest telah bekerjasama dengan Bowker telah menggunakan ISNI dalam ONIX 2.1 data feed kepada Barnes & Noble dan juga enjin pencarian besar bagi memastikan penulis dikenal pasti dengan tepat. ONIX 2.1 digunakan oleh industri buku untuk mengautomatiskan pertukaran amaun besar metadata mengenai buku-buku dalam apa jua format. Dengan lebih daripada 2.3 juta penulis kini menggunakan ISNI, kemasukan mereka dalam ONIX dengan ketara akan meningkatkan ketepatan dalam pencarian dan dapatan semula maklumat (information retrieval).

(ii) Digital Object Identifier (DOI)

Menyedari arus perubahan ke arah penumpuan digital dan ketersediaan multimedia Digital Object Identifier (DOI) telah diwujudkan sebagai satu rangka kerja umum untuk menguruskan pengenalan kandungan melalui rangkaian digital. DOI diberikan kepada organisasi/penerbit yang menerbitkan artikel secara elektronik. DOI adalah unique alphanumeric yang disediakan oleh International DOI Foundation (IDF) untuk mengenal pasti kandungan dan menyediakan pautan di Internet.

Peranan utama agensi pendaftaran adalah untuk memberi perkhidmatan kepada penerbit/pengguna iaitu peruntukan awalan DOI name, merekodkan DOI name dan menyediakan infrastruktur yang perlu untuk membolehkan pendaftar untuk membina dan mengemaskini metadata. Perkhidmatan ini merangkumi jaminan kualiti supaya integriti sistem DOI secara keseluruhan dikekalkan pada tahap yang tertinggi (menyampaikan keputusan yang boleh dipercayai dan konsisten kepada pengguna).

DOI names digunakan secara meluas dalam penerbitan saintifik seperti artikel jurnal. Lebih daripada 98% daripada semua DOI names yang berdaftar terdiri daripada artikel ilmiah. DOI names digunakan untuk mendapatkan semula bahan asal yang dikehendaki dengan cepat dan tepat. Penggunaan DOI names akan mewujudkan akses yang lebih mudah kepada data penyelidikan di Internet, meningkatkan penerimaan data penyelidikan secara sah untuk rekod saintifik, dan menyokong data arkib yang disahkan kesahihannya.

Kesimpulan

Walaupun e-buku adalah merupakan format buku moden yang dapat memenuhi tuntutan dan keperluan pengguna masa kini, penulis dan penerbit kini perlu juga peka dengan perkembangan teknologi ICT dan standard antarabangsa yang berkaitan dengan industri penerbitan bagi memastikan e-buku yang dihasilkan berkualiti dan dapat diakses oleh pengguna.

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INSTITUTIONAL REPOSITORY FOR SUSTAINABLE ADVANCEMENT : A MALAYSIAN EXPERIENCE

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ABSTRAK

Pembangunan Repositori institusi (IR) di Malaysia adalah begitu menggalakkan. Ia merupakan satu kesedaran secara beransur-ansur kegunaan IR di kalangan pelbagai institusi dan menggunakan sepenuhnya laman web sama ada untuk tujuan arkib atau berkongsi maklumat. Oleh itu, IR memudahkan ketersediaan dan pengedaran komunikasi ilmiah bebas, sebagai satu cara dan usaha untuk menyelesaikan masalah tidak berjaya, terutamanya disebabkan oleh kekangan kewangan. Dengan bentuk baru penerbitan baru yang dimiliki dan dikendalikan dari dalam institusi, mana-mana penerbitan telah ditemui dalam bentuk yang paling sesuai. Pustakawan perlu memainkan peranan yang proaktif dalam pertumbuhan koleksi dalam repositori institusi. Oleh itu, tujuan utama kajian ini adalah untuk memaklumkan bahawa interaktiviti dan perkongsian pengetahuan melalui inisiatif IR oleh pelbagai institusi di negara ini boleh dipercepatkan melalui kerjasama dan kerjasama. Kertas kerja ini ditulis untuk menggambarkan pencapaian dan prestasi IR Malaysia, mengenal pasti status 36 IR Malaysia yang dikaji selidik dan juga memberi cadangan bagaimana Malaysia IR boleh diperbaiki lagi dan menyumbang dalam perkongsian sumber-sumber pengetahuan yang mempunyai nilai kebangsaan dan antarabangsa. Cara IR ke hadapan adalah bagi membina sebuah enjin carian tunggal untuk semua IR Malaysia serta membuka akses kandungan digital Malaysia untuk semua rakyat Malaysia dan masyarakat dunia.

KATA KUNCI : Collaboration, Digital Content, Institutional Repositories, Knowledge sharing, Librarian Roles, Open Access.

INTRODUCTION

The 20th century information explosion provided widespread technological innovation and ease of access to information and libraries become more competitive with emphasis on digital collections and electronic resources. Information technology has brought about a paradigm shift in library function, from static repositories and custodian of information into dynamic information centre. The content exchange enables libraries to aggregate their content globally in effective and efficient ways. With ICT, information that was traditionally kept in paper format can be digitized and stored in the system and made publicly available. The idea of providing and presenting information via electronics means and format truly fascinates.

The way information is managed, stored, retrieved and displayed is now changing. Libraries are no longer confined to collecting physical copies and providing inventories. Printed materials can now be retrieved in digitized format to support knowledge sharing among researchers and students. With the digital era, it is now possible to develop method of cataloguing digital resources, enabling keyword search in various ways unimaginable before and resources could be benefited expanded. Institutional repository (IR) is the best solution on digital surrogate current collections in a rich, interactive digital environment.

In Malaysia, many universities especially from the Public of Higher Education Institutions (Public HEIs) are heading towards implementing digital content in their organization. Digital repositories are also one of the initiatives taken by academic libraries to move towards the establishment of digital libraries.

INSTITUTIONAL REPOSITORIES : SOME DEFINITIONS

Foster and Gibbons (2005) define an institutional repository as *“an electronic system that captures, preserves and provides access to the digital work products of a community”*. Libraries are in a better position than individual researcher to guarantee that the material is available even after decades and that the collection is systematically maintained, for instance, to take account of changing file formats and media.

Crow (2002) defines an institutional repository as *“a digital collection that captures and preserves the intellectual output of an institution whether it represents a single or multi-university community”*. Crow (2002) and Ware (2004) characterized an institutional repository as *“an open, interoperable, cumulative, perpetual, contributes to the process of scholarly communication in collecting, storing and disseminating the scholarly content.”*

According to Clifford Lynch (2003) - *“In my view, a university-based institutional repository is a set of services that a university offers to the members of its community for the management and dissemination of digital materials created by the institution and its community members. It is most essentially an organizational commitment to the stewardship of these digital materials, including long-term preservation where appropriate, as well as organization and access or distribution”*.

STUDY OBJECTIVES

The objectives of this paper are as follows:

- (1) To describe the achievements and performances of the Malaysian IRs;
- (2) To identify the status of 36 Malaysian IRs surveyed, in terms of :
 - (a) The software/application/systems used for the IR;
 - (b) The availability of the policy statements for the IR;
 - (c) The types of content available in the IR;
 - (d) The type of browsing facilities available in the IR; and

To give recommendations and suggestions on how Malaysian IRs can be improved, expanded and thus can contribute in the sharing the knowledge resources they have, nationally and internationally.

LITERATURE REVIEW

This section provides a baseline understanding of some of the research done, specifically about IRs in Malaysia. Generally, most of the IR research are focuses on :

- a) A snapshot of the current status of the IRs in Malaysia;
- b) The global visibility of Malaysian IRs;
- c) The benefits and the importance of establishing the IRs in Malaysia;
- d) The management and enrichment of contents in the Malaysian IRs;
- e) The awareness and attitudes of users towards the IRs.

Kiran and Chia (2009) studied the success of institutional repositories in Malaysia from the end-users point of view. They reported that in 2009, Malaysia was the 4th largest contributor of IRs in Asia based on ROAR data. In the year 2009, there were a total of 12 IRs initiatives, all of which are from the universities. The most used software is ePrints and a large number of materials deposited in the IRs are theses and dissertations.

A.Abrizah (2009) studied about the awareness of IRs among the 131 faculty members (academic staff) of the University of Malaya and also to find out their attitudes towards contributing and making their intellectual output available through an IR. From the findings, she reported that about 55.7% of the faculty members are aware about the IR, its importance and willing to contribute for the IR.

A.N. Zainab (2010) studied about the visibility and performance of the Malaysian IRs. In the study, she describes the growth trends of open access repositories and journals as reported by monitoring initiatives such as ROAR, Open DOAR, DOAJ, Directory of Web Ranking of World Repositories (Cybermetrics Laboratory in Spain) and published literature. The study also aims to propose the roles libraries can play in promoting the IR. From overall 1,606 repositories listed worldwide and it was found that 19 Malaysian IRs have been successfully listed in the ROAR registry. From overall 1,650 IRs worldwide listed in the OpenDOAR directory, Malaysia is listed as having 11 repositories (0.6%) and this is quite encouraging compared to other ASEAN countries.

Mohd. Faizal Hamzah, Ranita Hisham & Illina Syazwani (Kekal Abadi, Dec 2013), in their paper entitled 'Building an Institutional Repository at the University of Malaya: UM Research Repository' shares the University of Malaya's experience in the development and implementation of the UM Research Repository. According to them, most of the IR development in Malaysia is still in its early stage, since Malaysia is still new in using the IR compared to the other developed countries. Their paper also discussed about certain issues faced by Malaysia. Generally, at this moment, there is no specific guideline for the development of IRs in universities and institutions. Most of the universities are doing their own research in developing IRs based on their own studies and observations. Even though there is a Special Interest Group (SIG) that discusses about digital repository, there is no Standard Operating Procedure (SOP) in developing IRs. There are a lot of issues in IRs such as writing up policies, person in charge, basic requirements and the issues of copyright. Measures should be taken to set up a study to determine the success of IRs in Malaysia. Return of Investment (ROI) is one of the major concerns for many organizations when investing in IR development.

Zuraidah Abd. Manaf (2008) studied about the perceptions of information professionals with regards to the establishment of a national digital cultural heritage repository centre (NDCHR) in Malaysia. She asserts that some of the public cultural institutions in Malaysia have embarked on several digitization projects and some are made publicly accessible. In her findings, she had found that the Ministry of Arts, Culture and Heritage Malaysia should lead and be the spearhead in developing and organizing the NDCHR rather than the National Archives and the National Library.

BUILDING AN INSTITUTIONAL REPOSITORY : SCENARIO IN MALAYSIA

Malaysia has initiated IR for open data environment for the growing country. The academic libraries has lead the boom of IT applications for the education growth, as it evident from the open access journals and number of institutional repositories. The open access movement in Malaysia had a direct impact on the development of the IR services and in collaboration between the scholars. (Abrizah, A. 2009).

In Malaysia, overall there are 12,724 libraries which consist of National Library of Malaysia, State/Public Libraries, Universities/College Libraries, Special Libraries (Government, Private and Semi Government), School Libraries, Rural Libraries and Community Libraries. As at the end of 2013, Malaysia has 20 public university libraries, 458 private university/colleges libraries, 16 state libraries, 515 special libraries (under the Ministry/Government agency) and 370 special libraries (under the statutory bodies/NGOs / Private Sector, etc) . Refer to the Table 1, shown below for the details:

No.	Types of Libraries	No. of Libraries
	National Library	
1.	Perpustakaan Negara Malaysia (PNM)	1
	Academic Libraries	
2.	Public Higher Education Institutions (Public HEIs)	20
3.	Private Higher Education Institutions (Private HEIs)	458
	Public & Rural Libraries	
4.	State Libraries (13 state + PKL, Pub. Lib of Labuan & WP Putrajaya)	16
5.	Rural Libraries	1,121
	Special Libraries	
6.	Libraries in the Ministry/Government Agencies (Gunasama)	515
7.	Statutory body libraries, NGOs, Research Libraries & Private sector libraries (Non-Gunasama)	370

Table 1 : Statistics of Libraries in Malaysia.

Source: Research Department, NLM, 2013.

Academic library, mostly from the Public Higher Education Institutions (Public HEIs) is the largest group of library in Malaysia that has successfully built the IR (all of them are using the open source software), compared to Private Higher Education Institutions (Private HEIs) and any other category of libraries. From overall 20 Public HEIs in Malaysia, 19 Public HEIs have successfully developed the IR, except Universiti Pertahanan Nasional Malaysia (UPNM).

As at 31st May 2015, overall there are about 36 IRs been identified and developed by libraries / institutions in Malaysia. For the full list of this 36 IRs surveyed, please refer to Appendix I. The summary are as follows:

No.	Type of Library / Institutions	Total of IRs	Percentage (%)
1.	Public HEIs	27	75%
2.	Private HEIs	6	16.67%
3.	Government Libraries	2	5.56%
4.	NGOs, Private Organization, etc	1	2.77%
	TOTAL	36	100%

Table 2 : Distribution of Institutional Repositories in Malaysia, by type of library.

From the table above, about 27 IRs (75%) have been developed by the Public HEIs libraries, while the other 6 were developed by the Private HEIs (16.67%). Only 2 IRs were developed by the libraries under the government agencies (5.56%) and 1 IR were developed by NGOs, private institutions, etc (2.77%).

From overall 19 Public HEIs that successfully developed the IR, only 3 Public HEIs successfully developed more than an IR:

- (a) University of Malaya (UM) with 5 IRs (Commonrepo UM, Dspace@UM, UM Research Repository, UM Students Repository & MyManuskrip)
- (b) Universiti Kebangsaan Malaysia (UKM) with 2 IRs (PTSL UKM Repository & UKM Journal Article Repository)
- (c) Universiti Utara Malaysia (UUM) with 2 IRs (UUM Repository & UUM ETD Repository)

From overall 458 Private HEIs in Malaysia, only 6 Private HEIs have successfully developed the IR. The Private HEIs are UTP, MMU, UTAR, UniKL, UNITEN, & SUC. Only Universiti Teknologi Petronas (UTP) has successfully develops 2 IRs (UTP-IR & UTPedia), while the rest have only one.

For the time being, all the 16 state/public libraries in Malaysia have not yet developing the IRs. The development of IRs among special libraries (particularly in the government agencies/Gunasama Libraries, research institutions, etc) have not been encouraging. So far, only 2 government agency libraries/institution have successfully developed the IR - National Library of Malaysia and Institut Aminuddin Baki (IAB).

NATIONAL LIBRARY OF MALAYSIA

National Library of Malaysia (PNM) is a Federal Department under Ministry of Tourism and Culture. It was established under the National Library Act 1972 (Act 80) (incorporating all amendments up to 1 January 2006. The purpose and objectives of National Library of Malaysia as stipulated in Part II, Section 3 are as below:

- (i) To make available for user of present and future generations a national collection of library resources;
- (ii) To facilitate nation-wide access to library resources available within the country and abroad;
- (iii) To provide leadership on matters pertaining to libraries.

One of the initiatives introduced to promote access to information is by developing the institutional repositories. The National Library of Malaysia, initiated the PERDANA System Project, which aims to develop a national system of digital libraries through the networking and collaboration of all the libraries in Malaysia. The National Library of Malaysia has developed a host of portals to increase digital content of local knowledge mainly concern the history and culture of Malaysia and Malay Manuscripts (Abdul Ghani Azmi, Ida Madieha, 2009). In the year 2013, National Library of Malaysia has successfully develop its own IR (using DSpace) which is known as 'Repositori Digital PNM' and can be accessed online at <http://myrepositori.pnm.gov.my>. The National Library of Malaysia has always encouraged Malaysian libraries to develop digital repositories at their respective institutions.

ACADEMIC LIBRARIES IN MALAYSIA

In 2005, the Conference of University Libraries and National Library of Malaysia (PERPUN), which consists of all the Head of University Libraries, together with the Director General, National Library of Malaysia has set up Malaysian University Libraries and National Library Network (MyUninet). PERPUN is a forum of cooperation towards collaboration and networking among academic libraries and National Library in Malaysia. MyUninet is the headstart towards establishing the IR. MyUninet can be accessed at <http://perpun.upm.edu.my/myuninet/>. MyUninet portal consists of:

- (i) MYTO (Malaysian Theses Online) – lists of theses collection compiled from public universities and universities colleges and selected private universities. MyTO portal can be accessed at <http://myto.upm.edu.my/myTO/myto.html>.
- (ii) MALRep (Malaysian Academic Repository) – repositories include published and unpublished resources produced by universities, academicians and personnel such as books, conference and seminar papers, journal articles, working papers, magazine newsletter, newspapers, statistics etc to serve as academic repository for universities in Malaysia. MALRep portal can be accessed at <http://malrep.uum.edu.my/rep/>.
- (iii) MyUShare (Malaysian Gateway to the Internet Resources) – an inter-library loan system specifically to cater for inter-library loan services. MyUShare portal can be accessed at <http://pap.mmu.edu.my/>.
- (iv) MALCat (Malaysian Academic Library Union) – union catalog of all the public universities libraries and government link corporation universities library registered with Ministry of Higher Education. MALCat portal can be accessed at <http://malcat.uum.edu.my/kip/>.

A few research universities in Malaysia have established IR services with the aim to enhance the visibility and the impact of the research generated within that university. The development of the IR services is related to the open access movement in Malaysia, which seeks to make valued research outputs openly available by encouraging academics to place their publications into repositories, enhancing the availability and visibility to the global academic community and increase the chances for use and exchange of ideas among scholars within similar disciplines (Abrizah et al, 2007).

In Malaysia, institutional repositories have been developed mostly by local universities and research institutions, using the open source software. In total, there are about 36 institutional digital repositories have been identified so far in Malaysia. This paper will have a closer look on the achievements and performances of Malaysian IRs where the focus will be given to the 36 IRs as mentioned. For the full list of 36 Malaysian IRs, please refer to Appendix I for the details.

MALAYSIAN IRs LISTED IN OPENDOAR

Our observation recently, has found out that there are about 21 Malaysian IRs has been registered under the OpenDOAR directory (<http://www.opendoar.org>) (Table 3). The list of all 21 Malaysian IRs registered under the OpenDOAR directory are as listed:

No.	IR Name	Organization's Name
1.	SHDL@MMU Digital Repository	Multimedia University (MMU) **
2.	WorldFish Center Publications	The WorldFish Centre (WFC) ***
3.	PTSL UKM Repository	Universiti Kebangsaan Malaysia (UKM) *
4.	UKM Journal Article Repository	Universiti Kebangsaan Malaysia (UKM) *
5.	UniKL IR	Universiti Kuala Lumpur (UniKL) **
6.	Universiti Malaysia Kelantan Intitutional Repository	Universiti Malaysia Kelantan (UMK) *
7.	UMP Institutional Repository	Universiti Malaysia Pahang (UMP) *
8.	UniMAP Library Digital Repository	Universiti Malaysia Perlis (UniMAP) *
9.	UMS Institutional Repository	Universiti Malaysia Sabah (UMS) *
10.	Universiti Putra Malaysia Institutional Repository (PSAS IR)	Universiti Putra Malaysia (UPM) *
11.	Repository@USM	Universiti Sains Malaysia (USM) *
12.	Universiti Teknologi Malaysia Institutional Repository (UTM Institutional Repository)	Universiti Teknologi Malaysia (UTM) *
13.	Universiti Teknologi MARA Institutional Repository	Universiti Teknologi MARA (UiTM) *
14.	UTHM Institutional Repository	Universiti Tun Hussein Onn Malaysia (UTHM) *
15.	UUM Repository	Universiti Utara Malaysia (UUM) *
16.	Commonrepo UM	University of Malaya (UM) *
17.	Dspace @ UM	University of Malaya (UM) *
18.	MyManuskrip: Digital Library of Malay Manuscripts (Pustaka Digital Manskrip Melayu)	University of Malaya (UM) *
19.	UM Research Repository	University of Malaya (UM) *
20.	University of Malaya Students Repository	University of Malaya (UM) *
21.	University Tenaga Nasional Digital Repository	Universiti Tenaga Nasional (UNITEN) **

Legend : * Public university ** Private university *** Private organizations / NGOs, etc

**** Government Agency / Special library (Gunasama)

Table 3: Lists of Malaysian IRs registered at the OpenDOAR Directory.

Source: www.opendoar.org/countrylist.php?cContinent=Asia

From the list, it was found that Universiti of Malaya has registered as many as 5 IRs, while Universiti Kebangsaan Malaysia has registered two (2 IRs). The remaining 14 IRs were owned by the other 14 institutions.

From our observation, we also found out that there are still another 14 Malaysian IRs, not registered in the OpenDOAR directory (refer Table 4). Therefore, we would like to suggest all the Malaysian libraries and institutions listed below to register their IRs at the OpenDOAR directory in order to make their IRs visible to the global community.

No.	IR Name	Organization's Name
1.	IUM Repository	International Islamic University of Malaysia *
2.	OUM iRepository	Open University Malaysia **
3.	UMT IR	Universiti Malaysia Terengganu *
4.	Repositori Digital PNM	National Library of Malaysia ****
5.	UNIMAS Institutional Repository	Universiti Malaysia Sarawak *
6.	e-Imtiyaz @ USIM	Universiti Sains Islam Malaysia *
7.	UTP Institutional Repository	University Teknologi Petronas **
8.	UTAR Institutional Repository	Universiti Tunku Abdul Rahman **
9.	IAB Repository	Institut Aminuddun Baki ****
10.	UPSI Digital Repository	Universiti Pendidikan Sultan Idris *
11.	UUM ETD Repository	Universiti Utara Malaysia (UUM) *
12.	UTeM	Universiti Teknikal Malaysia Melaka (UTeM) *
13.	Sunway Institutional Repository	Sunway University College **
14.	UniSZA Institutional Repository	Universiti Sultan Zainal Abidin (UniSZA) *

Legend : * Public university ** Private university **** Government Agency / Special library (Gunasama)

Table 4 : Lists of Malaysian IRs which is still not registered at the OpenDOAR Directory.

MALAYSIAN IRs LISTED IN THE REGISTRY OF OPEN ACCESS REPOSITORIES (ROAR)

Our observation recently, has found out that there are about 37 Malaysian IRs has been registered at the ROAR directory (<http://roar.eprints.org/>) (Table 5). The list of these IRs are as listed:

No.	IR Name	Organization's Name	ROAR ID	Repository Type
1.	SHDL@MMU Digital Repository	Multimedia University (MMU) **	3873	Research Institutional or Departmental
2.	WorldFish Center Publications	The WorldFish Centre (WFC) ***	1533	Research Institutional or Departmental
3.	PTSL UKM Repository	Universiti Kebangsaan Malaysia (UKM) *	1033	Research Institutional or Departmental
4.	UKM Journal Article Repository	Universiti Kebangsaan Malaysia (UKM) *	3726	E-Journal/Publication
5.	UniKL IR	Universiti Kuala Lumpur (UniKL) **	8547	Research Institutional or Departmental
6.	Universiti Malaysia Kelantan Institutional Repository	Universiti Malaysia Kelantan (UMK) *	5725	Research Institutional or Departmental
7.	UMP Institutional Repository	Universiti Malaysia Pahang (UMP) *	7071	Research Institutional or Departmental
8.	UniMAP Library Digital Repository	Universiti Malaysia Perlis (UniMAP) *	712	Research Institutional or Departmental
9.	UMS Institutional Repository	Universiti Malaysia Sabah (UMS) *	7144	Research Institutional or Departmental
10.	Universiti Putra Malaysia Institutional Repository (PSAS IR)	Universiti Putra Malaysia (UPM) *	1357	Research Institutional or Departmental

11.	Repository@USM	Universiti Sains Malaysia (USM) *	1511	Research Institutional or Departmental
12.	Universiti Teknologi Malaysia Institutional Repository (UTM-IR)	Universiti Teknologi Malaysia (UTM) *	1358	Research Institutional or Departmental
13.	Universiti Teknologi MARA Institutional Repository	Universiti Teknologi MARA (UiTM) *	5087	Research Multi-institution Repository
14.	UTHM Institutional Repository	Universiti Tun Hussein Onn Malaysia (UTHM) *	3825	Research Institutional or Departmental
15.	UUM Repository	Universiti Utara Malaysia (UUM) *	1361	Research Institutional or Departmental
16.	Commonrepo UM	University of Malaya (UM) *	8546	Research Institutional or Departmental
17.	MyManuskrip: Digital Library of Malay Manuscripts (Pustaka Digital Manuskrip Melayu)	University of Malaya (UM) *	866	Research Cross-Institutional
18.	UM Research Repository	University of Malaya (UM) *	5773	Research Institutional or Departmental
19.	University of Malaya Students Repository	University of Malaya (UM) *	7277	E-Theses
20.	University Tenaga Nasional Digital Repository	Universiti Tenaga Nasional (UNITEN) **	2381	Research Institutional or Departmental
21.	IIUM Repository	International Islamic University of Malaysia (IIUM) *	4053	Research Institutional or Departmental
22.	OUM iRepository	Open University Malaysia (OUM) **	8548	Research Institutional or Departmental
23.	UNIMAS Institutional Repository	Universiti Malaysia Sarawak (UNIMAS) *	8918	Research Institutional or Departmental
24.	e-Imtiyaz @ USIM	Universiti Sains Islam Malaysia (USIM) *	8537	Research Institutional or Departmental
25.	UPSI Digital Repository	Universiti Pendidikan Sultan Idris (UPSI) *	8539	Research Institutional or Departmental
26.	UUM ETD Repository	Universiti Utara Malaysia (UUM) *	5100	eTheses
27.	Sunway Institutional Repository	Sunway University College (SUC)**	8536	Research Institutional or Departmental
28.	UniSZA Institutional Repository (URL:	Universiti Sultan Zainal Abidin (UniSZA) *	8973	Research Institutional or Departmental
29.	UTeM Institutional Repository (URL:	Universiti Teknikal Malaysia Melaka (UTeM) *	1467	Research Institutional or Departmental
30.	UTP Electronic & Digital Intellectual Asset (UTPedia) (http://utpedia.utp.edu.my/)	Universiti Teknologi Petronas (UTP) **	8562	Research Institutional or Departmental
31.	In-house Digital Collection (IDC) (http://www.perpustakaan.unisza.edu.my/index.php?option=com_abook&view=categories&id=0&Itemid=409&lang=e)	Universiti Sultan Sultan Zainal Abidin (UniSZA)*	8543	Research Institutional or Departmental
32.	Siti Hasmah Digital Library (http://vlib.mmu.edu.my)	Multimedia University (MMU) **	8901	Research Institutional or Departmental

33.	E-Repository Penerbitan (eREP) (https://smk.ukm.my/erep/)	Universiti Kebangsaan Malaysia (UKM) *	3266	Research Institutional or Departmental
34.	UTeM Library : Search a Document (http://library.utm.edu.my/index.php?option=com_docman&task=search_form&Itemid=208)	Universiti Teknikal Malaysia Melaka (UTeM) *	1467	Research Institutional or Departmental
35.	UNIMAS Institutional Repository (http://symposia.unimas.my/iii/cpro/HomePage.html?lang=eng&suite=def)	Universiti Malaysia Sarawak (UNIMAS) *	8542	Research Institutional or Departmental
36.	Universiti Sultan Sultan Zainal Abidin (UniSZA) : Official Portal (http://www.unisza.edu.my) *	Universiti Sultan Sultan Zainal Abidin (UniSZA)*	8973	Research Institutional or Departmental
37.	Malaysian Theses Online (MyTO) (http://myto.upm.edu.my/myTO/myto.html)	PERPUN's Collaboration effort which involves libraries of : IIUM, MMU, OUM, UKM, UM, UniKL, UMK, UMP, UniMAP, UMS, UiTM, UniTEN, UNIMAS, UMT, UTP, UPNM, UPSI, UTeM, UUM, USM, UTHM, UniSZA	8544	eTheses

Legend : * Public university ** Private university **** Government Agency / Special library (Gunasama)

Table 5: Lists of Malaysian IRs registered at the ROAR Directory

Source: <http://roar.eprints.org>

However, there are another 6 Malaysian IRs, still not registered in the ROAR directory as listed below (see Table 6). Therefore, we would like to suggest all the Malaysian libraries and institutions listed below to register their IRs at the ROAR directory in order to make their IRs visible to the global community.

No.	IR Name	Organization's Name	URL
1.	Dspace @ UM (Theses@UMalaya)	University of Malaya (UM) *	eTheses
2.	UMT IR	Universiti Malaysia Terengganu (UMT) *	Research Institutional or Departmental
3.	Repository Digital PNM	National Library of Malaysia (PNM) ****	Research Institutional or Departmental
4.	UTP Institutional Repository	University Teknologi Petronas (UTP) **	Research Institutional or Departmental
5.	UTAR Institutional Repository	Universiti Tunku Abdul Rahman (UTAR) **	Research Institutional or Departmental
6.	IAB Repository	Institut Aminuddin Baki (IAB) ****	Research Institutional or Departmental

Legend : * Public university ** Private university **** Government Agency / Special library (Gunasama)

Table 6 : Lists of Malaysian IRs which is still not registered at the ROAR Directory.

MALAYSIAN IRs : PERFORMANCE IN THE WORLD RANK

About 21 Malaysian IRs have been evaluated and ranked in the “The Ranking Web of World Repositories” (Cybermetrics Lab, CSIC, Spain) . For the details, please refer to **Table 7**.

Ranking	World Rank	Institution
1	92	Universiti Teknologi Malaysia Institutional Repository
2	206	Universiti Putra Malaysia Institutional Repository
3	246	Universiti Sains Malaysia Institutional Repository
4	306	Universiti Malaysia Perlis Library Digital Repository
5	328	International Islamic University Malaysia Repository
6	333	University of Malaya Research Repository
7	437	Universiti Tun Hussein Onn Malaysia Institutional Repository
8	437	Universiti Malaysia Pahang Institutional Repository
9	462	Universiti Kebangsaan Malaysia Journal Article Repository
10	487	Universiti Teknologi MARA Institutional Repository
11	533	Universiti Teknikal Malaysia Melaka Repository
12	598	University Utara Malaysia IRepository
13	629	Universiti Malaysia Sabah Institutional Repository
14	689	Universiti Utara Malaysia E Theses
15	773	e-IMtiyaz Islamic Science University of Malaysia Repository
16	984	Universiti Malaysia Kelantan Institutional Repository
17	1043	Universiti Teknologi Petronas Institutional Repository
18	1300	Multimedia University Digital Repository
19	1417	Universiti Kebangsaan Malaysia Repository
20	1461	Universiti Kuala Lumpur Institutional Repository
21	1512	Universiti Tenaga Nasional Library Digital Repository

Table 7: Performance of Malaysian IR in the world rank.

Source: <http://repositories.webometrics.info/en/asia/malaysia%20/>

MALAYSIAN IRs : IR SOFTWARE/SYSTEMS USED

Survey have been done in order to know what kind of software or systems is popular and widely used by most of the Malaysian IRs. From our findings, it was found that 70% out of 36 IRs surveyed, have been developed using the ePrints software (27 IRs), while as many as 7 IRs (19.44%) were developed using the DSpace software. For the full list and details, please refer to **Appendix I**. Please see the **Table 8** below for the summary:

Types of IR Software / System Used	No. of IRs	Percentage (%)	Libraries / Institutions that uses this IR software
E-Prints (open source)	27	75%	IIUM, MMU, OUM, UiTM, UKM (2 IRs), UMP, UMS, UMK, UPSI, IAB, UTAR, UUM (2 IRs), UM (3 IRs), UTHM, UTM, USM, UTP (2 IRs), UNIMAS ,UPM, UNISZA , UTeM, SUC

DSpace (open source)	7	19.44%	UM (Dspace@UM), PNM, UMT, UNITEN, USIM, UniMAP & UniKL
GSDL (open source)	1	2.78%	UM (MyManuskrip)
Others	1	2.78%	WFC
TOTAL	36	100%	

Table 8: Software used in the development of 36 Malaysian institutional repositories.

MALAYSIAN IRs: AVAILABILITY OF THE STATEMENT OF THE POLICY

An IR is driven and directed by its policies which determine its identity, quality and direction. Basically, there are six (6) principal policy concerns of IRs :

- (a) Content Policies : type of material to be submitted;
- (b) Submission Policies : who would authorize to submit material in the IR;
- (c) Preservation Policies : maintaining records for future use ;
- (d) Data Policy :
- (e) Metadata Policy : types of metadata standards being performed in the IR;
- (f) Privacy & Security Policy : statement on how the IR is protecting and securing the user's privacy and personal data.

We have conducted a survey in order to see whether all the policies mentioned above have been formulated and provided by the owners of the 36 IRs, in the IR portal. Please refer to Appendix IV for the details. From overall 36 Malaysian IRs surveyed, it was found that (refer to Table 9):

Statement of IR policy	No. of IRs that HAVE DEFINED the policy	Percent (%)	No. of IRs that HAVE NOT DEFINED the policy	Percent (%)
Data Policy	13	36.11 %	23	63.89%
Metadata Policy	13	36.11%	23	63.89%
Content Policy	13	36.11%	23	63.89%
Submission Policy	14	38.89%	22	61.11%
Preservation Policy	11	30.55%	25	69.44%
Privacy & Security Policy	10	27.78%	26	72.22%

Table 9 : Survey on the availability of the IR policies among 36 IRs in Malaysia.

From the evident and analysis as stated in the table, it can be concluded here that a high majority of Malaysian repositories still has an 'Undefined' policy for all the policies as stated. Only a few Malaysian repositories have defined Recorded Full-Text Data Reuse Policies (13 IRs – 36.11 %), Recorded Content Policies (13 IRs – 36.11 %), Recorded Metadata Policies (13 IRs – 36.11 %), Recorded Submission Policies (14 IRs – 37.14%), Recorded Preservation Policies (11 IRs – 30.55%) and Privacy & Security Policies (10 IRs – 27.78%)

MALAYSIAN IRs: TYPES OF CONTENT

We have conducted a survey in order to see what type of content available in Malaysian IRs. Our findings have been tabulated and facilitated through the table as mentioned below (refer Table 10):

Types of collection available in the IR	Number of IRs	Percentage (%)
Articles (eg: Journal articles, newspaper articles)	27	75%
Conference / Seminars / working papers	27	75%
Theses / Dissertations	26	72.22%
Books, Book Chapters/Sections, Monograph	19	52.78%
Serials (eg: Newsletter/bulletins, magazines, journals, etc)	7	19.44%
In-house publications	9	25%
Government Publications	2	5.56%
Special/Unique collection (eg: Manuscripts, Rare Books, Personal collection, etc)	2	5.56%
Photos/Multimedia/audio-visual materials	14	38.89%
Others (eg: speech text, learning/course materials, technical/research papers, exam papers, students work/assignments/projects, born digital / unpublished materials, manuals, patents, datasets, software, etc)	22	61.11%

Table 10 : Types of content available in the 36 Malaysian IRs.

From the abovementioned table, we can concluded here that a majority (75%) of the Malaysian IRs (27 IRs) have collected and provided access to articles and conference/seminar papers. Theses and dissertations are available in the 26 of the IRs (72.2%) . 19 IRs collects and provide access to books, book chapters and monographs. For other type of collection, please see Table 10 for the details.

MALAYSIAN IRs: FACILITY TO BROWSE THE CONTENT

We have conducted a survey in order to see the facility provided to browse the content under the 36 Malaysian IRs. Please refer to Table 11 for the details:

Facility to browse the IR content	No. of IRs	Percent (%)
By Author	31	86.11%
By Item Type	25	69.44%
By Subject or Keyword	31	86.11%
By Faculty of Division	29	80.55%
By Title (or Journal Title)	10	27.78%
By Year or Issue Date	34	94.44%
By Language	0	0%

Table 11 : 36 Malaysian IRs : Facility to browse the content

From the survey and analysis as stated in the table, it can be concluded here that :

- 31 Malaysian IRs providing the facility to browse the content "By Author" (86.11%)
- 25 Malaysian IRs providing the facility to browse the content "By Item Type" (69.44%)
- 31 Malaysian IRs providing the facility to browse the content "By Subject or Keyword" (86.11%)
- 29 Malaysian IRs providing the facility to browse the content "By Faculty or Division" (80.55%)

- (e) 10 Malaysian IRs providing the facility to browse the content “By Title” (27.78%);
- (f) 34 Malaysian IRs providing the facility to browse the content “By Year or Issue Date” (94.44%).

None of the 36 Malaysian IRs providing the facility to browse the content “by Language”.

SINGLE SEARCH FOR THE IRs: SOME OF THE EFFORTS IN MALAYSIA

In Malaysia, we have identified that there are only two efforts in developing a one-stop search engine to facilitate search for the content or digital resources available under a group of IRs. One of which was developed by the Consortium of PERPUN and the other one is by the Ministry of Education, Malaysia (MOE).

The efforts are as follows:

- (a) MALCat : Malaysian Academic Library Union Catalog (under PERPUN) (URL: <http://malcat.uum.edu.my/kip/> . Please refer to Figure 1 & 2 for the sample of the screenshot)
 - This Discovery service enables users to search Malaysian Academic Library Union Catalog and institutional repository from various information databases (OAI-PMH Service). Authentication required when users are trying to get fulltext documents from third party services especially commercial information databases. All academic libraries under PERPUN were involved in this project.

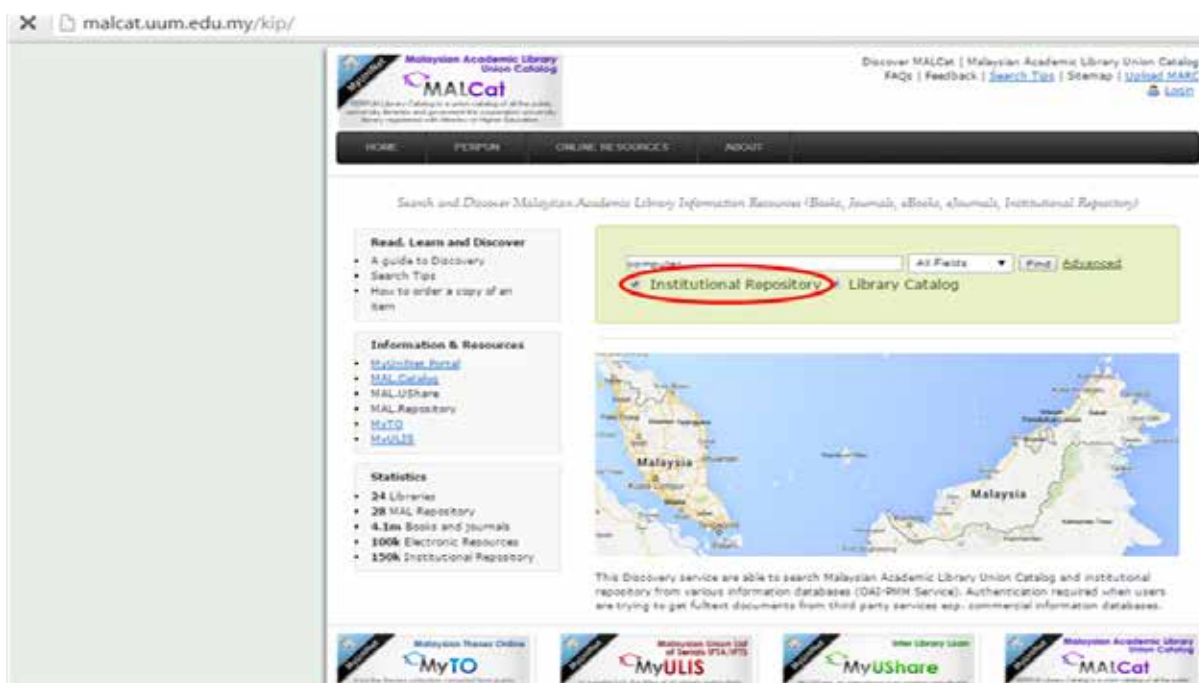


Figure 1: MALCat Single Search (Main Page)

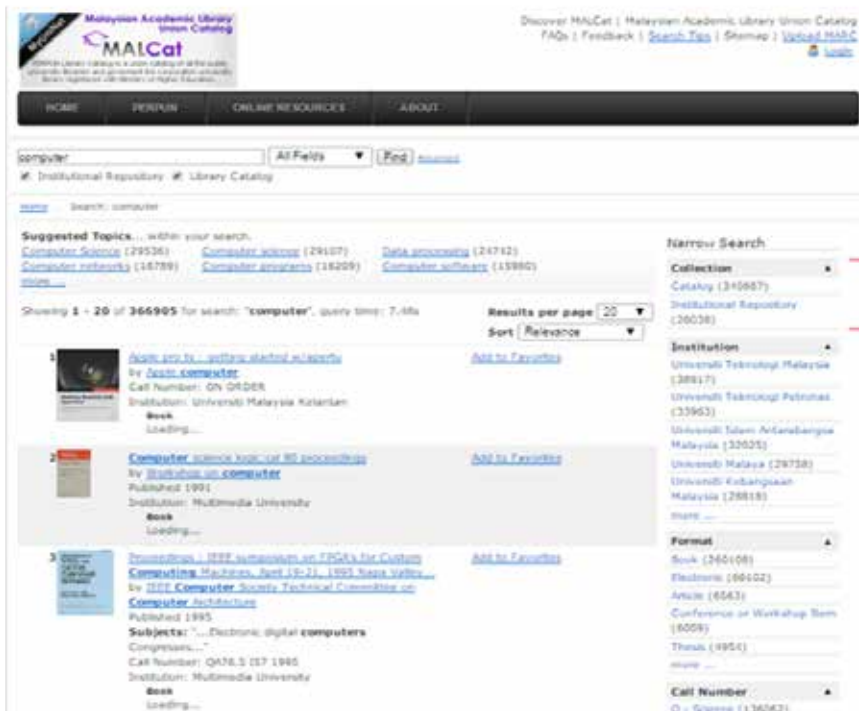


Figure 2 : Showing the search results from MALCat single search engine.

(b) mYKREP : MOE's Knowledge Repository

(URL: <http://app.moe.gov.my/mykrep/eprints/search#> . Please refer to Figure 3 & 4 for the sample of the screenshot

This project involves UMP, USIM, UM, UTM, USM and the Ministry of Education, Malaysia.

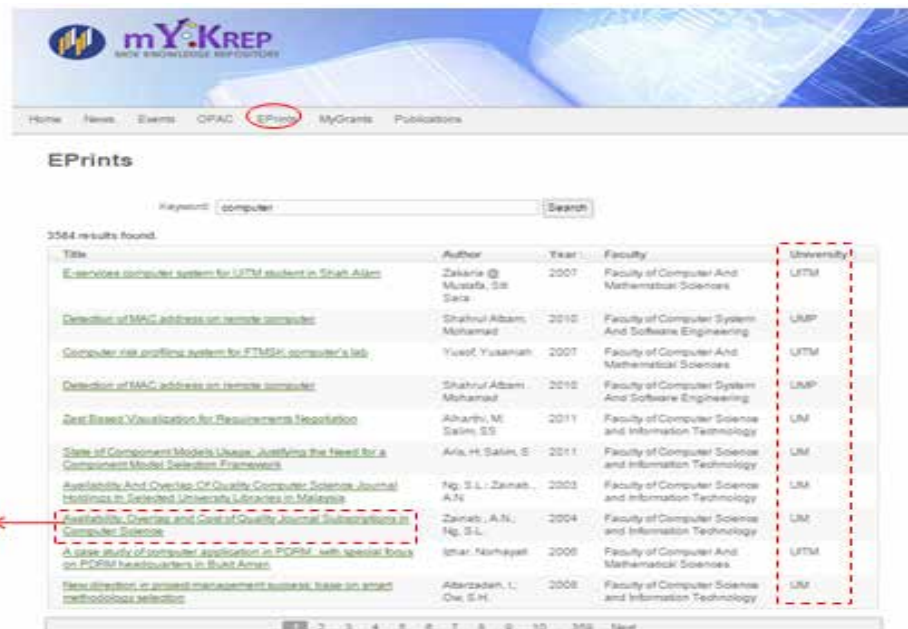


Figure 3 : mYKREP : MOE's Knowledge Repository – Showing the search results

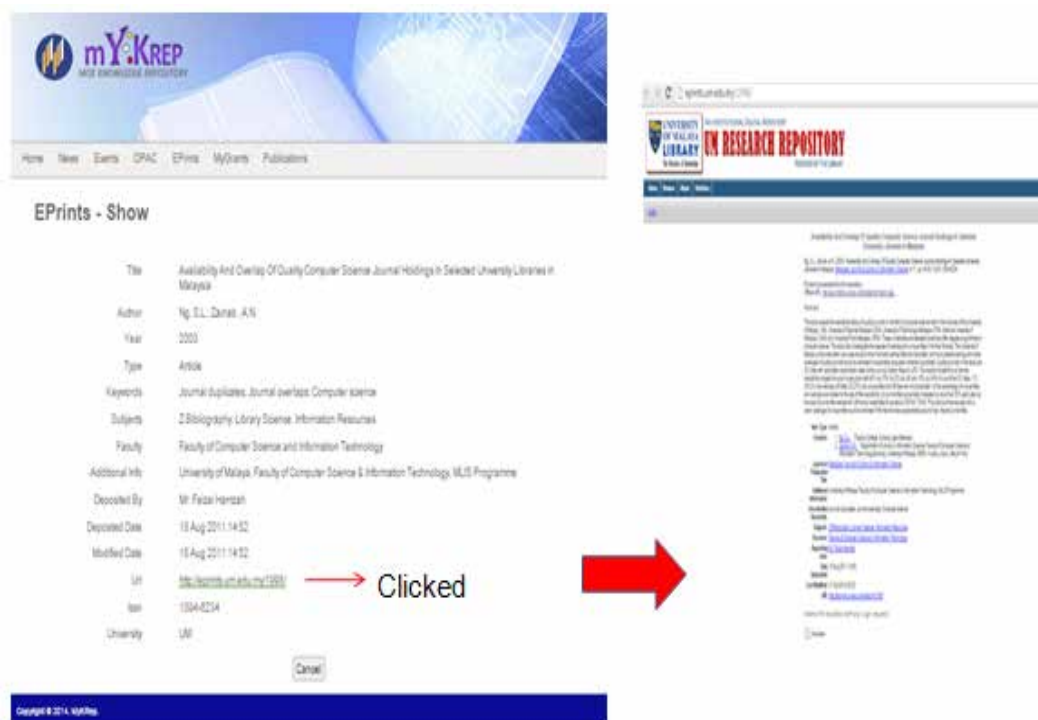


Figure 4: mYKREP : MOE’s Knowledge Repository – Showing the metadata & accessing the full-text of the document.

National Library of Malaysia is currently in the planning to develop a single search engine for the overall IRs in Malaysia. It is hoped that a single search engine will be developed and provided under the platform of u-Pustaka portal (www.u-library.gov.my) in the near future, hopefully in the year 2018.

ROLES OF LIBRARY AND LIBRARIANS IN MANAGING THE IRs

Creation of digital content to archive and preserve is known as a role of librarian. Library and information professionals have key roles to play in managing IR. Development of IR has become a duty of librarians in the 21st century. Traditionally everyone knows the library role as preserver of scholarly literatures (Cervone 2004). Librarians are professionals who were trained to create metadata and organizing the content. They are conscious of the preservation of digital materials and self archiving techniques (Ware 2004). As a technology hub, is the reason to confirm why the library should be in charge of IR and community look to the library as a leader on information technology tendency (Phillips et al. 2005). There is an awareness to make valued research outputs openly available to enhance visibility and provide access to the global community.

Development of the IR and populating community with contents requires hard effort. Reference and subject librarians are familiar with different library culture and environments. They will be the best option to encourage authors to submit their work into IR. Providing training sessions were the most significant ways for promoting IR. The overall collection is also growing. Promotion IR activities, including roadshows, encouragement during information skills sessions, and by researchers doing self-archiving.

Future plans call for increasing the visibility of IR and improve the repository ranking among libraries in the country as well as internationally. Among the challenges are the technical aspects and increasing the copyright clearance of some items. In reflecting upon the development of the IR, one factor that can enhance the growth of the IR is the need for a top-down approach, where a specific mandate should be made to ensure community contribute to IR.

To enhance unlock access of Malaysian content, libraries in Malaysia should formulate policies, systems architecture and other elements shall be determine and will depend on institutional context, the scope and purpose of the repository. Each institutions defines its own policies dealing with access to and use of materials because not all materials can be made available freely. Copyrighted materials may carry a variety of restrictions. Key issues to consider establishing and

developed IR are the institutional culture, the scope of the repository, content, access levels, legal aspects, standard, sustainability and funding. Although libraries in Malaysia has seen growth in infrastructure and services, the technical know-how and personnel need to be strengthened. Developing technologies and software for localizing information resources to unlock local content seems to be the pressing need. In pursuing these key issues, IR in Malaysia can be sustainable and the way forward is to build a single search engine can be achieve. Librarian's role as change agents could resolved collection management and stewardship of collection, understanding of software and giving training to authors, established a standard metadata and comprehensive catalogue system, review submission for quality of content, persuading authors to contribute with self archiving, training users search technique in IR, promotion and marketing (Katayoon Kamraninia and Abrizah A., 2010).

SOME SUGGESTIONS FOR THE IMPROVEMENT OF MALAYSIAN IRs

We would like to give some suggestions for the further improvements of Malaysian IRs:

- (a) Malaysian libraries / organizations needs to play a better role in maintaining, managing and marketing the IR:
 - (i) Continue to maintain and manage the existing system or if necessary, upgrade the existing IR system – to ensure the IR system remains manageable and in line with the current technology.
 - (ii) Facilitate access to the IR content (eg: user-friendliness of the IR system, better organization of the content, provides effective search and browsing facilities, etc)
 - (iii) Needs to actively promote the use of the IR to the members of the organization as well as to the public.
- (b) Any library or organization that has not yet formulated policies for their IRs (as stated under the survey, in this paper) need to prepare and publish their IR policy in the portal.
- (c) National Library of Malaysia to play the important role :
 - (i) To coordinate all IRs in Malaysia;
 - (ii) To plan for the development of a single search engine for the overall IRs in Malaysia (requires cooperation from all Malaysian libraries/owners of the IRs);
 - (iii) Encourages other libraries/institutions in Malaysia to develop the IR.
- (d) Academics in Malaysian universities need to be educated on the importance of self archiving articles into IRs. All libraries in Malaysia should play their role as the major mediator in IR success and work hand-in hand with the researchers to enhance open access. IR success depends on extensive support for self-archiving authors from librarians.
- (e) The university management needs to work closely with the library in promoting open access because librarians are better skilled in digital preservation activities that are essential in building and preserving IRs.

CONCLUSION

All libraries in Malaysia must continue to collaborate and cooperate with each other. The library which has successfully developed the IR are encouraged to share their experience, expertise and help the other libraries who wish to develop or in the process of developing an IR. Active engagement through collaboration, co-operation, knowledge sharing will built good partnership and lead to sustainable advocacy among libraries in Malaysia. With the initiative to develop an institutional repository in the organization, Malaysian libraries will be able to systematically manage their collection and share their knowledge resources to the public.

The success of an IR is not only dependent on the support of the management. It also involves the others, who manages and contribute for the IR – eg: the IR system manager, the content team, the metadata team, IR promotion team, etc. All organizations that have the IR in Malaysia, need to improve the existing weaknesses, implement continuous improvement and constantly enrich the content available in the repository. Whatever challenges the libraries and librarian shall face, there will always opportunity for us to fulfill the needs and aspirations of the people by working together on transforming Malaysia into a creative, innovative and knowledge based society in line with vision 2020.

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LIST OF 36 MALAYSIAN IRs SURVEYED IN THIS STUDY

No.	IR Name	Organization's Name	Software Used	URL
1.	SHDL@MMU Digital Repository	Multimedia University (MMU) **	EPrints	http://shdl.mmu.edu.my/
2.	WorldFish Center Publications	The WorldFish Centre (WFC) ***	(Unknown)	http://www.worldfishcenter.org/
3.	PTSL UKM Repository	Universiti Kebangsaan Malaysia (UKM) *	EPrints3	http://eprints.ukm.my/
4.	UKM Journal Article Repository	Universiti Kebangsaan Malaysia (UKM) *	Eprints 3.1.3	http://journalarticle.ukm.my/
5.	UniKL IR	Universiti Kuala Lumpur (UniKL) **	DSpace	http://ir.unikl.edu.my/jspui/
6.	Universiti Malaysia Kelantan Institutional Repository	Universiti Malaysia Kelantan (UMK) *	EPrints3	http://umkeprints.umk.edu.my/
7.	UMP Institutional Repository	Universiti Malaysia Pahang (UMP) *	EPrints3	http://umpir.ump.edu.my/
8.	UniMAP Library Digital Repository	Universiti Malaysia Perlis (UniMAP) *	DSpace	http://dspace.unimap.edu.my/dspace/
9.	UMS Institutional Repository	Universiti Malaysia Sabah (UMS) *	EPrints3	http://eprints.ums.edu.my/
10.	Universiti Putra Malaysia Institutional Repository (PSAS IR)	Universiti Putra Malaysia (UPM) *	EPrints 3	http://psasir.upm.edu.my/
11.	Repository@USM	Universiti Sains Malaysia (USM) *	EPrints	http://eprints.usm.my/
12.	Universiti Teknologi Malaysia Institutional Repository (UTM Institutional Repository)	Universiti Teknologi Malaysia (UTM) *	EPrints	http://eprints.utm.my/
13.	Universiti Teknologi MARA Institutional Repository	Universiti Teknologi MARA (UiTM) *	EPrints	http://ir.uitm.edu.my/ or http://eprints.uitm.edu.my/
14.	UTHM Institutional Repository	Universiti Tun Hussein Onn Malaysia (UTHM) *	EPrints	http://eprints.uthm.edu.my/
15.	UUM Repository	Universiti Utara Malaysia (UUM) *	EPrints	http://repo.uum.edu.my/
16.	Commonrepo UM	University of Malaya (UM) *	EPrints 3	http://commonrepo.um.edu.my/
17.	Theses@UMalaya	University of Malaya (UM) *	DSpace	http://dspace.fsktm.um.edu.my/
18.	MyManuskrip: Digital Library of Malay Manuscripts (Pustaka Digital Manskrip Melayu)	University of Malaya (UM) *	GSDL	http://mymanuskrip.fsktm.um.edu.my/Greenstone/cgi-bin/library.exe
19.	UM Research Repository	University of Malaya (UM) *	EPrints3.2.8	http://eprints.um.edu.my/
20.	University of Malaya Students Repository	University of Malaya (UM) *	EPrints3.2.5	http://studentsrepo.um.edu.my

21.	University Tenaga Nasional Digital Repository	Universiti Tenaga Nasional (UNITEN) **	DSpace	http://dspace.uniten.edu.my/xmlui/
22.	IIUM Repository	International Islamic University of Malaysia (IIUM) *	EPrints3	http://irep.iium.edu.my/
23.	OUM iRepository	Open University Malaysia (OUM) **	EPrints3	http://library.oum.edu.my/repository/
24.	UMT IR	Universiti Malaysia Terengganu (UMT) *	DSpace	http://dspace.psnz.umt.edu.my/jspui
25.	Repositori Digital PNM	National Library of Malaysia (PNM) ****	Dspace v3.7	http://myrepositori.pnm.gov.my/
26.	UNIMAS Institutional Repository	Universiti Malaysia Sarawak (UNIMAS) *	EPrints3	http://ir.unimas.my/
27.	e-Imtiyaz @ USIM	Universiti Sains Islam Malaysia (USIM) *	DSpace	http://ddms.usim.edu.my/
28.	UTP Institutional Repository	University Teknologi Petronas (UTP) **	EPrints3	http://eprints.utp.edu.my/
29.	UTP Electronic & Digital Intellectual Asset (UTPedia)	University Teknologi Petronas (UTP) **	EPrints3.3.10	http://utpedia.utp.edu.my/
30.	UTAR Institutional Repository	Universiti Tunku Abdul Rahman (UTAR) **	EPrints3	http://eprints.utar.edu.my/
31.	IAB Repository	Institut Aminuddin Baki (IAB) ****	EPrints3	http://www.iab.moe.gov.my/eprints/
32.	UPSI Digital Repository	Universiti Pendidikan Sultan Idris (UPSI) *	EPrints3	http://pustaka2.upsi.edu.my/eprints/
33.	UUM ETD Repository	Universiti Utara Malaysia (UUM) *	Eprints 3.3.12	http://etd.uum.edu.my/
34.	Respository@UTeM	Universiti Teknikal Malaysia Melaka (UTeM) *	EPrints3	http://eprints2.utm.edu.my
35.	Sunway Institutional Repository	Sunway University College (SUC) **	EPrints3	http://eprints.sunway.edu.my/
36.	UniSZA Institutional Repository	Universiti Sultan Zainal Abidin (UniSZA) *	EPrints3	http://erep.unisza.edu.my/

Legend : * Public university ** Private university *** NGOs, Private organization, etc
**** Government Agency / Special library (Gunasama)

MOSQUE LIBRARY IN CHINA

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ABSTRACT

Perpustakaan masjid telah dibangunkan sejak zaman kerasulan Nabi Muhammad S.A.W. Komitmen tercetus bagi perpustakaan masjid ini kerana kesedaran awal umat Islam pada ketika itu untuk mengembleng segala ilmu pengetahuan yang ada dan menjadikan masjid sebagai institusi ilmu terunggul. Koleksi teks pada ketika itu ditempatkan di masjid, sekolah (Madrasah) dan institusi penyelidikan (Baitul Hikmah). Perpustakaan Masjid terawal adalah bertujuan memberi khidmat keperluan rohani dan Baitul Hikmah telah ditubuhkan untuk menggalakkan lebih banyak sekular pertanyaan sains dan teknologi. Artikel ini menerangkan mengenai Masjid Nanguan yang terletak di bandaraya Xining di China yang terdapat begitu ramai masyarakat Cina. Pada awal penceritaan telah dikaitkan dengan kedatangan Islam ke China sejak zaman Khalifah Umar Al Khattab. Masjid ini bukan sahaja mengandungi koleksi perpustakaan malahan sebagai badan pensijilan halal untuk Wilayah Qinghai yang terletak dalam bidang kuasa Persatuan Islam China. Konsep keseluruhan artikel yang berkaitan perjalanan penulis ke China bertemu dan menemu bual Kedua-dua imam di situ iaitu Imam Ismail Jin Biao dan Imam Ya'qub Ma Yu Shan, penjaga dan tulang belakang di sebalik pembangunan Perpustakaan Masjid Nanguan. Sebahagian daripada Manuskrip Islam di China yang terdapat di Perpustakaan Masjid Nanguan juga diceritakan dalam artikel ini.

Kata Kunci : China Mosque library, Mosque Committee of the Nanguan Mosque, Nanguan Mosque, Chinese LC Classification Scheme

INTRODUCTION

The word Islam or Yi Si Lan (伊斯兰) only started after the establishment of New China. Before, it was known as Hui Jiao (回教), Qing zhen Jiao (清真教) and a few other names. Hui (回) means return or revert while Qingzhen or Qing zhen (清真) means clear and truth where it also denotes halal for food in China. Thus Islam is associated with clear and truthful and its temple (mosque) is known as Qing zhen si (清真寺).² There are fifty-six ethnics in China, and from those fifty-six ethnics, ten of these minority ethnics are associated with Islam and Muslims. The ten renowned Muslim Chinese minority ethnics are, i) Hui,³ ii) Uyghur, iii) Kazakh, iv) Dongxiang, v) Kyrgyz or Khalkha, vi) Uzbeks, vii) Salar, viii) Tajik, ix) Bonan or Bao'an, and x) Tatar.

It is widely acknowledged that Islam comes to China as early as the middle of the seventh century as embedded in the Tang Chronicle. Both the Old Tang Chronicle (Jiu Tang Shu 旧唐书) and the New Tang Chronicle (Xin Tang Shu 新唐书) provide ample historical evidence that the third Caliph of Islam, 'Uthman ibn al-'Affan has sent envoys to China and subsequently established the first mosque in Guangzhou named Huasheng Mosque. The words: 永徽二年, 大食王倣密莫末赋始遣使者, 自言王大食氏, 有国三十四年, 传二世 can be loosely translated as In the second year of Yong Hui Dashi Wang (Dashi Emperor)⁴ sent an emissary Dashi (to China), he said he is the Dashi Emperor (named) Hanmi Momoni (倣密莫末赋)⁵ which we know that the title Amir al-Mu'minin was started by 'Umar ibn al-Khattab and followed by 'Uthman ibn al-'Affan. Mosques were established in various parts of China including the Great Mosque of Chang'an (now known as Xi'an). Just like in all other mosques in the Muslim world, along the way, libraries are also established however small they are. Like the famous University of al-Azhar in Cairo, it started as a mosque and later becomes a university, from the word al-Jami' (الجامع) meaning mosque established for Friday congregational prayer that becomes al-Jami'ah (الجامعة) meaning university.⁶

Except during Tang Dynasty (618-970) Yuan Dynasty (1271-1368), and Kuomintang (1911-1949) Muslims have been severely persecuted by the warlords of the emperors, and continued its onslaught during Song Dynasty (960-1279), Ming Dynasty (1368-1644) and the last of the dynasty in China, Qing (1644-1911) and Cultural Revolution of the New China (1966-1976) where millions of Muslims were killed. Colossal number of religious books and manuscripts were burnt. During the Central Working Committee Meeting held in 1978, former Deputy Chairman of the Chinese Communist Party, Ye Jianying said: The Cultural Revolution has

caused the death of 20 million lives.⁷ In the hot summer of 1968 in the Guangxi Autonomous Region, more than 100,000 anti-revolution Muslims have become the victims where they were chopped to death, and their internal organs are devoured like food on the table spread.⁸

Islam flourishes in the Northwest of China and to date, thousands of mosques are established especially in the two main provinces, Qinghai and Gansu and the two autonomous regions of Xinjiang and Ningxia. Linxia Hui Autonomous Prefecture which is in Gansu Province (Linxia was formerly known as Hezhou Fu) boasts to have more than 2,500 mosques against its population of 250,000 people.

Though differences in thoughts and opinions are not quite alarming but they provide grave impact on Islamic propagation especially among the four main sects, the Qadim or Gedimu (格迪目), the Ikhwan or Yihewani (伊赫瓦尼), Xidaotang (西道堂) and the Salafiyah or Sailaifeiye (赛莱菲也). Majority of the minority Salar ethnic follows the Ikhwan while majority of the Hui ethnic follows the Qadim. There are a handful of Muslims that follow the Salafiyah Movement which can be felt in Hui Autonomous Prefecture of Linxia. Although both Qadim and Ikhwan follow the Hanafi School of Thought in jurisprudence, they could not see eye-to-eye between them and always try to outmaneuver one another.

Qinghai Province is located on the northeastern part of the Tibetan Plateau and rich of ethnic groups, such as Hui, Han, Salar, Tu, Mongols, Dongxiang, Quang, Daheja, Bao'an and so forth. It borders with three other provinces namely Gansu, Xinjiang, and Sichuan. It has deep rooted Islamic history and how this very religion being propagated, and most of the time full of legends especially among the Sufi. While among the Hui ethnic, the origin of Hui comes from the Prophet s.a.w. himself, some from his close companions and other well known sages such as Sa'd ibn Abi Waqqas, Thabit ibn Qays, Uways al-Qarni and even al-Husayn ibn 'Ali; the Salars too have their own legendary origin, from the two brothers Kharaman and Akhman⁹ of Samarkand that came with the white camel and two volumes of the handwritten manuscripts of the Qur'an and later the camel got lost and found it to be turned into stone.¹⁰ The story of the Salar also can be found at the Camel Spring where a stone tablet was etched for the visitors to see. The two main ethnics, Hui and Salar play important roles in developing Muslims and Islam in Qinghai. Even the remote area of Qilian, a town between the borders of Qinghai and Gansu, all restaurants are claimed to be Halal where every restaurant displays a Halal logo at its entrance.

The real manuscripts of the twelfth century Qur'an that brought to Xunhua Salar Autonomous County are kept in a special place while the public can view the replica of the manuscripts at the Museum of the Xunhua Mosque. This is in order to assure the rare and ancient manuscripts of the Qur'an¹¹ are well kept and will not deteriorate against weather, light and human touch.

⁷ "Sifat Pemerintahan Parti Komunis China" dalam *Falun Gong, Pendirian Kemanusiaan Yang Terakhir*.

⁸ Ibid.

⁹ Ma Jianzhong and Kevin Stuart. "Stone Camels and Clear Springs: the Salar Samarkand Origins" *Asian Folklore Studies*, Vol 55: 1996, 288.

¹⁰ Richard Baum, *China Watcher: confessions of a Peking Tom*, (Seattle: University of Washington Press, 2010) The Wild Wild West, p. 193.

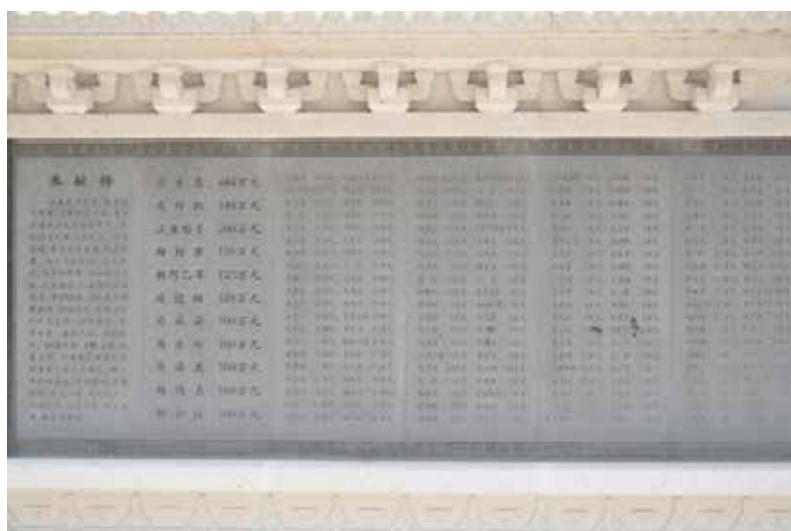
¹¹ Some elders claimed that the Qur'an belongs to the third Caliph of Islam's era that was brought to Samarkand before the manuscripts were brought to Xunhua. The said Qur'an was written without Arabic diacritical marks.

NANGUAN MOSQUE

Xining is the capital city of Qinghai Province, one of the northwestern provinces of China that houses many Muslims. There are a few numbers of mosques around Xining but for Eid and Friday congregational prayers, according to Mr. Han, the Bilal of the Dongguan Mosque, the government only allows them to be held at one mosque, the Grand Dongguan Mosque as there are too many worshippers to control. Besides the Grand Dongguan Mosque, there are Nanguan (南關) Mosque, Shuichengmen (水城門) Mosque, Lian He Cun (聯合邨) Mosque, Yi Ke Yin (穎印) Mosque, Dingzi Lu (丁字路) Mosque, and Xin Cun (新邨) Mosque.



Nanguan Mosque is also a halal certifying body for Qinghai Province which is under the authority of the Muslim Association of China.



Like any other mosques in China, Nanguan Mosque was built by the Muslims of Xining who generously donated their wealth either with money or in kind. Donors poured forth their hard-earned money to build this beautiful mosque so that more Muslims could offer their prayers especially during the holy month of Ramadan. In appreciation for their kind contributions, names of the donors were etched on the wall near the mosque starting from the highest amount (RMB448,000) to the lowest (RMB20,000). The five top donors were Mr Ma

Wenzhong RMB448,000, Mr Ma Zhongkai RMB348,000, Mr Sanya Haji RMB200,000, Mr Yang Shaojun RMB150,000 and Mr Han Ayicao RMB125,000. The names not only motivate others to donate but also showed the generosity of the local Muslims in building their places of worship, to get a place in paradise.

ADVISORY AND CONSULTANCY

Library and librarianship for me run thicker than blood. Although frequenting to China for complimentary health treatments especially for Chronic Kidney Disease (CKD) at several traditional kidney hospitals, this particular mosque, Nanguan Mosque attracts many people and contributors especially among Muslims. Imam Ismail Jin Biao not only prepares lectures to students, the Muslim general public but also a man with vision. He tried his very best to establish a small reading room for the teachers and students to spare their free time to read some articles. I provided both advisory and consultancy not because I was the officer at the Advisory and Consultancy Division of the National Library of Malaysia, but we are duty bound to establish knowledge and resource centres for our Muslim brethren to benefit. Islam promotes knowledge, and its first revelation was about instruction to read.¹²

Both Imam Ismail Jin Biao and Imam Ya'qub Ma Yu Shan, are overseas graduates and discussions about setting up a library seemed to bear fruits when people started to donate books and cash to realise a library for the community. One of the rooms on the top floor of the office building was earmarked for a library.

¹² Al-Qur'an al-Karim, al-'Alaq 96: 1

The Library was officially opened to the public on April 23, 2015 officiated by the Qinghai Provincial Governor of Xining.

THE LIBRARY

Nanguan Mosque (南关清真寺) which is 800 metres apart from the great Dongguan Mosque has the biggest collection of books of all mosque libraries in China. It houses more than 10,000 reading materials both in Arabic and Chinese for the Muslims to use and refer. Just like the Lanzhou Muslim Public Library, the mosque library in Xining is manned by a non-professional library administrator and volunteers. Besides leisure reading, the library is usually used by the caretakers of the mosques around Xining for them to prepare lectures and sermons and part of their Islamic studies and references as well as opens to the public, including non-Muslims.



According to Imam Ismail Jin Biao¹³ of the Nanguan Mosque, it will take some time to complete the cataloguing and arranging of books although there are many volunteers but none of them have knowledge in library and information science. The library needs a proper system and in future when more books are cumulated it would be difficult to manage the library and its holdings. There are also some hand-written Arabic-Islamic manuscripts that need to be curated and preserved but the library does not have the facility like the mosque museum in Xunhua Salar Autonomous Prefecture that not only able to curate and preserve the rare and ancient manuscripts but also provide replica of the said handwritten manuscripts for the public views. The handwritten manuscripts are kept in a special place as we may understand those collections are rare where each has its own historical value especially on the development of Islam in China. The library also keeps some handwritten manuscripts of the Qur'an during Qing Dynasty (1644-1911) which are considered as rare collection. There is a few handwritten manuscripts of the so-called Chinese Qur'an with full illumination but without colophon. Thus it is not easy to determine the exact date of its writing but rather simply said, during the reign of Qing Dynasty which dated from 1644 until its downfall in 1911.

Some of the Qur'anic manuscripts written dated somewhere in the eighteenth century (during Qing Dynasty 1644-1911) were written with some strange words added. For example, Surah al-Fatihah was written wrongly, such as: اللهم لك الحمد يا الله يا رحمن يا رحيم يا مالك يوم الدين (transliteration: Allahumma laka al-hamdu ya Allah ya Rabb al-'alamin, ya Rahman ya Rahim ya Malik yawm al-Din) instead of the normal اللهم والحمد لله رب العالمين الرحمن الرحيم مالك يوم الدين and even Surah al-Baqarah also was wrongly scribed by the scribes in those days, probably the scribes listened to the Chinese way of reciting thus wrongly written based from the reciter who forgot certain words of the Qur'an from his memory instead of copying from the normal accepted version of the Qur'an. Thus Surah Al-Baqarah 2:22 should be written as (بناء وأنزل من)



¹³ An Azhari graduate in Islamic Law. Imam Jin Biao is assisted by Imam Ya'qub Ma Yu Shan, an Islamic University of al-Madinah graduate in Arabic Language.

(السماء ماء فأخرج به من الثمرات رزقا لكم فلا تجعلوا لله اندادا وأنتم تعلمون) yet the scribe wrote as per written in the said manuscript which was probably the confusion by the reciter and the scribe was not well-versed with the Qur'an though he might be able to write the Arabic scripts. The many handwritten manuscripts, especially the Qur'an that are kept in other libraries too should be checked in case there might be some mistakes as per this manuscript. Without verifying the scribe wrote the verses as how he heard the reciter recited the Qur'an. This is rather the only available explanation that I could think of for the mistakes of writing the Qur'anic words.

The good effort showed by the Mosque Committee of the Nangan Mosque such as providing Islamic teaching to both secondary and university students, opening up mosque library to the public without singling out their religion and creed, never gone unnoticed. The government appreciates such an effort by donating an e-book reader for the public to use by the Qinghai Provincial Public Library. The e-book reader will be able to display more than 200,000 books, journals, articles and main news. The e-book can be downloaded using the mobile phones through its mobile phone barcode scanner.



LIBRARY COLLECTION

The library acquires its reading materials through purchase, gifts and exchanges. For Arabic books, majority of the books are donated by students who brought them back to China after finishing their studies overseas while the Chinese books are purchased from the local bookshops and donations from some kind-hearted individuals and Chinese Muslim Association members and organizations. Insofar, only Chinese books are well-read probably because besides Imams (akhund) not many people are able to read Arabic and English. Though some Arab countries may be kind enough to donate some reference Islamic books including the Qur'an and its exegeses and commentaries, collection of authoritative Prophetic Traditions as well as its commentaries by renowned jurists and scholars but the government disallows such a charity as this may bind the library in a certain way to follow the terms and conditions they may regulate and adhere to.



The mosque appoints a library assistant, Mr Ma Qing to manage the library, including documenting library materials and holdings, supervised by Imam Ismail Jin Biao. A man who knows nothing about library and librarianship tries his best to maintain as well as provides library service to the public should be appreciated. From his own initiatives he provides a form to fill in by users should they have opinions and ideas about the

service of the library. So far, as on July 29, 2015 there were about 350 responses he received mostly from students as library users.

Interviews done on July 29th, 2015 showed that the mosque opens its library to all walks of life. Although the library is being utilised by students in the mosque as well as university students, more and more users from the public frequent the library including non-Muslims. Unlike the mosque library of the Malaysian National Mosque adjacent to the praying area, the library of the Nangan Mosque is situated on a separate building where Imams have their offices, lecture rooms as well as rooms for other activities.

ARRANGING OF LIBRARY MATERIALS

The books are arranged according to subject, but without proper classification number or system. Before the collection becomes colossal, the library is in dire need of a proper cataloguing and classification system. Although without professional advice and assistance, the books are well arranged according to the subjects. The Qur'an, its exegeses and commentaries for example are arranged accordingly and then followed by the Prophetic Traditions (al-Hadith Collection). Some donors are kind enough to provide proper bookshelves and cabinets where the books are arranged and kept but no one is allowed to borrow the reading materials. Visitors and patrons can visit and use the mosque library during office hours, before and after praying times, as well when there is a request.

Most libraries in China use Chinese LC Classification Scheme and with my language limitation it is not easy to provide advisory in using Chinese LC, especially to Mr Ma Qing who knows nothing about cataloguing and classification as he has not undergone any library training. Small collection for a public library especially on Islam may be good with Dewey Decimal Classification but it would take ages to train a non-library background personnel to understand the classification scheme within a week. Running between hospital and the mosque though taxed a lot of my time, with personal emails corresponding and advising how to run a with the grace of the Almighty Allah the library was ready by the end of 2014

The library is preparing a proper catalogue for its collections but at a slow pace as the project is being taken by certain persons on voluntary basis. Just like the Muslim (Public) Library of Lanzhou that holds more than fifty thousand Islamic books in Chinese language, its catalogue was mere listing of books without proper classification numbers. Indeed it is better with something than nothing.

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ABSTRAK

Dalam era globalisasi dan kemunculan Internet, mendapatkan maklumat adalah mudah tetapi mendapat maklumat yang tepat boleh menjadi sukar. Teknologi mengubah cara kita hidup, belajar, bekerja dan memerintah. Oleh itu, perpustakaan dan pustakawan memainkan peranan penting dalam membantu masyarakat kita menjadi celik maklumat. Literasi maklumat bermakna lebih daripada mampu untuk membaca atau menggunakan komputer. Ini bermakna mengetahui bagaimana untuk mencari, menilai, dan menggunakan kaedah terbaik, maklumat yang terkini yang ada pada kita dan menggunakannya dalam kehidupan seharian kita. Dalam konteks ini, Perpustakaan Negara Malaysia dengan pembiayaan daripada UNESCO telah membangunkan Media Negara dan Modul Literasi Maklumat pada tahun 2011 untuk merapatkan jurang celik maklumat. Modul ini terdiri daripada tiga peringkat iaitu peringkat asas, pertengahan dan lanjutan dan dilaksanakan melalui program-program kemasyarakatan. Sehingga kini, lebih daripada 100 bengkel literasi maklumat telah dijalankan dan lebih daripada 8,000 orang di seluruh Malaysia telah dilatih dalam kemahiran mencari maklumat untuk meningkatkan kualiti hidup mereka. Kumpulan sasaran termasuk pelajar sekolah, penuntut universiti dan kolej, penduduk kampung, kakitangan awam, profesional, guru perpustakaan sekolah, orang-orang cacat dan lain-lain tanpa mengira latar belakang sosial dan pendidikan mereka. Keberkesanan bengkel literasi maklumat diberi nilai dengan menjalankan ujian kemahiran literasi maklumat ke atas peserta sebelum dan selepas bengkel. Hasil kajian menunjukkan bahawa peserta dapat mencari, akses dan maklumat dengan peralatan yang betul dan teknik selepas bengkel. Oleh itu, walaupun keupayaan untuk membaca masih merupakan teknik asas, ia masih tidak mencukupi. Kemahiran literasi maklumat pada hari ini merupakan kemahiran yang penting dalam ledakan maklumat hari ini. Perpustakaan dan pustakawan memainkan peranan yang semakin penting dalam membina masyarakat yang celik maklumat untuk kemajuan mampan.

KATA KUNCI : Information literacy, Information literacy and media, User education, Library instruction

1.0 INTRODUCTION

The Malaysian government aspires to build a knowledge-based society by making it mandatory for the people to have problem solving skills and be information literate so they can be productive in developing the country's economy. Thus, Vision 2020 was launched in February 1991 and one of its challenges is to create an information rich society that is fully able to adapt, innovate and invent in order to become a scientific and progressive society. Knowledge-based society would require great effort by the whole nation to inculcate information values and provide the necessary infrastructure and education in all aspects. Malaysia Knowledge Based Economy Plan indicates that the most critical and valuable asset for the K-based economy is educated and skilled human resources in generating and sustaining growth. However, the relatively low level of information literacy posed a barrier to achieve a knowledge-based society in Malaysia. Without the ability to locate, evaluate and use information effectively, Vision 2020 may be unsuccessful. Thus, libraries and librarians have a key role to play in helping our communities become information literate for sustainable advancement in the country. In fact, some scholars have suggested that the digital divide between the developed and developing world has widened because of the lack of information skills in developing countries (Dewan, Ganley, & Kraemer, 2005). Without information literacy, developing nations may continue to under utilize the technology that is provided (Pejova, 2002), resulting in a waste of resources with potentially serious repercussions for their development.

2.0 DEFINITION OF CONCEPTS

2.1 Information Literacy

Information Literacy is the term that we have been hearing for several decades. However, without a clear definition that everyone acknowledges, we have no roadmap to begin the journey to achieve an information literate society. American Library Association defined information literacy as a set of abilities requiring individuals to be able to recognize when information is needed and have the ability to locate, evaluate and use effectively the needed information (ALA, 1995). The Association of College and Research Libraries (ACRL) (2000), define information literacy as the set of skills needed to find, retrieve, analyze, and use information. The ACRL has created a set of standards that outline in detail the skill needed to be information literate. According to US National Commission on Library and Information Science, information literacy encompasses knowledge of one's information concerns and needs, and the ability to identify, locate, evaluate, organize and effectively create, use and communicate information to address issues or problems at hand; it is a prerequisite for participating effectively in the Information Society, and is part of the basic human right of lifelong learning.

2.2 Media And Information Literacy

UNESCO's Information for All Programme (IFAP) based on Alexandria Declaration of 2005 defined media and information literacy as the capacity of people to recognize their information needs; locate and evaluate the quality of information; store and retrieve information; make effective and ethical use of information and applies information to create and communicate knowledge (UNESCO, 2009). Over the years, the concept has become increasingly important, especially with the explosion of information and new media emerging in this era of globalization. In practice, initiative in information literacy are growing and shifting, due to fast changes in information technology and users' expectations and growing needs. It is not surprising then that information literacy currently also subsumes digital literacy, computer literacy, and even skills needed to use the Internet effectively. This also involves showing the users how to navigate the information jungle by providing regular, updated courses or lectures related to information literacy.

3.0 OVERVIEW OF INFORMATION LITERACY SCENARIO IN MALAYSIA

3.1 National Library of Malaysia Information Literacy Programmes

As stipulated in the National Library Act 1972, one of the National Library of Malaysia's (NLM) functions is to promote and facilitate the inculcation of the reading habit among Malaysians. Although the ability to read is still a basic survival, it is no longer enough. Information literacy skill is now a critical life skill in today's information explosion. Information literacy means more than being able to read or use a computer. In this era of globalization and the advent of the Internet, getting information is easy but getting the right information can be difficult. Technology is changing how we live, learn, work and govern. It means knowing how to find, evaluate, and use the best, most current information available to us and use it in our everyday life. Thus, NLM has a key role to play in helping our communities become information literate.

3.2 National Reading Promotion Programme

In this context, the Information Literacy Division was set up in 2002 to inculcate reading habits of Malaysians by planning and coordinating reading and information literacy programmes throughout Malaysia. NLM as the National Reading Promotion Secretariat collaborated with various government agencies, Government Link Companies (GLC) and Non Governmental Organizations (NGOs) to implement its reading promotion programmes throughout the country in order to inculcate reading habits and information searching skills among Malaysians. Most of the activities and programmes are carried out in collaboration with other libraries, agencies and NGOs. NLM also have smart partnership with relevant organizations such as Government Hospitals through "Lets Read My Love" Programme, the Malayan Railways through "Travel Far Widen Knowledge" Programme and the Prison Department "You Are Still In My Heart" Programme. All the programmes are based on the "1Malaysia Concept" which forms the basis of unity in this multi racial country. A total of 7,010 "Lets Read

1Malaysia” Programmes which include the donation of books, reading promotion activities, information and media literacy workshops were carried out throughout the year. A total of 270,580 people consisting of senior citizens, adults, teenagers and children participated in these programmes.

4. MEDIA AND INFORMATION LITERACY MODULE

4.1 National Library of Malaysia Media and Information Literacy Module

However, due to the absence of a National Information Literacy Module, NLM obtained a grant of RM20,000 (USD7,000) from Malaysia National Commission for UNESCO to formulate the National Information Literacy Module and conduct a Training of Trainers Workshop on Media and Information Literacy in 2011. Twenty five participants from the various public libraries in Malaysia attended the workshop. The Media and Information Literacy Module was launched in December 2011 which consists of an Introduction and six (6) modules consisting of Module 1: Identifying Information Needs, Module 2: Effective Information Searching, Module 3: Information Evaluation, Module 4: Information Management, Module 5: Ethical Use of Information and Module 6: Information Dissemination. The modules are taught at basic, intermediate and advanced level according to the participants’ educational background.

4.2 Information Literacy Subject Matter Specialist (SME) Group

Information Literacy Subject Matter Specialist (SME) group which consists of librarians at the NLM was formed in 2010 and trained as information literacy specialists to conduct information Literacy Programmes. The group attended the Training of Trainers (TOT) workshop on the effective techniques of information literacy. Their responsibility includes facilitating information literacy participants to acquire knowledge and skills in information literacy.

4.3 Workshop/ Training/ Refresher Course on Media and Information Literacy

NLM has been playing an important role in information literacy programmes and conducts workshop and refresher courses on Information Literacy. Community Outreach Programmes were given a new approach and rebranded as Media and Information Literacy Programmes in 2010. It provides training on information skills especially on the searching and retrieving techniques. The Workshop on Searching Techniques and Information Packaging was initiated with the selection of three (3) secondary schools in six (6) readily available communities as pioneer projects. All three pioneer projects have proven to be very popular with tremendous response. Among the activities is information literacy skills hands-on exercise, quiz and group activities. Beginning 2011 to 2014 the Media and Information Literacy Programmes has moved forward at a larger, scale by collaborating with 164 smart partners which include schools, teacher training college, hospitals, government agencies and other institutions.

Table 1: Number of Media and Information Literacy Programmes Conducted

Institutions/Agencies/ Communities	2011	2012	2013	2014	Total
Schools	22	32	10	20	84
Higher Education Institution	-	5	8	8	21
Libraries	-	8	10	8	26
Government Hospitals	-	2	1	2	5
Government Agencies	-	2	3	5	10
Private Agencies(Banks, Private Hospitals)	-	1	2	1	4
NGOs (Malaysian Writers Association, Wives and Women Public Servants Organization)	-	1	1	1	3

Public Communities (Housewives, farmers, pensioners)	-	3	3	1	7
Prison	-	1	1	1	3
Army	-	1	-	-	1

Table II: Number of Participants in the Media and Information Literacy Programmes

Year	2011	2012	2013	2014	Total
Participants	1,468	3,199	1,695	2,195	8,557

A total of 8,557 participants from the different categories as in Table 1 participated in the Media and Information Literacy Programme.

Table III: Analysis of the Effectiveness of the Information Literacy and Media Programmes Conducted by the National Library of Malaysia

Participants	Information Literacy Skills							
	Before				After			
	I	R	L	S	I	R	L	S
Doctors	Medium	Medium	Medium	Medium	High	High	High	High
School Students	Low	Low	Low	Low	Medium	High	High	Medium
Higher Institution Students	Medium	Medium	Medium	Medium	High	High	High	High
Librarians	Medium	Medium	Medium	Medium	High	High	High	High
Government Servants	Low	Medium	Medium	Low	Medium	High	High	High
Private Staff	Low	Medium	Medium	Low	High	High	High	High
NGO Staff	Medium	Medium	Medium	Medium	High	High	High	High
Inmate	Low	Low	Low	Low	Medium	Medium	Medium	Medium
Army	Medium	Medium	Medium	Medium	High	High	High	High

Participants were given an evaluation form before and after the completion of the programmes. The analysis in Table III is based on the participants' feedback collected through an evaluation form based on the various aspects as represented by a letter as follow: Recognising information searching technique (I); Locating and evaluating the quality of information (R); Storing and retrieving information (L); Effective and ethical use of information (S). 'High' in the table means that the information literacy aspect is being addressed by the programmes to a great extent. 'Medium' means that the information literacy aspect is partially addressed. 'Low' means that the aspect of information literacy is being poorly addressed. Overall, it can be deduced that the Information Literacy and Media Programmes Conducted by the National Library of Malaysia has been successful and effective in raising their information literacy skills.

5. SUPPORTING PROGRAMMES FOR IMPLEMENTING INFORMATION LITERACY IN MALAYSIA

5.1 User Education Programme

Besides conducting outreach Information Literacy Programme, NLM also conducts User Education Programme for its users to expose them to reference sources and techniques to access information available in NLM. Participants from secondary schools students and several other institutions in Klang Valley took part in the user education programme. Implementation techniques include briefing, information literacy skills hands-on, quiz and visit to various divisions in NLM such as The Centre for Malay Manuscript, Malaysiana Information Centre and Preservation Division.

5.2 Seminar on Media and Information Literacy

NLM hosted a Seminar on Media and Information Literacy: Catalyst For Life Long Learning on 27 March 2013 in conjunction with the 21st CDNLAO Meeting. Delegates from Bangladesh, Fiji, China, New Zealand and host Malaysia presented papers in this seminar. Further details can be access via CDNL_AO website <http://www.nld.go.jp/en/cdnlao/newsletter/index.html>

5.3 PNM Digital Portal (www.pnmdigital.gov.my)

National Library of Malaysia has developed PNM Digital Portal which consists of electronic resources and online databases. Among the databases in this portal include Encyclopedia Britannica Online (Library Edition), World E-Book Library, Credo Reference, EBSCO Host, e-Brary, BERNAMA Library and Infolink Service (BLIS), Overdrive, Zinio e-magazine, Library Press display, Emerald Management Xtra, iG Library and Score A Programme. The total collection of e-books subscribed by NLM is more than 3 million and can be access onsite and/or remote location by registering as a online member.

5.5 Information Literacy Programme Conducted By State Public Libraries

Harding (2008) stated that “public libraries are the ideal place and have capabilities to manage information development and helps users learned to find, use and evaluate information. Public library also plays an important role in bridging the digital divide between those who have access to the internet and those who don’t have internet access.” Edzan and Mohd. Sharif, (2005) stated that “public libraries in Malaysia are also actively inculcating information literacy skills to the public through various means. Programmes such as information skills or information literacy workshops and related activities such as information hunt and talks have been organised and targeted for schools, government and private agencies and the general public”. Based on the observation of the official website of public libraries in Malaysia and interviews with the staff, most of the libraries have information literacy unit to implement the programmes. Public libraries offer information literacy programmes to all their registered and non registered members including student and adults. Implementation of every information literacy programs are quite similar and usually been conducted during schools holidays. Among the activities conducted were user education, information literacy workshop and reading campaign. The information literacy module are categorized into three segment; basic, intermediate and advanced module and topic cover both printed and non-printed materials based on the module developed by the National Library of Malaysia.

5.6 Information Literacy Programmes In Higher Education Institutions

Most of the academic libraries in Malaysia especially the university libraries have taken initiatives to enhance their students’ information skills. The nature and extent of the initiatives however varies, with some being compulsory structured course while others are voluntary sessions. The objective of these programmes is similar; that is to develop students with appropriate competencies and skills for information management. This to ensure students have the ability to recognize their needs of information management, having the knowledge on how to locate the information, retrieve, and use the information that they had obtained. Mohd. Sharif, N.N. Edzan and A.N. Zainab, 2005 in their paper reported that various assessment methods have been used in public universities for their information literacy courses. In Malaysia, university libraries have been conducting, in one way or other, courses under the umbrella on information literacy (Che Norma, 2004). These courses can be categorized as:

- (a) Orientation for all new undergraduates/post graduates
- (b) Optional information skills programs for final year undergraduates
- (c) Specialized information skills programs such as use of databases and internet searching skills
- (d) Compulsory information literacy/skill courses which are accorded academic credits
- (e) Information literacy course accorded credits at the same level as other electives under co curriculum.

At the completion of the programmes, students' feedback is collected through an evaluation form. Only the courses conducted to earn credits are evaluated from the students' ability to perform certain tasks through tests, work sheets and final examinations.

6. RECOMMENDATIONS

Our research indicates that most Malaysians are not aware what information literacy or knowledge-based society mean. This is the recommendations to improve information literacy skills among Malaysian society:-

- (a) Awareness on the importance of information literacy should be provided in various Malaysian vernaculars. Library and media teachers need more training and embedded information literacy in school syllabus.
- (b) Promote the development of information literacy-based curricula in education involving the collaboration of faculty, librarians and administrators especially in Teacher Training Institution, Polytechnics, Matriculation College and Community College.
- (c) Staff training is the important element of effective information literacy. Library staffs need to improve their IL and teaching skills in order to educate more people to become information literate. Staff should be given the opportunity to attend more seminars and courses in information literacy to enhance their skills
- (d) Collaboration with other organizations and institutions to promote IL education to reach more people who were in need. Library should built partnerships with local organizations to provide free IL training opportunities outside the libraries and people can attend IL training courses at village libraries, community centers, schools and others public organizations.
- (e) The development of information literacy in Malaysia is relatively slow. There is a need to have a clearer vision to make information literacy programmes acceptable and feasible to students, teachers, academics, administrators and policy makers. A National Information Literacy Agenda (NILA) need to be formulated which could be used to plan, implement and evaluate information literacy programmes. NILA will be able to provide a framework that will include the principles, standards and practices that will support information literacy education in all sectors. All parties or stakeholders who are directly or indirectly involved with any form of information literacy initiatives at any level must come together and established NILA and a task group must be form to implement this. (Edzan N.N., M. Sheriff, 2005). The committee should consist of representatives from the Ministry of Education to represent the schools and higher institutions, the National Library of Malaysia, Librarians Association of Malaysia, public libraries and also private institutions that have the responsibility for the delivery of information literacy programmes.

7. CONCLUSION

Information explosion era has changed the way people received, processed and stored information. It also creates new information or knowledge and the way of communicating this information to others. An information literate society needs human capital that have the ability to transform information to a new knowledge and in turn contribute to the sustainable advancement of the nation.

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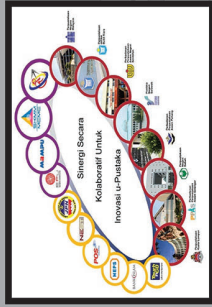
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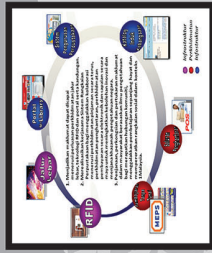
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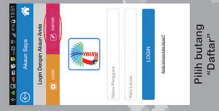


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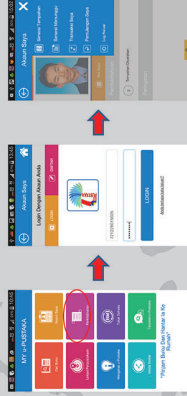


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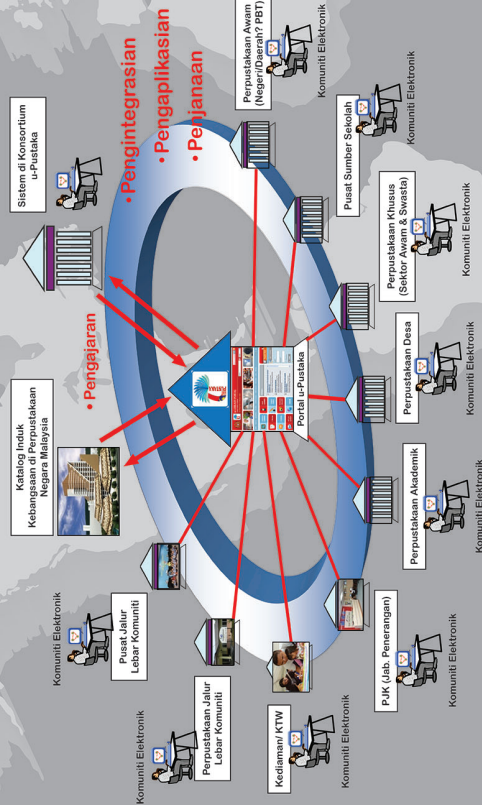
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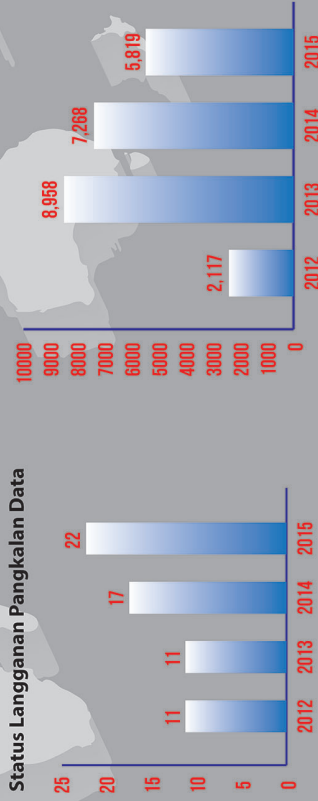


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