



ICOLIS 2014

LIBRARY

**OUR STORY, OUR TIME,
OUR FUTURE**



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Faculty of Computer Science and Information Technology
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The Google generation, the mobile phone and the 'library' of the future: Implications for society, governments and libraries

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ABSTRACT

The Google Generation, the born digital, are arriving at universities and workplaces as I write. They arrive with very different, challenging information seeking and reading styles and equipped with mobile devices, their own trusted 'libraries', and will undoubtedly have a big impact on the libraries and organisations they encounter. The paper looks at the data that are emerging about the 'mobile' Google Generation and the (fast) way they seek, view and use information and sift through it to see what it means for libraries, government, society and culture. Some of the questions the paper poses and answers are: What do the runes tell us? Are we witnessing the perfect storm? Are witnessing the end of society/culture as we know it and is it curtains for libraries?

Keywords: Digital natives; Digital information consumers; Online information seeking behaviour; Online reading behaviour; Mobile communication

INTRODUCTION

Not so very long ago, in 2008, the CIBER research team (<http://ciber-research.eu>) surprised information professionals and the media with revelations of what the newly dis-intermediated (born digital) Google Generation were up to in the virtual, unmediated information space (Rowlands et al. 2008). The 'Google generation' is a popular phrase that refers to a generation of young people, born after 1993, that have been brought up in a world dominated by the internet and now championing the mobile device. They had thrown the information seeking and reading manual out of the window; they were doing things very differently (and fast), some of these things were regarded as distinctly bad practice and challenging for parents, teachers, and librarians and (going to be) for employers and society. Further revelations from neurologist and cognitive psychologists told us these changes we had witnessed in the web logs were no passing fad but were becoming hard-wired in people's brains. This behavior then was here to stay and it was not deviant behavior, but the behavior of the digital consumer.

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But we have seen nothing yet, the fires the Internet started are being fanned. With information professionals, teachers and parents having barely taken breath and stock, another revolution is on us, and this one has a much greater weight behind it. It will sweep all before it. We might have briefly felt we were ahead of the curve and now we are well behind it. The smartphone/tablet has swept all with it and information seeking and reading has gone mobile. Alarm bells are ringing, especially in academe and libraries. And if they are not, they should be.

The first transition, from the physical to the digital environment, transformed the way the young and not so young sought, read, trusted and consumed information, but the environment in which these activities were conducted had not really changed – it was still largely in the library/office/institution, and on a device primarily designed for the desk and the institution-bound.

But by this year, according to the pundits, the mobile device becomes the main platform for accessing the web and this means that we are all ‘untethered’ in information terms and this has huge implications for purveyors of physical information and services. Searching and reading now takes place in the social space, and often on the hoof; in Starbucks or the pub rather than the university library. This, as we shall learn, will take fast and abbreviated information seeking and reading to a completely different plane. The combination of the Google Generation hitting the job/academic market and the newly arrived smartphone/tablet becoming the main platform for digital information seeking could mean the end of culture as we know it and, possibly, curtains for libraries as we know them now. The second digital transition – much bigger than the first, has arrived and few of us are prepared for the ‘hit’.

The basic characteristics of (fast) digital information seeking and reading behaviour

As mentioned previously, the foundations of new-age digital behaviour are already in place on which mobile-induced behaviour will build, so it is worth going over its characteristics first. Digital information consumers love choice and looking around for information. Most of whom are what we might call ‘bouncers’, viewing only 1-2 pages from the thousands available on a website and promiscuous too in the sense that many do not return to a site. One-shots: one visit, one page and a tiny dwell time, counted in seconds rather than minutes, are the dominant user group. This probably is not what we thought would happen. This behaviour can be explained by:

- a) The fact that digital consumers are connected to the ‘big fat information pipe’, the Internet, every day of the year, every waking hour of the day. This engenders an ‘always on’ snacking form of behaviour towards information consumption.
- b) Search engine searching, the dominant form of searching, is all about the production of lists from which consumers have to decide what is best for them and they do this by cross-checking and then there are the hyper-links which enjoin them to go elsewhere. So you they are always jumping around and on the hop.
- c) The massive and changing choice of what is on offer means that users always have somewhere new to visit.

The Google generation

- d) The fact that there is now so much rubbish on the web as every Tom, Dick and Harry decide to air their views and disseminate their publications. So users are always rejecting material as they navigate the web.
- e) Poor retrieval skills on the part of the disintermediated digital consumers. The average query contains 2.2 words and that is to search the global information space. Therefore it is no surprise that people get more than they want and reject a lot of what they see.
- f) Users forgetting where they looked last and what they looked for: they leave their memories in cyberspace and go to Google to try and find it; this adds to 'churn' rate.
- g) End-user checking, people doing it themselves and not being good or practised at evaluation so they tend to sample, creating a bouncing form of behaviour.
- h) Much of the time when people are online they are doing several things at once; this of course is multi-tasking, something psychologists is much more pleasurable than doing just one thing at once. This of course means that they are always moving from one thing to another.

Within this general pattern of digital consumer behaviour that for the Google Generation have these characteristics (Nicholas 2010):

- They have the greatest appetite for fast information and skittering
- They are the quickest searchers and spend least time on a visit – a fraction of time spent by adults.
- They are the least confident about the results of their searches. This lack of confidence is explained by their behaviour: they tend to choose the first one up on the hit list (regardless of relevance), view fewer pages and domains and undertake fewer searches. They also put in much less effort, with the first past the post approach endemic.
- They construct search statements which are much closer textually to the questions posed, making them, not just the fast food generation, but also the 'cut and paste' generation. As for multitasking, at which they are supposed to excel, they do it a lot, but not very well.

Thus the technology is fast forwarding the Google Generation from a world where the focus was on knowing something well to a world where you will know many things, but not very well or deeply. There is an important message for educators and libraries here. In general then, in information seeking and reading terms, the horizontal has replaced the vertical, deep reading is 'out' and fast viewing is 'in'. The tendency is to 'skitter', moving rapidly along a surface, with frequent light contacts or changes of direction. Another way of putting it is that users 'power browse'. Nobody appears to do much deep reading, certainly not what is traditionally thought to be reading (reading whole documents). A read online can mean that just 10-15% of a document is read (Nicholas et al. 2008). Web logs tell us:

- Users might go online to avoid reading; much preferring to look and watch.
- As mentioned only a few minutes is spent on a visit and 15 minutes is a very long time.
- Shorter articles have a much bigger chance of being used; as a consequence short story books are being designed especially for the digital universe.

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- Abstracts, the ultimate information snack, have never been so popular and people like them so much they want them refereed and it has been proposed that publishers give away PFDs and charge for the abstract.

Thus fast information, like fast food, has won the digital day. The information snack/bite has replaced the three course meal (the whole document). We have all been conditioned by emailing, text messaging, tweeting and PowerPoint to like fast shots of information. Mobiles, of course, are the ultimate form of take-away.

The benefits, impacts and implications of mobile information provision

They are legion so we need to think long and hard:

- Mobiles mean that information needs can be met at the time of need, rather than having to cold store the need until you reach the office, library or home. And probably they will be forgotten then by then or, maybe, time just ran out on them because you could not respond straightaway. This of course means more needs can be met, but perhaps not always as well. There has to be a trade-off.
- 'Big deals' provide fantastic access to information to a privileged few (those behind the university walls) however an information level-playing field is will be with us soon. This is because mobiles provide access to masses of information to everyone and anywhere; and, open access is increasing its haul. In a couple of years from now more than 80% of journal articles could be open access in the UK, because of UK Government and European Union policies and mandates. For the pragmatic smartphone users 80% means everything will be available. It could be argued that libraries are guilty of giving away what was once regarded as the 'family silver'. Certainly their monopoly of provision is over.
- Smartphones are, above all else, powerful social media devices, which *also* stride the two major information worlds, informal & formal communications. This is even more important given the growing importance of the social media as sources of scholarly information. All this in something that slips into your pocket. In contrast publishers have been trying hard (but not really succeeding) to marry the two worlds on their websites and libraries have similarly been unsuccessful.
- Mobile devices are an increasingly intrinsic part of the digital consumer purchasing process – used to search for information prior to purchase, during the transaction process itself and to make purchases. This, of course, means that they lend themselves to paying for information content, albeit for micro-payments or apps.
- Users appear to trust the mobile phone more than any other form of information and communication technology and presumably this includes the library (Srivastava 2005). Just as they now trust the librarian's great hate figure Google (Nicholas et al. 2014). This invests them with the qualities that libraries, television and newspapers once provided in the way of a trusted intermediary.
- Smaller screens, albeit with high resolution, and different ways of interacting (via touch screens and voice recognition rather than keyboards and mice) has a big impact on use. Going from typing to touching/stroking is going to mean less in the way of precision, detail and personalisation in information seeking behaviour. And of course – a really important difference - smartphones are not computational devices but access devices.

- They are social, personal, cool and massively popular. A very heady cocktail indeed and a long way from institutionally provided tethered computers.

Mobiles devices therefore have a huge potential to:

- Draw in a larger and more diverse audience for scholarly information, because of their wider-reach, accessibility and user-friendliness.
- Further change the nature of information seeking behaviour and to do this for billions and billions of people.

However, despite the considerable challenges for all stakeholders in the information industry, we really know very little about (a) how users behave in the mobile environment; b) how different this behaviour is from that associated with laptops and desktops, which most libraries are built on; and (c) what we have to do in the way of changing our offerings.

For young people mobile devices mean even more and they are the new wave. So listen carefully, ask a young person about the library and they will point to their mobile phone. It is surely ironic that the phone once banned from libraries has become the library.

Snapshots of mobile device use and information seeking behaviour

A study of the digital footprints left behind by users of the Europeana digital culture platform (<http://www.europeana.eu>) a year or so ago provides some new and interesting insights into mobile information seeking behavior (Nicholas and Clark 2013). More than 150,000 unique mobile users accessed Europeana in six 6 months. Usage has shown a staggering rise of nearly 400% over six months, admittedly from low base. Mobile usage is growing 5 times as fast as that of tethered or 'fixed' devices. A typical mobile visit at just over a minute hardly a long time anyway, is actually 10 seconds (13%) shorter than a visit to the same site for a fixed-computer user. What can you do in that time and there is no printing off or much downloading for later going on. The majority of Europeana visitors (52%) are 'bouncers' who only view a single page, very likely having been swept there courtesy of a general search engine such as Google. A high proportion will never return, but that is not to say that they may not have extracted valuable facts or information from that visit.

Information seeking is very lite. Visits from mobiles were much less interactive than those from tethered platforms: fewer records/pages were viewed, fewer searches conducted and less time spent on a visit. Information seeking and viewing behavior not unexpectedly perhaps was fast and fleeting, with very little browsing going on. Of course, this is largely because of the relatively small real estate of the device, the fact that it is being used in a 'noisy' environment where other things are going on and activities cannot be undertaken comfortably.

Mobile use is personal use, and happens often in the evenings and on weekends; it occurs in the home or 'anywhere but the office'. Searching and reading has clearly moved into the social space. Information seeking and reading has been time-shifted. It is about consuming content not creating it.

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Over 90% of visitors used Apple Mac devices to access the platform; iPads constituted the vast majority. Recent advances in android devices are likely to change this dominance. There were significant differences between types of device. The limited screen real estate and slowness of the Blackberry, no doubt, contributes to the abbreviated searching and viewing on the advice. The iPhone, possibly the most iconic and popular smartphone shows a somewhat less abbreviated style, but still abbreviated by contracts with traditional laptops, and the iPad generates metrics closer to desktops/laptops. In the case of all the devices little depth research was on show.

More recent data from a 2014 unpublished study of an e-cancer website shows mobile use to be still rising at very high levels (nearly 130% in the most recent year), but it is now smartphones that are the preferred mobile platform.

Picking up on our fast food (information) analogy, mobile devices are providing the ultimate information take-away with all the evidence showing that we use them for information bites and snacking – more bouncing, more new visits, shorter visits and simple and less productive searching are a feature of their use. More seriously perhaps, mobile users are more promiscuous.

Implications for society and libraries

What has been described in this paper constitutes another massive migration to the digital world and another big round of disintermediation. What then are the implications for society? They are in fact very serious indeed and touch every cornerstone of our society. The Internet and the mobile device could actually be making us stupid (Carr 2010). The propensity to rush, rely on point-and-click, first-up-on-Google answers, along with unwillingness to wrestle with uncertainties and an inability to evaluate information, could keep us stuck on surface of 'information age'; not fully benefiting from 'always on' information. Skittering could impact negatively on established skills as it chips away at capacity to concentrate and contemplate. Maybe McLuhan's universe of linear exposition, quiet contemplation, disciplined reading and study was an ideal which we all bought into and developed services around. But just maybe we always wanted to skitter and power browse and did so when we could (out of view) and the Internet has liberated and empowered us. The significance of this is that today the opportunities for skittering are legion and this creates more skittering and the pace is not letting-up (see the success of twitter). Skittering has a place but could we survive on it alone?

Add in the fact that our memories are actually shrinking as we cannot even bother to remember anymore because, researchers explain, that the Internet acts as a "transactive memory" which we depend upon to remember for us (Palmer 2011) and it is clear that things are getting rather worrying. The computer science guru, Alan Kay, believes that the situation we are in is largely explained by the fact that "There is the desire of a consumer society to have no learning curves. This tends to result in very dumbed-down products that are easy to get started on, but are generally worthless and/or debilitating". But who is going to blow the whistle of apply the handbrake? Certainly not Google, the Information Service Providers or Smartphone manufacturers; nor Governments too it seems.

What of the implications for libraries and especially academic ones, who seem to be holding the fort for the profession? They have tried to join the general debate and address the big societal concerns but when librarians intercede with their talk of digital/information literacy they are seen as people who would say that anyway (set in their ways) and appear very uncool.

Libraries also have a whole range of specific problems of their own which they are yet to really address. Their users' information horizons, once bound by the library, are not anymore. In information terms the user has narrowed the access gap. User now generally do not see libraries as the point of entry to the information they are looking. Somehow the introduction/adoption of federated search systems, while a step in the right direction, is unlikely to be the solution.

In fact libraries are increasingly perceived as *incomplete* sources of information and scholars are increasingly less likely to trust librarians to make the critical decisions on what is and what is not in the walled garden on their behalf. The library is also no longer the gatekeeper for, and sanctuary of, trustworthy sources. The trusted 'big fat information pipe' is no longer the publisher platform or the library catalogue/website; it is the Internet, Google and huge third part sites, such as PubMed and Scopus. On top of that Google Scholar and the social media are creating a new value proposition by providing citation and other (alt) metrics so users can form own views on what is a good, so compensating for lack of library advice.

Libraries badly and urgently need to articulate a value or rationale for their collections in a borderless information environment. Access, snacking opportunities and convenience are King, the adage content is King has been kicked into the long grass. This has significant implications for collections based services such as libraries. Libraries are increasingly being viewed in a nostalgic fashion.

While they are agonising about all this the mobile device might disconnect them from the young and future scholar. Between a rock and a hard place comes to mind.

What then of the future library? In fact academic libraries managed the first virtual transition quite well really, they took leadership and it largely enabled them make their products more accessible. The second transition however is a much tougher nut to crack, because in football parlance it's an away game on the users' turf. Libraries lack control of events and their 'users' are remote and anonymous. Usage is occurring everywhere, but less and less so in the library. It is very ironic that this should be happening because not so very long ago the 'phone' was banned from libraries. This could be pay-back time!

There is really no point in trying to turn the tide because it is being driven by a tsunami, instead there is a need to go with the flow. Librarians, just like publishers, need another value proposition. In the latter's case they have moved away from being the warehouse and distribution centre for documents that they have become and moved to being much more author-centric, returning to their roots. Some libraries have learnt from the publishers experience and expanded their portfolio of activities, for instance, moving to research and its evaluation. There are now university bibliometricians coaching academics how to improve their impact and reputation; they are also becoming involved

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in Open Access payments and the management of institutional repositories. There are still the 'old' books and manuscript collections to look after. Information literacy could work if embedded in educational programs, and if it's strictly pragmatic in its aims and undertaken with the smartphone in mind. And if you cannot beat them join them, so why not work with publishers and not against them? Of course, nobody believes this will fill the huge gap left by the flight of users and documents to the disintermediated social space, libraries will just have to downsize.

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Public libraries – challenges and opportunities for the future

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ABSTRACT

Public libraries were established by means of taxes and overseen by governing bodies to provide equitable, optional, access to books or physical artefacts free of charge for everyone. Their basic characteristics have not changed but the services and how they are provided has been reinvented many times since the 19th century. Today the challenges facing libraries are profound. Continued technological advances, increased competition, demographic transformations, and financial constraints are putting huge pressures on libraries to innovate and to re-examine the services they offer. This paper examines these and the opportunities for future public library provision.

Keywords: public libraries; future; challenges; opportunities; innovation

INTRODUCTION

I would like to express my thanks to Kiran Kaur Gurmit Singh and the conference organisers for inviting me to give the keynote address at ICOLIS 2014. It is a great privilege for me to be here. All libraries, but particularly public libraries, are facing dramatic change and new challenges in the 21st century, providing us with exciting opportunities to reshape services. The theme of this conference – Library: our Story, our Time, our Future – encapsulates the vision of how public libraries have evolved, shaped by their past, how we are responding to the needs and challenges today, and how we need to prepare for the future. This address looks at the time line for public libraries with particular emphasis on the challenges now faced by librarians, novel responses to these, and what the future may hold.

OUR STORY

Providing public access to books is not new. The Romans provided access to scrolls in the dry rooms to the users of baths and tried to promote and establish libraries throughout their territories. However, the concept of public libraries, as we know them today, was slow to develop. It was not until the development of the printing press, moveable type, paper and ink, and the establishment of the publishing industry that books could be produced in any sizable number. Prior to the 18th century, books were still very expensive to produce and, although there were libraries, many were not open to the general public and books could only be used for reference purposes as they were often chained to desks to prevent theft. After this time, libraries in the UK, Europe and the US, became increasingly more public and able to offer books to borrow (Predeek,

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1947). Institutions, like the Mechanics' Institutes in the UK, opened their doors to the public through subscription or by membership. Also, it is around this time that booksellers and publishers, recognising the commercial opportunities, established the concept of circulating libraries and social centres. These provided the means to sell books and to lend both reference and fiction books for a charge. A subscription fee was charged to entice the continued use of the library and the other commercial activities that were often also provided. For example, the mid-19th century, England and Scotland had 274 and 266 such subscription libraries respectively (Raven, 2006).

During the 19th and 20th centuries, public libraries, offering free, open access to all citizens, grew rapidly in the West, largely as a response to the industrial revolution which caused great social and economic changes. In the UK, the Public Libraries Act of 1850, which allowed local councils to levy a rate of one halfpenny in the pound on taxpayers in order to pay for a library building, its upkeep and staff salaries, was largely as a result of the elite recognising the need for working classes to be educated and for them to be lured away from public houses and drink (Murrion, 1988, Hayes and Morris, 2005).

The first public libraries were often founded by donations, or were bequeathed by the wealthy to towns, parishes, churches or schools or towns (Katz, 1995). Many philanthropists, such as Andrew Carnegie, John Passmore Edwards and Henry Tate, helped fund large numbers of public libraries in different countries. Between 1883 and 1929, for example, 1,689 Carnegie libraries were built in the United States, approximately half of all American public libraries at that time (Jones, 1997).

Similar expansion of public libraries took part in other countries. In Australia, for example, the first public reference library opened in Melbourne in 1856, and this was followed by the Free Public Library in Sydney in 1869 and the Brisbane Public Library in 1869. Increasing numbers of public libraries were built and by 1935 the *Free Library Movement*, established in New South Wales, advocated for free public libraries to be supported by local authorities (Remington, 1945).

OUR TIME

Public libraries today

Public libraries were established by means of taxes and overseen by governing bodies to provide equitable, optional, access to books or physical artefacts free of charge for everyone. Their basic characteristics have not changed but the services and how they are provided has been reinvented many times since the 19th century. Public libraries are no longer just about the circulation of books; their remit is much, much larger as the many definitions attest. The UNESCO Public Library Manifesto, for example, states that "The library, the local gateway to knowledge, provides a basic condition for lifelong learning, independent decision-making and cultural development of the individual and social groups" while a recent report by the Arts Council England (2014) defines public libraries as "trusted spaces, free to enter and open to all [where]..people can explore and share reading, information, knowledge and culture". Watson goes further, while public libraries still provide information or "content" he suggests that they should be

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regarded as “a showroom for culture and learning .. a place that celebrates creativity, encourages exploration and discovery, helps people to work productively, and provides community engagement and empowerment” (Watson, 2014).

The key roles and functions of public libraries today are listed in ALA Policy Brief No 4 (Levien, 2011) as:

- The collection of both physical and virtual material and all that this entails
- The circulation of its collections
- The borrowing of media from other libraries and organisations
- The cataloguing of physical materials and the creation of portals of virtual materials
- The provision of access to catalogs
- The provision of a reference service
- The offering of tailored reader advice
- The provision of computer access
- The provision of special services for children, teenagers, young adults and older adults
- The organisation and provision of exhibitions relevant to the local community
- The provision of quiet, safe reading and work rooms
- The provision of meeting rooms and the facility to convene meetings
- The facility to serve as a hub for communities.

A more detailed list of what librarians actually do is provided by “Voices for the library” (2010). However, any list belies the complexity involved in carrying out these roles and functions which are being made ever more difficult given the challenges currently facing public libraries.

Major challenges facing public libraries

Predicting all the challenges that might affect public libraries in 2050 is impossible but there are four major challenges that will clearly shape future library services: continued technological advances, increased competition, demographic transformations, and financial constraints (Levien, 2011).

Technological advances

There are huge changes in the way we consume, interact and communicate with information and the media, affecting both our literacy and reading habits. The sheer quantity, range and availability of almost instantaneous information, would be unimaginable to a person 50 years ago. There is vastly more information available directly to users, by-passing libraries, and this is rising exponentially as virtually all published today, and much of what has been published, will be in digital format. Much information is free although unverifiable making it difficult to evaluate the credibility of sources. Information is being used on a just-in-time basis, the internet serving as a ready reference source, any time anywhere. People can compare and select services they wish

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to use at the click of a button. User created content is growing and information is increasingly being linked and enhanced in novel ways. Information is becoming more social enabling stronger ties between information providers/sources and users. Social media sites, for example, continue to proliferate offering instantaneous user-to-user information. Approximately one in seven people in the world now use a social networking site at least one a month, a 14.2% increase from 2012. The world's largest social networking site is Facebook with the US having 146.8 million users per month. The Netherlands has the highest percentage of social media users (63.5%) with Norway second (63.3%). Less-developed markets, such as India, Indonesia and Mexico are showing the highest growth in social media use (Gaudin, 2013).

New technologies with ever greater range of facilities continue to emerge which shape our society and the way we deal with information. The types of devices are numerous, expanding, evolving and increasingly more mobile. In the future storage will be faster, physically smaller, cheaper with ever greater capacity. Communication will reach unimaginable speeds, high-quality displays will be ubiquitous linking with entertainment, information and other communication systems, cloud services will continue to proliferate as will new search and organisation tools and social networks. Today's search technology, for example, is almost entirely based on text search, but it is quite possible that, in the future, systems would include the ability to search for attributes such as "taste, smell, texture, reflectivity, opacity, mass, density, tone, speed and volume" (Frey, 2014). There is also likely to be a decline in keyboard use, creating a more verbal society. Frey (2014) predicts that "computers will become more human-like with personalities, traits and other characteristics that will give us the sense of being in a room with other humans". "Old" media will continue to have added functionality that takes advantage of the new technologies. In the last decade, for example, mobile phones have transformed themselves from simple one-to-one telephone devices to ones which now have facilities to send or receive both text messages and email, access the internet, make online transactions, play games, take and send pictures and videos, record and watch videos, play music, download apps, and so on. There is no reason to suggest that they have yet reached their full potential. Similarly, the ebooks of today are undergoing rapid development to include graphic, audio, video, social interactivity, web interconnectivity and many other multi-purpose functions. Systems are also becoming ever more multi-functional but whatever might happen in the future, it is clear that technology development will not stand still and that libraries will have to adapt to accommodate new system functionality as well as new competitors.

Increased competition

As more information becomes available electronically and systems become ever more user-friendly with personalised functionality, driven by the sophisticated use of artificial intelligence and social media networks, many users will choose to by-pass libraries. Competition is clearly already apparent in many areas such as books, e-books, audio books, videos, and other forms of multimedia (Levien, 2011). There are over three million e-books available from Amazon to instantly download over the internet onto Kindles, together with a large number of newspapers and magazines (Amazon, 2014). Further, readers have access to over 12 million hard copy books on Amazon that can be purchased quickly and easily before being delivered to a specified address. Complicated

algorithms that analyse purchasing patterns enable the system to provide book and other media selection advice to readers. Amazon also enables readers to read and produce reviews of materials. Other suppliers offer similar services. Google Books (2014), for example, is scanning and making searchable collections of several major research libraries. Called the Google Books Library Project, the aim is “to make it easier for people to find relevant books – specifically, books they wouldn't find any other way such as those that are out of print – while carefully respecting authors' and publishers' copyrights...[the] goal is [also] to work with publishers and libraries to create a comprehensive, searchable, virtual card catalog of all books in all languages that helps users discover new books and publishers discover new readers”. Audio books are available from a number of suppliers, Audible.co.uk, and digitalaudiobooks.co.uk, for example, each has over 100,000 titles to choose from. Netflix enables users to “watch a millions of TV programmes and films anytime, anywhere” using a variety of different devices with a monthly subscription, currently £5.99 a month (Netflix, 2014), whereas Rhapsody and iTunes each provide downloadable access to a huge library of digital music and, in the case of iTunes, other media. While no public library can compete with the sizable online collections on offer from these types of vendors, libraries do have some advantages. For example, librarians can provide personable unbiased advice, help and support; loans and services are largely free; collections are specifically selected for local communities; books and artefacts can be seen and sampled without first being purchased; and lastly, books are immediately available, unless on loan (Levien, 2011). Further, libraries are fighting back with their own e-book collections made available through aggregators, such as EBSCOhost, Credo, Bloomsbury, EBL (EBook Library), ebrary, NetLibrary, and Overdrive. Some publishers, such as Elsevier, Springer Science+Business Media, Wiley and Cambridge University Press, also supply ebooks directly to libraries (CILIP, 2013).

Demographic and social trends

Population growth is continuing in almost all countries of the world (World Bank, 2014). The UK, for example, will have an estimated population of 70 million by 2027 (IPOS Mori, 2012), up from 64.1 million in 2013. Similar trends are found in the United States where the population is projected to rise from 309 million in 2010 to 438 million in 2050 with approximately 80% of this being attributable to the influx and the descendants of immigrants (Levien, 2011). As a result of migration many countries are becoming more racially and ethnically diverse. Net migration to the UK, for example, accounted for 62 per cent of population growth between 2001 and 2008 (IPOS Mori, 2012). In America, nearly one in five people are projected to be an immigrant in 2050, compared to one in eight in 2005 (Levien, 2011). Further, populations are aging. In the UK the fastest growth in the population is in the 65+ and 85+ age groups. It has been estimated that by 2031, 22 per cent of the population will be aged 65 or over and 5 per cent of the population will be aged 85 or over (IPOS Mori, 2012). In America it is predicted that in 2050 over 25% of people will be aged over 65 compared to less than 18% in 2000 (Levien, 2011). How do libraries address these demographic changes which are likely to exacerbate social inequality and put increased demands on services?

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In addition to demographic changes, there are differences in how people live. There is far greater reliance on technology for both work and free time. Longer working hours, accentuated by the expectation of 24/7 connectivity, means that people have less time for social activities unconnected with those online. Since there is an ever increasing range of social activities on offer, public libraries have to be creative if they are to compete.

Financial constraints

Public debt, as a result of low economic growth and market uncertainty, has given rise to public spending cuts globally which have affected public library provision. The UK, for example, has experienced year- on-year budget cuts, 4.4% in 2012/13 and around 5% in 2013/14 (CILIP, 2012). Many libraries are now forced to operate with the use of volunteers to prevent closure. During 2012/13 the number of volunteers in public libraries rose by a massive 44.5% (CILIP, 2012). Often, devolution of power to local municipals has also resulted in the number of public debates over how taxes should be spent and more variability in library service provision across countries. When faced with a choice of whether to cut essential services such as those pertaining to health or public libraries, the latter usually suffers especially when statistics show that library visits are declining.

OUR FUTURE

Addressing the major challenges

Many countries have been addressing the future of public libraries in light of the numerous challenges posed. The UK is no exception. In 2013, the Arts Council England published the outcomes of workshops aimed to elicit the views of stakeholders when envisioning the future of public libraries (Davey, 2013). It was concluded that the core purpose – *the provision of access to reading, information, and resources which support learning and knowledge for all* – will be as relevant in 10 years' time as it is today. However, Davey (2013) pointed out that the purpose will need to be discharged in very different ways. Instead of waiting for customers to visit libraries, librarians will need to be much more proactive, reaching out to engage communities and seeking those who would benefit from their expertise. In addition to providing face-to-face and virtual support for self-learning, self-teaching, and information literacy development, librarians would be expected to promote the use, access, sharing and the creation of online information.

To achieve this envision, Davey (2013) proposed four priorities for a 21st century public library service. The first is placing "the library as the hub of the community". Libraries will need to provide more flexible physical spaces that are managed with their local communities and, where possible, co-located with health, leisure or art venues to enable skills exchanges, more out-reach and cost reduction. The challenge will be to think creatively about physical space management and how this can be effectively integrated with an interactive virtual presence. The second is making "the most of digital technology and creative media". Libraries need to keep abreast of new

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technologies, actively promoting community connectivity and the teaching of new digital skills so that no-one is excluded. The challenge here will be to develop open ICT infrastructures that improve the virtual library experience and encourage innovation. The third is ensuring “that libraries are resilient and sustainable”. The key message here is that libraries need to find new ways of cutting costs, new sources of funding and new ways of working. Effective library promotion to all stakeholders is also essential to ensure its service value is fully recognised. To this end, libraries are being encouraged to actively encourage consumers to become involved in the design, delivery and management of their library services. They are also being encouraged to explore how they can be involved in the delivery of other services and conversely, how other services can be involved in the delivery of library services. The fourth is delivering “the right skills for those who work for libraries”. Librarians of the future will not only need to be savvy in the use of new technologies and the teaching of digital literacy, but also be entrepreneurial, flexible and innovative; have the ability to reach out , serve and connect diverse communities and individuals; and be proactive in the formation of new partnerships. This is a tough order which must be partly addressed by the teaching at library schools.

In the USA the ALA’s Policy Brief *Confronting the Future* (Levien, 2011) covers similar ground, but interestingly the report describes the challenges public libraries face being on four dimensions, each with a “continuum of choices lying between two extremes”. The first is physical to virtual libraries. How much material do you physically hold in the library and how much do you make virtually available? What proportion of the libraries services, such as answering queries, finding and providing materials and so on should be made available through the internet? The second dimension is individual to community libraries. At one end of the spectrum is services aimed solely at individuals, serving their needs on one-to-one basis, at the other is services aimed specifically at communities focussing, for example, on the provision of workspace, enabling and enhancing community projects through creative use of new technologies, holding events, organising exhibitions, and creating and maintaining records. The third dimension is collection to creation libraries. The two extremes here are libraries which are purely providers of information in either virtual or physical form and where they become enablers or creation libraries whereby authors, editors, performers, individuals or groups are helped to create their own content using a variety of media for either worldwide or personal distribution. The fourth dimension is portal to archive libraries, which is concerned with how much of their collections are owned by libraries. In the extreme case, libraries become portals giving access to materials owned or hosted solely by other organisations. At the other end of the spectrum, they might only offer access to materials owned by them in either physical or virtual form. Deciding where on these dimensions libraries should aspire to will be different for different libraries, authorities and even countries. Like, the Arts Council England report (Davey, 2013) the ALA policy brief (Levien, 2011) discusses a number of cross-cutting themes such as library competencies, the need for collaboration and consolidation, digitisation, personalisation and social networking, the role of archiving and cataloguing, and the need to keep libraries free at point of access. The policy brief also suggests a seven-step strategy for envisioning the future of a library:

1. Establish its mission and goals by determining the needs of individuals and communities it serves

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2. Consider external trends and forces that may affect the future of the service
3. Perform a critical assessment of its strengths and weaknesses relative to other potential providers
4. Formulate strategic imperatives based on 1, 2 and 3 above
5. Based on 4 examine alternative visions for its future and determine which are feasible
6. Decide where on the four dimensions it should aspire and how change can be achieved
7. Monitor and evaluate progress

Other futures projects and reviews have been undertaken by other countries. For example, Bookends in New South Wales (State Library, New South Wales, 2009), explored what their public library service might look like in 2030, and The Future of the Dutch Public Library exercise, carried out in 2008, made projections for 10 years ahead (Huysmans and Hillebrink, 2008).

Innovative examples shaping ideas for the future

It is encouraging that public libraries are already responding to the many challenges they face. There are many examples of innovation which can be used for inspiration, or even adopted or adapted by other libraries. However, it is important to recognise that innovation is only “fresh for a moment”, they have a shelf life, and that “there is no one-size fits all solutions” (Peachey, 2014). Many current day innovative practices are described in Envisioning the library of the future. Phase 1: a review of innovations in library services (IPOS, ud). The report, based on desk research, outlines innovation in the entire library service, innovation in individual parts of the service, innovation in funding and organisational models, libraries adopting distinctive local definitions of purpose, innovation in library systems, and examples of applying the concept of “public library” in new relevant ways. Examples are given of flagship libraries such as Canada Water Library, the Library of Birmingham and Delf Concept Library known as “DOK” in addition to smaller scale projects such as the Digital Bazaar, a monthly event in Lambeth Libraries where local volunteers provide help and advice in using new technologies. Other examples include the use of Fab Labs that provides the equipment for users to make things creatively, the use of Reading Gloves to enable electronic story-telling interaction, interactive exhibitions, digitisation projects, bibliotherapy groups, the creation of online book groups using Skype, creative writing and self-publishing groups, one-to-one clinics for local businesses, free interactive online legal services, the use of interactive games to draw new users, inter-lingual services, and innovative co-location and collaborative projects.

CONCLUSION

Public library services have come a long way from their first origins. The stereotypical image of a public library just there to lend books is long dead. To their credit, librarians have adapted and reinvented library services many times to meet the increasing changing needs of their cliental. However, today the changes and challenges

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confronting libraries are profound. Addressing the new technological, social and economic forces will need radical reinvention if libraries are to survive and thrive. Libraries of the future are likely to be focused on:

- being more community based in which local people are more involved in the design, development and running of its services
- reaching out and connecting local communities and individuals encouraging them to be more creative, innovative and entrepreneurial, particularly important here will be the use of social media
- having better outreach to disadvantaged groups
- creating more flexible physical and virtual 24/7 functionalities
- offering more digital resources to free up physical space for other functions
- having more seamless integration of new technologies at a faster, more innovative pace
- being more innovative in terms of income generation and the promotion of library value to funders and users
- having more highly trained, active, motivated staff who are well versed in the use of new technologies, digital literacies, life-long learning, and modern management techniques.

Particularly, important will be decisions on where in the following spectrums libraries decide to aspire to be: serving individuals or communities; providing physical or virtual services; providing collections or advocating creation of information; owning or providing access to materials held elsewhere.

This is our story, our time and our future. We do have challenging times ahead but there are huge, exciting opportunities to design and re-shape our public libraries to make them as relevant today as when they were first envisioned.

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Evaluating the psychometric soundness of Bostick's library anxiety scale among medical students in a Malaysian public university

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ABSTRACT

The study was about exploring the phenomenon of library anxiety among medical students and examines various antecedents that may contribute towards increasing or decreasing level of library anxiety. Bostick's (1992) Library Anxiety Scale has been widely used to assess library anxiety among library users. The instrument was pre-tested and the reliability and validity of the scale was established. The 46-item modified version of Bostick's (1992) Library Anxiety Scale was tested among 104 students from a population of 354 undergraduate students. The instruments were administered during information skills sessions by copies handed directly to students. A 100% return rate was achieved in which the questionnaires that were returned were found usable. The findings revealed a 4-factor solution which corresponded to the five factors as found by Bostick's (1992) pioneering psychometric effort on library anxiety. The study sub-scales of library anxiety were named as: Staff Barriers, Affective Barriers, Barriers with Library Technology, and Cognitive Barriers. The factor "Staff Barriers" explained the greatest proportion of variance to be at 19.12% in the library anxiety construct. The overall scale as well as each of the four sub-scales was submitted to an internal reliability assessment using Cronbach's internal reliability coefficient alpha. All four sub-scales found to have satisfied the 0.70 criteria as recommended by Nunnally and Bernstein (1994). This finding was found to be consistent with the previous studies that found the scale to be valid as well as internally reliable.

Keywords: Bostick's library anxiety scale; Library anxiety; Medical students; Construct validity; Internal reliability

INTRODUCTION

Anxiety is defined as a "mood or state characterized by apprehension and somatic symptoms of tension in which an individual anticipates impending danger, catastrophe, or misfortune" (VandenBos, 2007). The term 'library anxiety' is generally used to describe the negative feelings experienced by many college students towards using the academic library (Lu & Adkins, 2012). The transition from high school to college/university can be incredibly exciting and at the same time, terrifying for first-

year college/university students. Moving into unfamiliar surroundings, making new friends, and living on their own can be an overwhelming experience. Along with these new lifestyle changes, college/university classes and coursework also contribute to even more anxiety. The problems arise because most of the students have never been to the college/university library. The students often have absolutely no idea what to do once they are in the library and they are afraid, of making a complete idiot of themselves.

Knowing the importance of information is one thing, but knowing where and how to find it efficiently is even more important. In helping to build students' research skills, librarians have a valuable role to play. The librarians can assist students with searching additional information sources on virtually any topic, and in general they can help them find sources more quickly and easily. For decades, librarians have observed that students often feel more uncomfortable while utilizing libraries. Indeed, the idea that students vary in their levels of apprehension experienced when using academic libraries is not new. Yet, it is only recently that formal investigations have been undertaken on the nature, etiology, characteristics, and consequences of this phenomenon (Jiao and Onwuegbuzie, 1999). The studies showed that freshmen exhibited the highest level of anxiety. Based on this research, librarians should learn how to recognize the fear characteristics and know how to alleviate them by providing the appropriate anxiety-reducing interventions.

Mellon (1986) was the first person to recognize library anxiety as a real phenomenon. She started out examining library instruction and its helpfulness, and then she found that students experience fear when beginning their research than with specific problems when conducting their research. She also discovered that students were overwhelmed by the size of the library, did not know where to begin their research, and did not know how to proceed once they began. She thought that library instruction should be expanded to provide comfort and ease, rather than trying to teach the specifics of research too quickly.

Bostick (1992) created the Library Anxiety Scale (LAS) as there was no scale to measure Mellon's theory at that time. Bostick (1992) in validating and testing the Library Anxiety Scale found that the dimensions of library anxiety could be summarized into five categories: barriers with staff (perceptions that librarians and staff are unapproachable or preoccupied); affective barriers (stemming from a belief that the student holds inadequate skills); comfort with the library technology (concerning the general safety and welcoming nature of library space); knowledge of the library (familiarity with the layout and policies); and mechanical barriers (ability to use and operational conditions of various mechanical equipment).

"Barriers with staff" refer to the perceptions students have that librarians are intimidating and unapproachable. The librarian is also perceived as being too busy to provide assistance in using the library (Jiao and Onwuegbuzie, 1997). A high score on this sub-scale or dimension will indicate higher levels of library anxiety. "Affective barriers" refer to students' feelings of inadequacy when using the library. These feelings of ineptness are heightened by the assumption that they alone possess incompetent library skills (Jiao and Onwuegbuzie, 1997) and to make matters worse, they feel that the place is full of fellow students who all appear to know what they are doing. A high

score on this sub-scale will indicate greater levels of library anxiety. "Comfort with the library technology" refers to the students' reactions to the ambience of the library and how safe, welcoming, and non-threatening the library is perceived by them (Jiao & Onwuegbuzie, 1999a, Jiao, Onwuegbuzie & Lichtenstein, 1996). A high score on this sub-scale will indicate lesser levels of library anxiety whereas lower scores will indicate greater levels of library anxiety. "Knowledge of the library" refers to how sharp students think they are with the library. A lack of familiarity leads to frustration, anxiety, and subsequently, further avoidance behaviours (Jiao and Onwuegbuzie, 1997). A high score on this sub-scale will indicate low anxiety whereas a low score will indicate higher levels of library anxiety. "Mechanical barriers" refers with the students' reliance on mechanical library equipment including change machines, computer printers and others (Jiao & Onwuegbuzie, 1999a). A high score on this sub-scale will indicate higher levels of library anxiety.

While a number of studies were conducted to validate the Library Anxiety Scale (LAS), little is known about library anxiety among students of a particular field such as medicine, dentistry, law and others. Novera (2008) was the first person who explored the phenomenon of library anxiety among undergraduates in the Malaysian academic library setting. Building on this, the current study investigated the phenomenon of library anxiety among medical undergraduate students using a modified version of Bostick's (1992) Library Anxiety Scale (LAS).

LITERATURE REVIEW

Bostick

Bostick (1992) developed and validated the Library Anxiety Scale. This 43-item 5-point Likert-format instrument has five dimensions namely, barriers with staff, ($\alpha = 0.90$); affective barriers, ($\alpha = 0.80$); comfort with the library, ($\alpha = 0.66$); knowledge of the library, ($\alpha = 0.62$); and mechanical barriers, ($\alpha = 0.60$). These factors collectively explained 51.8% of the variation in library anxiety. Further, the internal reliability assessment using Cronbach's internal reliability coefficient α was reported to be at 0.80 for the overall scale. A test-retest further confirmed the overall scale to be internally reliable at 0.74. This instrument has been utilized extensively in a number of library anxiety studies (Noor and Ansari, 2010).

Shoham and Mizrachi

Shoham and Mizrachi (2001) investigated the library anxiety phenomenon among undergraduate students in Israel. They however employed a modified Hebrew version of Bostick's (1992) which was referred to as the H-LAS. The H-LAS is a 35-item library anxiety scale which when tested for construct validity using exploratory factor analysis resulted in a seven factor solution with the following sub-scales: staff factor, knowledge factor, language factor, physical comfort factor, library computer comfort factor, library policies/hours factor and resource factor. They did not provide information about the percentage of total variance explained by all the factors. The sub-scales when examined for internal reliability estimates were found to have the following α reliability

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coefficients: staff factor, 0.75; knowledge factor, 0.76; language factor, 0.76; physical comfort factor, 0.60; library computer comfort, 0.51; library policies/hours factor, 0.45; and resource factor, 0.52.

Van Kampen

Van Kampen (2003) developed a multi-dimensional 53-item instrument to measure library anxiety. The instrument was administered to 554 doctoral students at an urban university in southeastern United States of America. Results of running an exploratory factor analysis yielded six factors which collectively explained 43.39% of the variance. Furthermore, the six factors were found to have the following Cronbach's alpha reliability coefficients: barriers with staff, 0.73; comfort and confidence when using the library, 0.86; comfort level while inside the library building, 0.74; comfort level with technology as it applies to the library, 0.73; importance of understanding how to use the library, 0.79; information search process and general library anxiety, 0.87

Anwar, Al-Kandari and Al-Qallaf

Anwar, Al-Kandari and Al-Qallaf (2004) investigated the library anxiety phenomenon among 145 undergraduate biological sciences students in Kuwait. The 34-item instrument was based on the Library Anxiety Scale developed by Bostick (1992). Exploratory factor analysis was used to determine the appropriate number of factors and statement groupings in each of these factors. The factor analysis yielded four factors which explained 47% of the total variance. The four factors were found to have the following Cronbach's alpha reliability coefficients: Staff approachability, 0.9082; Feelings of inadequacy, 0.7856; Library confidence, 0.7806; Library constraints, 0.7078.

Noor and Ansari

Noor and Ansari (2010) administered a 49-item modified version of Bostick's (1992) Library Anxiety Scale to 367 undergraduate students in a Malaysian institution of higher learning. The instruments were administered during classroom hours using a self reported questionnaire. This study attempted to evaluate the scale's psychometric soundness and stability among a population whose native language is not English. Results of running an exploratory factor analysis yielded five factors which collectively explained 39.56% of the variance. The sub-scales when examined for internal reliability estimates were found to have the following alpha reliability coefficients: barriers with staff, 0.91; comfort with library services, 0.73; affective barriers, 0.70; cognitive barriers, 0.81; and comfort with library technology, 0.68.

Swigon

Swigon (2011) developed the Polish Library Anxiety Scale (P-LAS) which based on Bostick's (1992) Library Anxiety Scale (LAS) and three other scales: Multidimensional LAS (MLAS), Hebrew-LAS (H-LAS), and Kuwait-LAS (KLAS). The instrument was administered to 100 participants comprising bachelor's level students, master's level students, doctoral level students, and faculty members at three Polish universities were studied. This 46-item library anxiety scale which when tested for construct validity using

exploratory factor analysis resulted in a six factor solution with the following sub-scales: barriers with staff (alpha = 0.75); affective barriers (alpha = 0.80); technological barriers (alpha = 0.73); library knowledge barriers (alpha = 0.78); library comfort barriers (alpha = 0.47) and resources barriers (alpha = 0.75).

RESEARCH QUESTIONS

- a) Are the sub-scales of Bostick's Library Anxiety Instrument distinguishable from one another ie. do the measure exhibit convergent as well as discriminate validity what applied among medical undergraduates?
- b) Is each of the sub-scales internally reliable what applied among medical undergraduates?

RESEARCH DESIGN

Methods and Instruments

For the purpose of this research, a self-reported questionnaire was designed to obtain quantitative data from the respondents. The questionnaire was divided into three sections. The demographic data was requested in the first section which includes items on gender, nationality, native language and year of study. The second section elicits information on frequency of library visit, physical distance from the library, previous library experience, and prior medium of library instruction. The third section elicits information with regards to the library anxiety construct using a modified version of Bostick's (1992) Library Anxiety Scale. This scale consists of 46 items, anchored on a five-point Likert Scale ranging from 1 (strongly disagree) to 5 (strongly agree). The scale comprise positively as well as negatively worded items which are reversed scored to ensure high scores on each of the 46-item instrument to represent high level of library anxiety whilst low scores would represent lower level of library anxiety.

Population and Sampling Process

The target population for this study was medical undergraduate students at the Faculty of Medicine, University of Malaya. The sampling processes started by getting the target population size of 354 undergraduate medical students enrolled for Semester I 2010/2011. After allowing for plus-minus five percent error rate, 104 students were proportionately selected to participate in the study. The participants were randomly selected using a table of computer generated random numbers by employing the Statistical Product and Service Solution software (SPSS). Luckily, a 100% response rate was achieved resulting in 104 fully completed usable questionnaires.

RESULTS

Factor Analysis

(a) Construct Validation of Bostick's Library Anxiety Scale

To assess the construct validity of the modified version of Bostick's (1992) Library Anxiety Scale, a principal component exploratory factor analysis was employed on the 46-item instrument. Using a varimax rotation and factor loading coefficient of 0.40 or greater as a criterion for deeming a factor loading as practically significant yielded a 13-factor solutions (eigenvalues more than 1.00) that collectively explained 69.4% of the variance in the library anxiety construct.

Out of the 46 items that were submitted to a principal component analysis, only 42 items were found to have factor loading coefficients that met the 0.40 criterion. The results of running a principal component analysis revealed that the majority of the items were loaded on Factor 1 (10 items), Factor 2 (7 items) and Factor 5 (4 items). The remaining factors had only between 2 to 3 items subsumed under each one of them.

The findings were difficult to interpret and as a result, a second run of the principal component analysis was performed on the 42 items that were derived from the first run of the principal component analysis. To achieve a more meaningful interpretation of the findings, the items were forced into 5 factors. This resulted in a 5-factor solution that explained 54.5% of the variance in the library anxiety construct. This second run of the principal component analysis factor reduced the number of items from 42 to 38. Despite the reduction in the number of factors and items, a meaningful interpretation of the five factors was still difficult to achieve.

Consequently, a third run of principal component analysis was performed on the 38 items derived from the previous run. In the third run, the items were forced into 4 factors. This resulted in a 4-factor solution which explained 47.9% of the variance in the library anxiety construct. The findings revealed that the number of items was now reduced from 38 to 31. The findings showed that factor 1 has 11 items loaded on it, factor 2 has 9 items loaded on it, and factor 3 has 6 items whereas factor 4 has only 5 items loaded on it. The final run of the principal component analysis resulted in a more meaningful interpretation of the item underlying each of the four factors. Table 1 describes the factors, the items loaded on it, their eigenvalues as well as the percent of variance explained by each of the four factors.

Table 1: Descriptions of Four Factors Derived from the Third Run of Principal Component Analysis

Factor Description	No. of Items	Eigenvalue	Percent of Variance Explained
Barriers with staff	11	6.71	19.12
Affective barriers	10	4.01	11.45
Barriers with library technology	5	3.07	8.76
Cognitive barriers	4	3.00	8.56

(b) Internal Reliability Estimate of the Items Underlying the Four Factors

The first factor/component had 11 items underlying it. A detail examination of the 11 items showed that they were examining an underlying concept that can be labelled as “Barriers with staff”. All the 11 items seem to indicate service providers as a source of a component or dimension of the library anxiety construct. Before a sub-scale called “Barriers with Staff” was computed, the 11 item component was submitted to an internal reliability assessment using Cronbach’s internal reliability coefficient alpha. The results of running an internal reliability assessment test using Cronbach’s alpha revealed the 11-item component to have yielded an alpha value of 0.91 which is above the recommended value of 0.70 as suggested by Nunnally (1978). The findings also showed that dropping any of the 11 items would not raise Cronbach’s alpha value to anything higher than 0.91. Subsequently all the 11 items were averaged to compute a composite variable called “Barriers with Staff”. This composite variable is a sub-scale of the overall library anxiety scale. The findings with regards to the internal reliability assessment for the 11- item component are shown in Table 2

Table 2: Barriers with Staff (Alpha=0.913)

Number	Scale Item	Factor Loadings
26	Librarians don’t have time to help me	.900
5	Library staffs don’t have time to help me	.898
7	The librarians don’t have time to help me because they are always doing something else	.905
31	The library won’t let me check out as many items as I need	.906
29	I don’t know what resources are available in the library	.910
32	The staff doesn’t care about students	.903
30	The library staff doesn’t listen to students	.903
41	I don’t need to use digital services for my research	.911
18	The librarians are unfriendly	.907
13	There is often no one available in the library to help me	.910
3	I can’t get help in the library at the time I need it	.906

The second factor/component had 10 items underlying it. A detail examination of the 10 items showed that they were examining an underlying concept that can be labelled as “Affective Barriers”. All the 10 items seem to indicate barriers with library staff as a source of a component or dimension of the library anxiety construct. Before a sub-scale called “Affective Barriers” was computed, the 10-item component was submitted to an internal reliability assessment using Cronbach’s internal reliability coefficient alpha. The results of running an internal reliability assessment test using Cronbach’s alpha revealed the 10-item component to have yielded an alpha value of 0.83 which is above the recommended value of 0.70 as suggested by Nunnally (1978). The finding also showed that dropping any of the 10 items would not raise Cronbach’s alpha value to anything

higher than 0.83. Subsequently, all the 10 items were averaged to compute a composite variable called “Affective Barriers”. This composite variable is a sub-scale of the overall library anxiety scale. The findings with regard to the internal reliability assessment for the 10 item component are shown in Table 3.

Table 3: Affective Barriers (Alpha=0.834)

Number	Scale Item	Factor Loadings
10	I don't know what to do next when the book I need is not on the shelf	.833
14	I feel comfortable in the library	.808
2	The librarians are approachable	.807
6	The librarians don't have time to help me because they are always on the phone	.805
19	The library is a comfortable place to study	.826
1	I'm embarrassed that I don't know how to use the library	.816
32	I often can't find a place to study in the library	.814
4	The librarians are helpful	.826
45	I mostly use internet services in library to check my mail	.827
9	I get confused trying to find my way around the library	.821

The third factor/component had five items underlying it. A detail examination of the five items showed that they were examining an underlying concept that can be labelled as “Barriers with Library Technology”. All the five items seem to indicate barriers with library technology as a source of component or dimension of the library anxiety construct. Before a sub-scale called “Barriers with Library Technology” was computed, the 5-item component was submitted to an internal reliability assessment using Cronbach's internal reliability coefficient alpha. The results of running an internal reliability assessment test using Cronbach's alpha revealed the 5-item component yielded an alpha value of 0.78 which is above the recommended value of 0.70 as suggested by Nunnally (1978). The findings also showed that dropping any of the five items would not raise Cronbach's alpha value to anything higher than 0.78. Subsequently all the five items were averaged to compute a composite variable called “Barriers with Library Technology”. This composite variable is a sub-scale of the overall library anxiety scale. The findings with regards to the internal reliability assessment for the 5-item component are shown in Table 4.

Table 4: Barriers with Library Technology (Alpha=0.783)

Number	Scale Item	Factor Loadings
43	I often use digital services to browse theses/dissertation	.674
42	I often use digital services to browse the examination papers	.720
46	I frequently use self check out machine to borrow items from the library	.769
39	I don't know how to use digital services	.781
40	I never use digital services to find information	.757

The fourth factor/component had four items underlying it. A detail examination of the four items showed that they were examining an underlying concept that can be labelled as “Cognitive Barriers”. All the four items seem to indicate cognitive barriers as a source of component or dimension of the library anxiety construct. Before a sub-scale called “Cognitive Barriers” was computed, the 4-item component was submitted to an internal reliability assessment using Cronbach’s internal reliability coefficient alpha. The results of running an internal reliability assessment test using Cronbach’s alpha revealed the 4-item component to have yielded an alpha value of 0.78 which is above the recommended value of 0.70 as suggested by Nunnally (1978). The findings also showed that dropping any of the four items would not raise Cronbach’s alpha value to anything higher than 0.78. Subsequently all the four items were averaged to compute a composite variable called “Cognitive Barriers”. This composite variable is a sub-scale of the overall library anxiety scale. The findings with regards to the internal reliability assessment for the 4-item component are shown in Table 5.

Table 5: Cognitive Barriers (Alpha=0.779)

Number	Scale Item	Factor Loadings
35	The library catalogue (OPAC) is easy to use	.721
21	I can’t find information that I need in the library	.688
20	The library never has the materials that I need	.690
17	I can always ask a librarian if I don’t know how to use equipment in the library	.791

The results of running an EFA using principal components analysis resulted in four factors structured as follows:

- i) Barriers with library staff is conceptually defined as students’ perceptions of library as intimidating, unapproachable, as well as too preoccupied to render any form of assistance whatsoever to them (Noor & Ansari, 2010) [High scores on this dimension means high anxiety]
- ii) Affective barriers is conceptually defined as students’ feelings of various shortcomings in the library [High scores on this dimension means high anxiety]
- iii) Barriers with library technology is conceptually defined as students’ uneasiness in using library technology [High scores on this dimension means lower anxiety]
- iv) Cognitive barriers is conceptually defined as students’ lack of familiarity with the various library resources and services [High scores on this dimension means high anxiety]

CONCLUSION

The purpose of the study was to evaluate the psychometric soundness of Bostick’s (1992) multidimensional Library Anxiety Scale among medical undergraduates in a Malaysian public university. Of the 46 items that were employed to assess the library anxiety phenomenon, only 30 items were found to load on four interpretable factors.

The results of running an exploratory factor analysis yielded a 4-factor solution with the following sub-scales: barriers with staff (11 items); affective barriers (10 items); cognitive barriers (4 items) and barriers with library technology (5 items).

Each of the four sub-scales was subsequently examined for internal reliability and was found to have met the criteria of 0.70 as recommended by Nunnally and Bernstein (1994). Each of the items in the four sub-scales was found to correlate significantly (at $p < .01$) with the total score of the sub-scale. The correlation coefficients for each of the item in the respective sub-scales reflect the factor loading coefficients that were yielded as a result of running a principal component exploratory factor analysis. Hence, efforts to triangulate the findings of construct validity using item total score correlations were successful.

The findings of the study are quite consistent with previous studies with regards to the number of sub-scales and the internal reliability of the factors that were produced. Bostick's (1992) pioneering psychometric effect in developing a multidimensional scale resulted in a 5-factor solution that collectively explained 51.8% of the total variance in the library anxiety construct. Noor and Ansari's (2010) psychometric evaluation of Bostick's (1992) Library Anxiety Scale resulted in a 5-factor solution. The percent of the total variance explained by all the five factors in Bostick's (1992) study was 51.8% whilst that of Noor and Ansari's (2010) study was only 39.6%. This study yielded a 4-factor solution which collectively explained 47.9% of the total variance in the library anxiety construct. Hence, whilst the two aforementioned studies reported a 5-factor solution, this study yielded a 4-factor solution which reported total variance explained being less than that Bosticks' (1992) study but more than that of Noor and Ansari (2010).

In another study, Swigon (2010) developed a multidimensional scale called the Polish Library Anxiety Scale (P-LAS) which was based on Bostick's (1992) Library Anxiety Scale (LAS), Van Kampen's (2004) Multidimensional Library Anxiety Scale, Shoham and Mizrahi's (2001), Hebrew Library Anxiety Scale (H-LAS) and Anwar, Kandafiif and Al-Qallaf's (2004) Kuwait-Library Anxiety Scale (K-LAS). Swigon's (2010) study yielded a 6-factor solution with the following sub-scales: barriers with staff, affective barriers, technological barriers, library knowledge barriers, library comfort barriers and resources barriers.

The sub-scale, "barriers with staff" was identified by Bostick's (1992) study, by Noor and Ansari's (2010) study as well as Swigon's (2010) study. This study also yielded an 11-item sub-scale called "barriers with staff". Hence this study provides incremental validity to the aforementioned studies. Additionally, all the three studies (Bostick, 1992; Noor and Ansari, 2010; Swigon, 2011) as well as the present study reported Cronbach's internal reliability coefficient alphas for this sub-scale to be above 0.70.

The sub-scale, "effective barriers" was reported by Bostick's (1992) study, Noor and Ansari's (2010) study and Swigon's (2011) study. This study also yielded a 10-item sub-scale called "affective barriers". All four studies reported the internal reliability coefficient alphas for this sub-scale to be above 0.70. As such, this study provides incremental validity to the aforementioned studies.

The sub-scale, “barriers with technology” was reported by Bostick’s (1992) study as “mechanical barriers”, by Noor and Ansari’s (2010) study as “comfort with library technology” and by Swigon’s (2011) study as “technological barriers”. This study yielded a 5-item sub-scale called “barriers with technology” which reported the internal reliability coefficient alphas to be above of 0.70. This finding is consistent with the aforementioned studies and is not only yielding a similar but also an internally reliable sub-scale. Hence, this study provides incremental validity to the aforementioned studies.

The sub-scale, “knowledge of the library” was one of the factors yielded by Bostick’s (1992). Noor and Ansari’s (2010) reported a 3-item sub-scale similar to Bostick’s “knowledge of the library” sub-scale. However, they named it as “cognitive barriers” sub-scale. Swigon’s (2011) also reported a similar sub-scale called “library knowledge barriers”. This present study reported a similar 4-item sub-scale called “cognitive barriers”. The sub-scales for the aforementioned studies as well as for the present study reported internal reliability coefficient alphas to be above 0.70. Hence, this study provides incremental validity to the aforementioned studies.

RECOMMENDATIONS FOR FUTURE RESEARCH

The findings from this study are quite consistent with previous studies as far as matters relative to construct validity and internal reliability are concerned. Hence, when tested with a population of undergraduate medical students, Bostick’s (1992) Library Anxiety Scale continues to demonstrate its validity and reliability as an instrument that measures library anxiety.

However, the scale needs to be translated into the Malay Language and its psychometric soundness tested with similar or other population of library users. Would similar dimensions emerge when Malay translated version of Bostick’s Library Anxiety Scale is tested with a different library user population group? Would the percent of variance explained increase or decrease with a translated version of the scale? Would the internal reliability remain the same when the scale is translated into Malay? There are some questions that need to be addressed in conducting research on the most popular library anxiety instrument in the theoretical and empirical literature.

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The library for the incarcerated male juveniles: an observation of five correctional schools

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ABSTRACT

This qualitative study extends our earlier research on what we have learned so far about the information needs of Malaysian male juvenile offenders. This focus is important to consider when designing and delivering the best possible library services to this group. The study explores the extent the prison library is used as the environment for information seeking of male juvenile delinquents. Data were collected using participants observation with 27 juveniles (13 to 21 years old) living in five correctional schools in Malaysia. Our observation at all research sites has led us to conclude that the prison library does not play that much roles in addressing the participants' information needs. Current findings add to the limited literature on juvenile offenders' information needs and how the prison libraries meet the needs of this people.

Keyword: Male juvenile delinquents; Prison library; Youths at risk; Information needs; Information behaviour.

INTRODUCTION

Little published research has been conducted on information needs of young inmates in correctional facilities, with the recent literature examining how emerging digital behaviours via computer-mediated communication over the Internet (Lim et al. 2013) are challenging and, perhaps, changing the way the young inmates seek for information. The information needs of marginalized youth communities such as juvenile delinquents and youths-at-risk in Malaysia is also still understudied. In light of rising Internet use amongst youths worldwide, coupled with the prevailing issue of delinquency and risk-taking among youths (Haynie 2002), this is an issue of growing import that bears closer investigation. It is most important that the informational needs of inmates be met and they "need books on personality development, personal growth, and the mind and how it works" (Jefferies 1975 cited in Burt 1977, p. 27) as "self-improvement follows self-respect in the process of [inmates'] rehabilitation" (Roth 1970 cited in Burt 1977, p. 27).

In the Malaysian context, the importance of education is emphasized to young prisoners (aged 21 years and below) in order to prevent them from relapsing into criminal activities. They are unconstrained to the same educational opportunities in life that any children would expect. They gain formal education and are permitted to sit for public

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examinations under a special program by the Ministry of Education, in collaboration with the Prisons Department of Malaysia. Teachers are sent to prison to teach the young prisoners for the following academic programs:

- a) 3M recovery classes (literacy classes for reading, writing and arithmetic).
- b) Pre-PMR classes (lower secondary)
- c) PMR classes (Lower Certificate of Education)
- d) Pre-SPM classes (upper secondary)
- e) SPM classes (equivalent to GCE O level)
- f) STPM classes (equivalent to GCE A Level)
- g) Diploma / degree classes (for long distance education programs).

The existence of the academic classes indirectly encourages young prisoners to use the prison library to obtain information related to their education. According to Conrad (2012), the prison library should address the inmate's requirements for information on institutional policies, enable inmates to maintain contact with the outside world, enhance vocational skills, provide educational materials, support rehabilitation, provide reading materials for personal recreation, and provide information on reentering the community after parole. According to Zeman (2014) in her debut memoir of a prison librarian on the state of juvenile incarceration in the United States, the juvenile delinquents have absolute need to read but there was a lack of reading materials in the prison for them. Eze (2014) in highlighting the nature of the prison environment, found out that prisoners who undergo stress, anxiety, fear, insecurity, boredom and lacked direction, would get relief from emotional and psychological instability by using the prison library.

The importance of having prison library in Malaysia is stated in the Malaysia Prison Regulations (2000): "a library shall be provided in every prison and, subject to these regulations and to such conditions as the Director General may determine, every prisoner shall be allowed to have library books and to exchange them as often as practicable". Recognizing the lack of attention given by library and information science scholars in Malaysia to libraries in prisons and correctional schools, we aim to fill the gap with this study. We would like to know to what extent is the prison library used as the environment for information seeking, and if the prison library affects the juvenile delinquents' information needs. This focus is important to consider when designing and delivering the best possible library and information services to this group. The current study extends our earlier findings on what we have learned so far about the information needs of Malaysian male juvenile offenders (Rafedzi and Abrizah 2014).

LITERATURE REVIEW

Past studies (Omagbemi and Odunewu 2008; Kennedy 2006; Curry, 2003; Barlotti 2003; Lehmann 2003; Dixen and Thorson 2001; Lemon 1997; Liggett 1996; Stevens and Usherwood 1995) have shown the importance of establishing prison libraries services to rehabilitate and giving education to inmates. The denial of information services to prisoners can be detrimental to the objectives of the prison (Omagbemi and Odunewu 2008). The library plays an important role in supporting the prison's mission to rehabilitating the inmates (Lemon 1997) and should provide the resources necessary to

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meet the informational, cultural and recreational needs of the prison community (Collins and Boden 1997). Stevens and Usherwood (1995) found that the role of the prison library in the reform and rehabilitation process identified a number of areas in which the work of the prison library can have an important influence. There have been a number of studies that examined the use of prison libraries, from their collections, and technologies, to the management of the prison library (Gilman 2008; Stearns 2004; Bowden 2003; Shirley 2003; Knudsen 2000; Pendleton, and Chatman 1998; Wilhelmus 1998; Collins and Boden 1997; Lemon 1997; Rubin and Suvak 1995; Cheeseman 1994; Bayley, Greenfield and Nogueira 1981; McClaskey 1977). However, most of these studies focused on meeting the information needs of adult prisoners.

For juvenile delinquents, using the prison library, can make them “journey out of the facility to distant lands, to happier times with imaginary friends and entirely new personalities” (Cheeseman 1977, p. 126). Cheeseman’s opinion about the library is echoed in the Guidelines for Library Service to Prisoners (Lehmann and Locke 2005) that states that “the prison library is a substitute for the library at home and consequently it reaches nearly every prisoner and this is one good reason why it should be developed into one of the best libraries”. Rubin and Suvak (1995) who agreed with Cheeseman, stated that one thing has to be considered by the prison authorities is that inmates need to be taught library skills as part of their life skills, because these skills are not only relevant in the prison library but also serves a re-entry purpose by presenting any library as a familiar place which former inmates can use on the outside after release. Gilman’s (2008) study found that the library is important for juvenile delinquents to gain skills that will help them find employment on the outside, and it is even more important that they gain skills that will enable them to be socially competent when they return to their communities. Gilman who conducted a survey at Juvenile Detention Centre (JDC) in Washington, Oregon and Idaho found that 89% of respondents believed the most important functions of a library in a detention center were providing recreational reading to pass time, and developing literacy skills. The survey also indicated that juveniles used the library services effectively with 50% using readers’ advisory, and 44% forming book discussion groups. Gilman reported that juveniles have access to a wide range of educational, skill-building treatment and intervention resources that are appropriate and responsive to their interests and needs, as well as those of the community.

Several scholars have mentioned the challenges faced by prison librarians in rendering information services (Lemon 1997; Koons 1988 and McClaskey 1977). According to Koons (1988), libraries have grown in response to their specified needs, and not by what someone says should be available to them. Lemon (1997) agreed and added that the prison library has become a hub for inmates, to assist them with legal issues, education, computer skills, career information, resumes and treatment. He added that the library should provide supplementary materials for inmates’ learning and for on-the-job training courses offered at the institution, such as air-conditioning and refrigeration, electrical and construction trades. The collection in the library must frequently be disproportionate to the size of the population, because it must serve a wider age range than the average school library, and it does not have the resources of a public library with children, young adult and adult collections to draw on (Cheeseman 1977). Gilman (2008) suggested that it is important for each prison to teach the juvenile delinquents to

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use the library. They need to know the call numbers, book spines, the differences between fiction and nonfiction and the general layout of library resources and facilities. These basic library skills can help them feel comfortable using the public library and the instructions about the library ethos can help them feel more comfortable when they are back in the community at large.

In the emerging digital behaviors' via computer-mediated communication over the Internet, inmates have the same information needs as person in regular society but, with a greater number of them having low education skills, they experience difficulties in articulating their information needs or in their attempts to seek information (Glennor 2006). Prison library service must be designed to meet the informational, cultural, educational, vocational and recreational needs of its users and libraries should determine their roles that must be compatible with the facility's mission (Shirley 2003). The collections in prison libraries play an important role in supporting the curriculum of prison education or hobbies, or pleasure reading to help pass the large amounts of unstructured time in a positive way. As such Dixen (2001) emphasized that the prison libraries' collections should have some nonfiction and educational materials for general learning and character improvement.

OBJECTIVE AND METHOD

The objective of this study is to explore how the prison information environment supports the information needs of male juvenile delinquents in Malaysian correctional schools. Specifically, the study focused on the following research questions:

- a) To what extent is the prison library used as the environment for information seeking?
- b) How does the prison library affect the juvenile delinquents' information needs?

For the purpose of this research, an information need is considered to be the desire or necessity to acquire the materials required by a juvenile delinquent, in his eyes, to ease, resolve, or otherwise address a situation arising in his daily life in prison. Such materials might include facts, interpretations, advice, opinions, or other types of resources carrying information such as books, newspapers and magazines. Our research took the form of a qualitative research design to establish what information was available for male juveniles in prison and what more could be made available. Qualitative research is primarily concerned with meaning, interpretations and giving research participants 'a right of voice' (French and Swain 2004). There is a commitment to see 'through the eyes' of research participants, and a belief that social behavior cannot be grasped until the researchers have understood the symbolic world of the research participants. According to Bailey (2007), qualitative field research requires flexibility, because it can be chaotic, emotional, dangerous and lacking in rigid rules to guide some aspects of the research process. Luck, ambiguity, time constraints and feelings often affect the planning, execution and analysis of field research, making it all the more important for the researchers to be well prepared and trained in this methodology before engaging in it.

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The first researcher is committed to get close to the sample being observed in its natural setting and also looks at the library environment, sources and services prepared for young prisoners which will help them in their rehabilitation and education process. This method is useful to support our earlier interview findings ((Rafedzi and Abrizah 2014); by looking and finding out the needs and interests of the existing sources and services in their prison libraries. According to Grimshaw (2001), the field researcher should observe what is going on in the field, logging the minute detail of every aspect of tribal life; daily routines, the preparing of foods, details of the care of the body, conversations and social life. Forsythe (1998) explains that by asking people to describe their information behavior is less trustworthy than direct observation, because (a) self-report (like eyewitness testimony in court) is often neither accurate nor complete; (b) respondents may believe that their answers reflect their level of professional competence; and (c) investigators may not understand the context of respondents' answers.

This study involved an observation of 27 participants from a population of 2,010 (until 20th April 2013) male juvenile delinquents from four Integrity Schools and the Henry Gurney School in Malacca under the jurisdiction of Malaysian Prison Department. Each school was taken from the northern, central, eastern and southern parts of West Malaysia). Male juvenile delinquents were chosen because juvenile delinquents in Malaysia are predominantly male (with a male-female ratio of 30 : 1) (Jabatan Penjara Malaysia 2013). The male juveniles who met at least one of the following criteria were purposively sampled. The number in parentheses indicated the number of participants who gave their consent to be interviewed and observed for each category specified:

- a) Those who have outstanding academic achievements based on PMR, SPM and STPM results (5)
- b) Those who are still studying at the diploma or degree level (6)
- c) Those who are not academically inclined, but are very interested in technical skills / vocational skills (8)
- d) Male juvenile delinquent in 3M classes (4)
- e) The youngest male juvenile delinquents (4)

To avoid identification, all participants are referred to by code numbers. Table 1 summarizes the profiles of the participants observed for each school. There was no detailed information about the participants observed reported in this paper; except for the information about their ethnic origin. The observation was done in covert situation, where the researcher's status is not made known to the participants. In terms of ethnic groups, 27 participants were of Malay ethnics, 1 was Malaysian Chinese and 4 were Malaysian Indians. The observation sessions were held at each prison school library (Table 2).

To explore how the male juvenile delinquents take support from the prison information environment, the researcher was given a place in the library to observe the participants. The researcher's observation usually started at 9.00 am and finished at 13.00 pm on schooldays. Sometimes, it finished much earlier due to the prison school activities or due to the lack of prison staff to monitor the field observation session. The participants in general were aware that they were involved in a study on prison libraries, however at the point of observations, they only knew that the

first researcher came to the library and was doing her reading or studying (covert situation). As such, they comprehended that the researcher was studying and they did as what they normally used to do at the library. The field observation finding was limited to the behaviour of participants in the library. Most of the time, the researcher was just sitting in the library, watching the participants' behaviour. A field log book was used to write the observation notes.

Table 1: Participants Observed Based on the School Location

No	Code numbers	Location of school	No of participants for observation
1	CO	Central Observation Kajang, Selangor	5
2	EO	Eastern Observation Marang, Terengganu	4
3	NO	Northern Observation Sungai Petani, Kedah	5
4	SO	Southern Observation Kluang, Johor	3
5	CSO	Central Southern Observation Henry Gurney, Melaka	10

Table 2: Observation Schedule

Sample Location	Date
Kajang Integrity School (CO)	02 January 2013 – 04 June 2013
Marang Integrity School (EO)	14 February 2012 – 16 February 2012
Sungai Petani Integrity School (NO)	09 April 2012 – 02 May 2012 22 April 2013 – 30 May 2013
Henry Gurney School (CSO)	05 September 2012 – 17 September 2012 09 January 2013 – 06 February 2013
Kluang Integrity School (SO)	01 December 2012 – 31 January 2013

The participants knew the first researcher as another teacher who wanted to know about how is it like teaching in a correctional school. They refer her as “Ustazah”, most probably because she conveys herself as a religious teacher. Most of the times, the researcher was accompanied by a prison staff and other times, she used to sit alone. The prison staff attended only to ensure the safety of the researcher in the library. In many instances, the prison staff sat outside the library to observe the activities inside the library. There was no change in the furniture position of the library, to keep the participants unaware of the research and to ensure their normal behaviour. Before the participants were allowed to enter the library, the researcher took her place first. The researcher also brought with her some current magazines on technology and comics. The only reason of having those reading materials and put them nearby the researcher was to see whether the participants took the materials to read or not. The selection of magazine for this observation session was decided based on our earlier findings (Rafedzi and Abrizah 2014). From this, it was assumed that it was possible to recognize whether

the prison information environment supports the male juvenile information needs and process by lessening their barriers to access the information.

RESULTS AND DISCUSSION

Research question 1: To what extent is the prison library used as the environment for information seeking?

The researchers observed a few patterns of the prison library use from their data collection.

a) The library spaces are used mainly by juvenile delinquents taking national-based examination, with the presence of their teacher.

Our first observation shows that the prison library is mainly used by juvenile delinquents who are currently enrolled in examination-based classes (PMR, SPM and STPM). Their subject teacher accompanied them to the library for a specific purpose, and gave them instructions on what to do, for example to read or refer to a book or reference works. We noticed that when in doubt, or to get further information, they would approach their teacher, instead of searching for the information from other library resources.

(EO, 14 February 2012, 9.00am to 10.00am)

Four (4) participants enter the library accompanied by their English language teacher. The teacher gives them clear directions of the reason why they go to the library. "Boys, find an English reference textbook to read, or you can answer the PMR sample exam questions". The participants nodded as symbol of understanding their teacher's instruction. After releasing them to find the book, the teacher sits at a reading desk and does her works. The participants choose their books and sit together at another table. Each has a book in their hand. The library condition is very warm and humid most probably because the school is located close to the beach. The four participants quietly read, and appear to be disciplined and diligent while they are in the library. Once in a while, I hear that they tried to pronounce difficult words. EO3 suddenly gets up from his chair and approaches the teacher for help. He asks his teacher the meaning of words in the Malay language and how to pronounce the English words.

b) Male juvenile delinquents refer to resource person available in the library to address their information needs

Another observation illustrates that the male juvenile delinquents have their own mission when entering the library, even without the presence of a class teacher. Despite the absence of their teacher in the library, they are still being monitored by a prison staff. There are participants who desire to read religious books as advised by their religious education teacher. However, when they require further information or in need of an advice, they would again refer to a resource person, whoever is available in the library.

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(CO, 23 January 2013, 9.15am to 9.53am)

I realize that CO5 has been staring at me ever since he was at library entrance. Once he enters the library, he directly approaches and stands in front me. He smiles and said "Assalamualaikum, ustazah." After that, CO5 goes to the bookshelves. Three participants are talking about religious matters; and one of them is holding a religious book. After a few minutes, CO5 approaches me again. The prison officer asks him to stay back and instructs CO5 to leave the room in his loud and strong voice. CO5 explains to the prison officer that he would like to ask my opinion on a religious matter. The prison officer looks at me and I nod as an okay signal to help CO5. Once I offer CO5 a seat, he slowly pulls a chair and carefully sits down. He shows me a book on Nabi Musa (Moses) and wanted to know if it can be used for a write up on the history of prophets. I tell him that it is suffice and that he could also write about the Firaun (Pharaohs) and the glimpse of challenges Moses faced. He thanks me saying.. "Ok. Ok. Thank you, ustazah, Assalamualaikum" and leaves smiling.

c) Male juvenile delinquents enjoy reading light reading materials such as magazines and comics

Our interview findings in Rafedzi and Abrizah (2014) revealed that the majority of the participants acknowledged that reading was not a hobby or interest during their life in the outside world. However, while in prison, most of them indicated that they were more likely to spend time reading novels, short stories, magazines, religious and academic books. Juvenile delinquents who attend diploma or degree classes address their information needs during classroom instructions and when using the Internet. They do not use the library facilities as a result of the lack of suitable reading materials for them. The 3M students choose to use pre-school books to enhance their reading proficiency, but they show the tendency to like comics and magazines as their reading sources. Most of the magazines are published by the Prison Department of Malaysia. According to a research by Shirley (2003), the prison population mostly uses homegrown newspapers and magazines.

(NO, 23 April 2013, 10.45 am to 11.27am)

NO4 from the 3M class seems interested in the magazines that I bring along with me. He browses towards me, walks to and fro, and touches the magazines laid on my table. He seems to look doubtful and looks around the library. NO4 then moves away and goes straight to the bookshelf next to him, joining in a chat with his friends. He then approached his teacher who is two tables away from me and said something to her. After a while, NO4 comes back towards where I sit, looked at me and asked loudly; "Ustazah, are these yours? Can I read?" I was surprised with the question but quickly smiles to NO4, and then nod as an agreement. NO4 smiles at me, takes one magazine and joins his friends behind the bookshelf. I noticed NO4's happy face when he holds the magazines. I suspect he asks for his teacher's permission to borrow it from me. Sometimes, I hear laughter from behind the bookshelf, as if he and his friends really enjoy the material.

Most of the participants we observed have materials such as magazines and comics in their hand when they are in the library. Although they did not get the chance to read the

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latest and popular magazines in the market, they gave us the impression that they are pleased with the remaining magazines in the library. It appeared to us that they were surprised but interested in the magazines that we brought in the library. We discovered from the teacher that current and popular magazines as well as comics are prohibited in the library. That was perhaps the reason why the participants looked cautious and sought permission as they did not want to be in trouble if caught with forbidden materials.

(CO3, 23 January 2013, 9.15am to 9.53am)

CO3 looks at me and then lays his eyes on the magazines close to me. He comes towards me, and whispers, "Can [I] see?". I nod and smile simultaneously. CO3 chooses one magazines, but then he quickly put it back. He stands still for a few seconds, and then lifts another magazine, flips through one page after another and then he put it back. He looks around and then turns to me and asks if he can bring the magazine over to his friends, while pointing to front direction. I said, 'Take it'. He quickly picks up the magazine and heads towards his friend, CO4. There are two of them. Then all three walks towards the back of the library and stand behind the last row of bookshelves. I cannot see them but I believe they are still under the observation of the prison officer. Another participant, CO5 who stands not far from me and is holding a religious book, places the book on a table and join the two boys. At 9.50 am, all three come towards me and CO3 carefully shove the magazine back on my table and thank me before leaving the library. They all seem happy and I hear them laugh quietly.

Research question 2: How does the prison library affect the juvenile delinquents' information needs?

Our observation at all research sites has led us to conclude that the prison library does not play that much roles in addressing the participants' information needs. The following findings demonstrates the need for a well-thought-out library sources and services, especially if the prison library are committed to serving the educational, recreational and rehabilitational information needs of these young prisoners.

a) The prison library houses books on religion but has limited, irrelevant and outdated resources

Shirley (2003) listed several collections of items that should not be allowed in a prison library, such as true crime story with inmate's photographs, bombs, disguises, karate or self defense materials, pornography, and nude photographs. As expected, none of the libraries we observe have materials of these topics. All prison libraries we observed house collections of references books and textbooks for national examination, and teenage and family novels. All libraries have many reference works on religion such as the Al-Quran, its translation, stories of the prophets, biographies and memoirs of national personalities, and self-motivational magazine and pamphlets. According to Sullivan (2008), religion and religious readings help to reform the character of inmates and have contributed to a number of redemptions. Prisoners have admitted to have a dire need for information that could give them spiritual and emotional stability to be in good terms with God and men and become better citizens in the society (Eze 2014).

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However, there are limited titles of children's story books, dictionaries and encyclopedias. Based on the web portal Books to Prisoners (www.bookstoprisoners.net), the highly requested books from prisoners in 2014 are dictionaries, thesauruses, any books on starting or running business, and trade books.

Our inspection of the bookshelves confirmed that many books are outdated, especially the collections of references books and textbooks for national examination, which were out of current syllabus. There were practically no academic books suitable for those pursuing their bachelor and diploma degree, as well as books for technical or vocational classes. Ajogwu (2005), cited by Eze (2014) enumerated prisoners' information needs as ranging from legal needs, religious, health, educational, vocational and recreational to financial needs. Prison library can develop collections that include a broad range of materials for self-help, self-education, community resources, housing, job availability, and vocational training opportunities (Shirley 2006). By having these types of information, it will encourage the inmates to make full use of the prison library.

The researchers had the opportunity to see several boxes received by the prison library as gifts and donations to the prison. All the boxes have reading materials contributed either by private or government agencies. The prison management usually does not preclude any types of reading materials contributed by these agencies. Typically, the materials are sorted out before they are placed in the library. We found these materials are mostly outdated, irrelevant, and the contents are not useful for the current information needs of the juvenile delinquents. Some of these materials include the examination books for PMR, SPM, and STPM that are no longer used in the present school syllabus and a set of encyclopedia published in 1980's. There are even nine copies of the 1992 Annual Report of a company in the library! The teachers we met indicated that they were aware of the presence of the books, however they said that they did not comment or act upon it, because of the prison authority had consented to accept the donations of the materials.

b) *The prison library does not provide a resource person*

Our earlier observation notes, as well as the one below, clearly show the absence of a resource person for the inmates to refer to when they are in the library. The resource person can be a library media specialist who plan and team teach with subject teachers and to integrate reading and information skills programs into the classroom curriculum. Literature indicates that it is possible for library media specialists to realize their potential as resource persons who co-plan and implement instruction in collaboration with teachers (McGiffin 1990). A peer support group is extremely valuable for self-directed educational growth and rehabilitational development among the young inmates and the presence of a resource person may facilitate this process.

(SO, 28 January 2013, 11.00am to 12.04pm)

A female Malay language teacher directs her three students into the library. She instructs them to find any information on general issues in Malaysia; from any newspapers, magazine and books. She tells them that all the information would be used for quizzes and short essays. The boys listen without asking any questions, and after

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about three minutes, they move to the bookshelves and look for the relevant materials. Initially, their attention is only on the books that are available on the bookshelves. They browse the shelves and when each has book in hand, they sit at the nearest table and begin to flip the book page by page. After a while, they seem not interested with the materials and they appear to be restless. All three of them stop looking at the books. SO3 stands up and goes to the teacher who is standing at the library counter. He says something to her, perhaps telling her that he is not able to get anything relevant to the topic. The teacher goes to the bookshelves, checks around and tells SO3 something. SO3 nod his head and he quickly goes to SO1 and SO2. The teacher goes back to the counter. After a while, they go to the big wooden cabinet at the corner of the library. They open the cabinet and release some old newspapers and bring them to the table. They start looking for the information and appear concentrating, and at times the following utterances are heard: "Can this be?" "Can I choose this?" and sometimes it seems like they are discussing with each other.

c) Prison staff intervention in the information seeking process inhibited or curtailed library usage

The prison authority comprises personnel such as the prison officers, prison staffs, and warden. It is common for juvenile delinquents to be scared of prison officials as most of them have strict and fierce look, which worked well while intimidating inmates; but there others who are easy going and friendly. Based on earlier our observation notes, as well as the one below, the young inmates appeared not at a comfort with the close presence of the prison staff in the library. Encouragement from prison staffs is very important for the male juvenile delinquents to comfortably use the library collection.

(CO, 23 January 2013, 9.15am to 9.53am)

After choosing the reading materials, the 3 boys take a sit on the clean concrete floor in the aisle between the bookshelves. They sit close to each other. [Researcher's notes: I am not sure why they act in such a way, the library is not that cold as the air conditioner has just been turned on]. I notice that the boys habitually look at the prison officer rather than having their eyes on their books. There appears some other inmates who are not interested in choosing books, but had to find one to be read.

CONCLUSION

Lehman (2000) wrote that incarcerated persons generally have the same reading interests and information needs as individuals in the free world, and we could observe this behaviour among our participants. The prevalence of unmet information needs in the prison library was apparent in this study, yet this did not come as a surprise to the researchers, as much past work has given similar impression. Curry (2003) study's for example, found that information needs among inmates were not fulfilled. With regards to information access failure, Curry (2003) discovered a general lack of success among many of her participants using libraries, and Burt (1997) and LeDonne (1977) realized that their participants appeared to lack the necessary skills to use the library resources effectively.

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Information needs of juvenile delinquents are more likely to their academic needs and interests and just to fill their time while in prison. Apparently, it may be tempting to assume that information seeking failure must be due in large measure to shortcomings on the part of the prison libraries themselves, but the findings of the study indicate that this condition is by no means always the cause. Clearly, it is not because of the young inmates' lack of desire to seek for information, rather they made inappropriate choices of sources. This is undermined by an ignorance of the prison authority of the information seeking options to the inmates, and of the approaches most likely to be effective when finding information. There were instances of what may be termed as "source and user dislocation" (Pickard 2004) where adult intervention disrupted the youth's efforts to seek for information.

The data collected for this study is important in that it provides evidence of how the prison library is used, and this data could be useful at the beginning of designing information services for juvenile delinquents. This study has two main implications to prison libraries. The prison libraries in Malaysia come under the auspices of the National Library. In terms of information resources and materials, a special guideline should be adopted for developing the collection of prison library. This is to prevent the dumping of irrelevant and outdated materials in the prison library and to promote appropriate reading materials as needed for different subject matters. In terms of teaching information skills, the findings highlight the importance of programmes that develop a more collaborative atmosphere between teachers and/or prison officers with the young inmates. Opportunity must be given to inmates to engage interactively with teachers and prison officers in the former's information seeking process.

Malcolm X, who frequently used the library during his imprisonment at Norfolk remarked, '*A book can change a man*'; (Malcom X and Haley 1987) and this famous quote illustrates the importance of books in prison. The prison library is part of treatment facilities and should provide supplemental materials for inmates, whether for their rehabilitation, education or training processes (Lemon 1997). It is most important that the informational needs of inmates be met. If one believes in library service, one must believe that everyone should have the opportunity for it, including inmates. There should be special concern that the young prisoners of correctional schools be provided with the best possible information sources and services, because as aptly put by Burt (1977), "those on the "inside" now will be on the "outside" soon" (p. 36), signifying that very means of assuring that the juvenile delinquents return to the society as good citizens should be utilized.

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Information literacy campaign of De La Salle university: our story

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ABSTRACT

In a move to promote creative awareness on the availability of a user education program to other research-oriented classes, the De La Salle University (DLSU) Libraries launched its information literacy campaign called lamInfoSMART with the theme, "Making every Lasallian information literate." The campaign seeks to hone the students to become information literate by equipping them with the necessary information literacy (IL) skills and raising their awareness on the importance of IL in their pursuit for academic and research excellence. The IL team organized an IL exhibit which features the IL cycle. The week-long campaign featured a lot of interesting, and exciting activities. Games with prizes were initiated to capture the attention of the academic community. The Libraries stimulated the active minds of the students by spearheading the following contests: lamInfoSMART Amazing Race, Scavenger Hunt, Online Quiz, and Tweet & Win. A poster design competition was also part of the event to showcase the students' understanding of IL through creative arts. The Libraries also addressed the sensitive issue of academic dishonesty and plagiarism through the organization of a challenge dubbed as Let's Turnitin. A forum was also part of the campaign to promote lifelong learning. A number of programs were also launched such as the League of Information Assistants, the Roving Information Assistant (RIA), and the new Graduate Information Literacy Program (GILP). A more improved IL campaign will be prepared this year with the continuous support from the DLSU administration.

Keywords: Information literacy; Lifelong learning; User education

INTRODUCTION

The DLSU Libraries launched its information literacy (IL) campaign dubbed as lamInfoSMART to foster the development of information literate students in pursuit of lifelong learning. As noted by Mandusic and Blaskovic (2013), "learning has become lifelong learning". Furthermore, they added that "education and higher education institutions now must teach the individual how to learn, what to learn and when to learn, how to develop the ability to manage their own learning process". The launching of the campaign was also the Libraries' gesture of taking part in the celebration of the National Library and Information Services (LIS) month held every November which is led by the National Commission for Culture and the Arts – National Committee on Library and Information Services, the National Library of the Philippines, and the Philippine Librarians Association Inc. The campaign promised a lot of exciting activities through exhibits, interactive games and forum. A

LITERATURE REVIEW

Baro, Seimode and Godfrey (2013) compared six IL practices in the university libraries of US, UK, and Nigeria. Libraries in Nigeria do not have an online method for the delivery of IL sessions as opposed to the libraries in the US and UK which combines both face-to-face and online methods of IL training and services. As identified by the researchers, it is essential to have an IL policy or guidelines in order for the library to draw its direction and eventually engage its clients. Beheshti (2012) shared in his article *Teens, Virtual Environments and Information Literacy* that “game-style virtual environments are highly motivating and engaging”. To fully capture the attention of the students, a library should continue to innovate and provide timely and relevant activities for its clients. Moreover, Detlor et al (2012) suggests that active learning strategies employed in an IL session will yield an increase in a student’s learning outcome. On the other hand, a one shot library instruction engagement cannot be effectively driven as proven by Walker and Pearce (2014). In addition, they suggested that “there must be a concerted effort to create a proper library as third place in which engagement is driven by both targeted, as well as point-of-need, instructional efforts”.

OBJECTIVES AND METHOD

The objectives of this paper are:

1. To describe the design, development, and implementation of lamInfoSMART as a creative tool for engaging students in IL program, and
2. To showcase and share the IL practices and programs of De La Salle University – Manila Libraries.

The paper features the IL campaign practices of De La Salle University Libraries. Specifically, it narratively discusses the various IL methods and practices used during the IL week campaign of the DLSU Libraries dubbed as “lamInfoSMART”.

DISCUSSION

Information Literacy Practices in Selected Libraries in the Philippines

Filipino librarians began studying IL assessments in the early 2000s. This is purely based on the recorded study catalogued by the University of the Philippines (UP) - School of Library and Information Studies (SLIS). According to Nera (2006), the UP SLIS conducted a forum on IL in 2005. This is probably the first strategy where the Philippines started to become active in disseminating information about IL.

In 2011, the University of the Philippines’ Main Library launched their Library Instruction Program (LIP) dubbed as “Research Made Easy @ Your Library.” It served as a “venue in providing an information literacy experience in order to build expertise in mining the wealth of resources available to UP students, faculty and staff.” There are four program designs available for each learner: (1) Library Orientation Program, (2) Specific Instruction Program, (3) Listen and Learn @ Your Library, and (4) Web-based How to’s? There are also eight available topics that clients may select if they want to undergo a

Information literacy campaign

LIP. The topics are: 1. Library in a Nutshell, 2. Discovering Information Resources Using the WebOPAC, 3. Understanding Library Databases, 4. Connecting to Online Subscriptions and Finding Journal Articles, 5. Thou Shall not Plagiarize: Researching Ethically, 6. Referencing 101, 7. Evaluating Library Resources, 8. Keeping Current with the Literature. (UPD Main Library, 2011).

In 2012, Ateneo de Manila High School started their Information Literacy Program for High School students with the following goals (Cabunagan, 200?):

1. To teach students to analyze and evaluate information for accuracy and bias,
2. For students to gain the ability to find and use information purposefully,
3. For students to become adept at using search and retrieval skills to locate information.
4. To introduce the students to materials that they can use to enhance their reports and presentations,
5. To familiarize students with trends in instructional media and online information retrieval, and
6. To inform the students about the services offered by the EMC.

Generally, the IL programs in the Philippines are not yet structured and institutionalized. There may be a small percentage of school and academic libraries conducting a full-blown IL activity. This is the why academic libraries are really pushing for the development of a more defined IL program to better support the lifelong learning of the students and other members of the academic community.

Information Literacy in DLSU Libraries

The information literacy program of DLSU Libraries is offered to students, both graduate and undergraduate, faculty members, and to a certain extent, visitors/visiting users. As DLSU Libraries continue to innovate, it has re-invented its information literacy program. The Libraries provide IL instruction to aid library patrons in becoming independent and lifelong learners. There are two categories of IL instruction sessions available to faculty and students namely the classroom type and quick start/individualized sessions (popularly known as Face-to-Face with RIA (Roving Information Assistant)).

For classroom type sessions, the Libraries offer the following modules: (Module 1) Library Research Basics and Tour, a 1.5 to 2 hour presentation and tour specifically designed for new students to introduce the different libraries and learn the basics of finding information in each of these libraries; (Module 2) Subject Database Searching, a 2-3 hour intensive hands-on practice of using various subject databases; (Module 3) Library Basics and Database Searching, a 2-3 hour lecture and hands-on demonstration of library research and searching multi-disciplinary databases; and (Module 4) Specialized Instructions, a customized, course-related instruction that focuses on advanced IL skills. More information about the program can be accessed here: <http://www.dlsu.edu.ph/library/infolit/>

To fully engage the whole academic community, the lamInfoSMART campaign was introduced. The objectives of the campaign were the following:

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1. To promote the teaching of IL as part of user education program of the DLSU Libraries,
2. To raise awareness on the importance of information literacy as a vital component of lifelong learning, and
3. To make LaSallian students information literate by teaching them the essential skills of finding and using the right information in pursuit of academic and research excellence.

The lamInfoSMART Campaign

The lamInfoSMART campaign is a response to the Philippine Accrediting Association of Schools, Colleges and Universities' (PAASCU) recommendation on "creative awareness about the availability of the user education program to other research-oriented classes". The event was held from 25 to 29 November 2013 and comprises of different activities that aimed to nurture the IL skills of Lasallian students in pursuit of lifelong learning.

The activities during the event were the following:

- A. Exhibit featuring the Information Literacy Cycle
- B. Launched of the League of Information Assistants (LIA) and Roving Information Assistant (RIA)
- C. A Forum on Information Literacy
- D. Poster-Making Contest
- E. The Let's Turnitin Campaign
- F. Library Scavenger Hunt
- G. Tweet and Win Contest
- H. The Information Literacy Amazing Race
- I. The Information Literacy Online Quiz

Information Literacy Cycle

The laminfoSMART campaign features an exhibit on the Information Literacy Cycle with the purpose of guiding students and potential library users on how to effectively search, retrieve and use information available in the library. The IL cycle was patterned after the Information Literacy Competency Standards for Higher Education and was introduced by the Association of College and Research Libraries (ACRL). The cycle is composed of the following steps:

"(1) recognize the need for information and determine the nature and extent of the information needed; (2) find needed information effectively and efficiently; (3) critically evaluate information and the information seeking process; manage information collected or generated; (4) apply prior and new information to construct new concepts or create new understandings; and, (5) use information with understanding and acknowledge cultural, ethical, economic, legal, and social issues surrounding the use of information" (ACRL, 2000).

1. Define Question – the premise of this step is to make the topic a question in order for the student or the researcher to easily find relevant information about the topic. After transforming the topic into a question, the step also suggests identifying keywords on the question and understanding their meanings. Additionally, looking

Information literacy campaign

into search terms or synonyms are also key factors in this step as well as making the effort to narrow or broaden the question.

2. **Identify Sources** – it is very important to have an understanding on the different sources available for a particular research topic. This step suggests the researcher must know how to identify types and formats of information sources such as Academic Journals, Primary Sources, Electronic Books, Artworks, Multimedia and Theses. Information on how to distinguish the difference between scholarly, trade and popular sources are also included in this step
3. **Search Information** – in the case of the DLSU Libraries, there are a number of available search tools that students and researchers can use to find information. This step is vital because it allows the researcher to select the most appropriate search tool to use. Additionally, the DLSU Libraries offer different online databases to search and access thousands of electronic resources. The step offers tips and tricks on which database to use once the research question has been identified.
4. **Locate Information Sources** – this step guides the researcher on how to locate information sources (print, non-print and electronic) inside the library. Information on the different library sources is also included here as well as instructions on how to know if the library subscribes to a specific online resource.
5. **Evaluate Information Sources** – with many available sources in the library, it is mandatory for the researcher to know how to evaluate them as well as determine their reliability. The Currency, Relevance, Authority, Accuracy and Purpose (CRAAP) test is a tool that can be used to evaluate information.
6. **Using and Sharing Information** – the last step of the IL cycle is about teaching researchers how to treat information ethically. Guidelines on how to accurately cite sources to avoid plagiarism as well as tips on summarizing and paraphrasing are included in this step. Lastly, a detailed instruction on how to use Turnitin, a web-based originality checking software is also discussed here.

League of Information Assistants (LIA) and Roving Information Assistant (RIA)

The DLSU Libraries also launched two new services dedicated to better the reference and research service assistantship to all library patrons of the university. The first service launched during the event is the The League of Information Assistants or LIA. It is a reference chat service where library users are given access to connect and ask any reference question to a particular virtual subject librarian.

While the library already has LORA or the **Library Online Reference Assistant** who regularly answers any library related concern, LIA makes the reference experience more specific as it allows the opportunity for library users to ask in-depth inquiries and questions related to a particular topic or subject. Using the Library's website, any library user who would like to ask subject related questions on Education, Archives, American Studies, Business and Economics, Law, Science and Technology and K-12 Education can click on an Assistant and the virtual subject librarian will be ready to provide answers.

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Additional information on LIA can be accessed through this link: <http://librarynewsette.lasalle.ph/2013/12/introducing-LIA.html>



Figure 1: League of Information Assistants (LIA)

The second service that was launched during the lamInfoSMART week is the Roving Information Assistant (RIA). It is a one-on-one research and reference assistant available to all bona fide students, faculty and staff of the university. Given a specific schedule, DLSU librarians who serve as RIA shall rove around the libraries and approach library patrons who need help. Library users who are interested in availing RIA's service may also book an appointment and select their desired date and time of consultation based on the RIA's availability.

The RIA service is limited to helping patrons find answers to research questions, bibliographic and technology instruction and reader's advisory. As such, it will not cover the following: (a) computer configuration, maintenance, and troubleshooting; (b) provision of investment, legal, or medical advice; (c) tutoring or homework help; and, (d) job interview preparation (DLSU Libraries, 2014).

Demystifying Information Literacy: A Forum

To promote the teaching of IL and raise awareness on its importance, one of the key events during the lamInfoSMART week is a forum entitled *Demystifying Information Literacy*. The resource speaker for this forum is Ms. Marian R. Eclevia, the Coordinator for Readers' Services and the Head Reference Librarian of the DLSU Libraries. The forum focuses on defining IL and its relation to lifelong learning. The IL cycle discussed above is also a major part of the lecture and the discussion was actually the basis for assessing the IL skills of the participants who attended the forum. Each step in the IL cycle was explained in full detail and in each step, an assessment quiz was given in order to determine the IL skills of participants. The results of the assessment were very

encouraging as most of the participants are “proficient”. Only a small number are in the “advanced” and “novice” level.

Poster Designing Contest

Ideas are best shown in pictures and this contest helped us to identify what students think about IL. Seven Lasallian students joined the contest and drew different pictures of what they think IL is all about. From archers going to a library to eyes looking in a magnifying glass, this contest surely made the participants read about IL and relate it to their lives as learners.

Photos and other details of the contest may be accessed through the DLSU library’s online newsletter available at <http://librarynewsette.lasalle.ph/2013/12/iaminfosmart-poster-making-winners.html>

Let’s Turnitin

Knowing how to treat information ethically is also one of the important advocacies of IL. During the lamInfoSMART week, one of the activities that aim to strengthen the awareness of library users in information ethics is to teach them how to properly and correctly cite their sources. This was done through informing library users with different citation tools to use for their search work. Furthermore, the lamInfoSMART team also took this opportunity to promote Turnitin, “a cloud-based service for originality checking, online grading and peer review of researches” (DLSU Library Newsette, 2014).

The objective of this activity is to use information ethically and legally to accomplish a specific purpose. The expected outcome is to increase usage of the subscribed online plagiarism detection tool (e.g. Turnitin) and guide library patrons on how to cite used/read articles and/or references correctly using APA/MLA/Chicago.

A program called Let’s Turnitin was part of the line-up of activities. In this program, library users are treated with one-on-one tutorial in using Turnitin. A contest was also initiated to allow students and even faculty members to try this cloud-based service. Interested participants who have a ready-made paper may upload it to Turnitin and anyone who received a passing originality report wins exciting prizes. The turnout of individuals who joined the contest was good and feedback was positive as they were able to try the service and found its features to be very useful especially during their thesis writing stage or during their research work.

Library Scavenger Hunt

This was a three-day event participated by different group of students. The hunt was divided into two categories which is (1) “Print” where answers/treasures can be found using the print materials available in the library and (2) “Online” where answers/treasures can be found using the online resources (e.g. ejournals, ebooks, online catalog and the Library’s website). Each group has the option of choosing which category they want to answer and the group who answered correctly received prizes.

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The objectives for the Library Scavenger Hunt are to teach students how to: (1) determine the nature and extent of information needed; (2) find and locate the needed information effectively and efficiently; (3) evaluate information sources; and (4) use information ethically and legally. Information literate/skilled students are expected to properly utilize the print resources and online search tools of the library as well as able to correctly cite articles and/or references using style manuals. The Library Scavenger Hunt is also expected to increase the awareness of the entire academic community of the Learning Commons' facilities, print resources and services.

Tweet and Win Contest

New technologies brought changes to how people communicate and Twitter™ is one of them. The DLSU Libraries made its first tweet in 2011 and from then, followers and tweets about the library and its services have significantly increased.

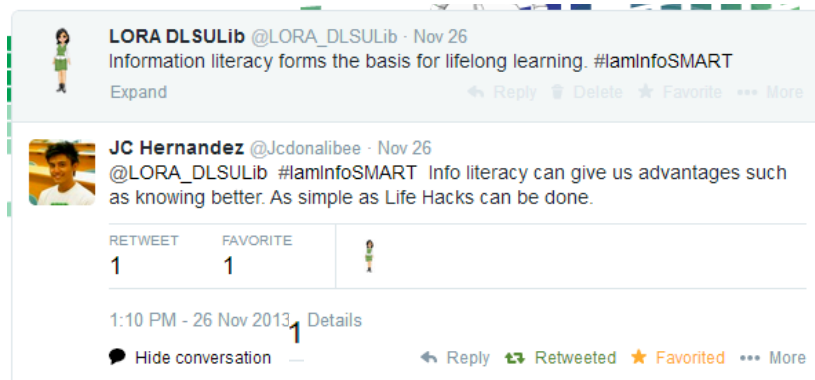


Figure 2: Screenshot Example of a Tweet and Win Entry

In order to continuously engage our followers with the Library's twitter account and to encourage more students to communicate with the DLSU Libraries thru twitter, a Tweet and Win contest was organized where LORA tweeted about IL for 3 consecutive days. Students who replied on LORA's tweets and got a significant number of likes and shares won the contest.

The Information Literacy Amazing Race

The Information Literacy Amazing Race is the most anticipated event by the students. This was held on the last day of the activity but as early as the first day. However, many students were already signing up to join. Similar to the TV series, the Amazing Race, each group was given a task at each pit stop. After successfully completing a task, an envelope containing a clue was given to them which will lead them to the next stop until they reach the last pit stop. Each task was completed using both the Library's print and online resources and services.

Similar to the objectives and outcomes of the Library Scavenger Hunt, the Amazing Race was initiated to better the information seeking skills of the library clientele as well as strengthen their citation skills. At the end of this activity, library users will become more familiar with various search tools available in the Library as well as the different services and facilities.

The Information Literacy Online Quiz

At the end of the IL exhibit, three computers were set up for the IL Online Quiz. The set of questions was taken from the information that are on display throughout the exhibit. The aim was to identify whether the library patrons were able to learn something and to encourage them to read and prizes were given to those with high scores. A total of 16% of the students who answered the online quiz got the highest score and 79% got a passing score. Answers were collated to identify which question got the highest and lowest correct answers. The results will be used as a basis for improving the IL sessions.



Figure 3: iamInfoSMART Amazing Race Poster

FINDINGS AND IMPLICATIONS

User Feedback

After the iamInfoSMART event held in November 2013, the Library received emails from the students requesting for the information from the exhibit to be made available online. It was published in April 2014 and currently, it has been viewed 601 times. A survey form was also published online to serve as an evaluation tool on the usefulness of the iamInfoSMART online module. The survey indicates that the module is mostly accessed by individuals from other institutions. About 50% of the respondents are non-affiliated individuals, 12.5 % are faculty members, another 12.5% are graduate students, and 25% are undergraduate students. Based on comments gathered during the survey, all of them believed that the module is helpful and will be very useful in conducting their research.

Implications

The iamInfoSMART campaign has received positive feedback from the DLSU academic community. It revolutionized the way the DLSU Libraries educate its library users in

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finding information and doing research properly. The DLSU Libraries vowed to continuously organize Interactive library and IL skills instructions to gain more insight from the library users which can be used to further improve the campaign. Furthermore, exposition of new information, ideas and services on IL will be regularly conducted throughout the lamInfoSMART exhibit which will be regularly held every November. The campaign also aims to provide ideas to fellow librarians and students from other universities on how to reorganize their existing IL programs by letting them know about new developments in IL at DLSU and other universities through the DLSU Blogsite (<http://librarynewsette.lasalle.ph>) and by opening the yearly lamInfoSMART exhibit to everyone.

CONCLUSIONS AND FUTURE DIRECTIONS

The success received in the launching of the lamInfoSMART campaign of the Libraries proves that a new way of teaching IL skills to students is needed – that it should be more fun and interactive. Information Literacy sessions of the DLSU Libraries were improved with games and online quizzes to be integrated in the future. The information in the exhibit panels were edited and were uploaded to the library’s website.

The lamInfoSMART week will now be an annual event of the DLSU Libraries. For the next instalment, a self-paced IL learning module is currently being developed. This IL learning module will be composed of various video tutorials that will be developed by students through a video contest currently hosted by the DLSU Libraries. Additionally, there will be different online tutorials and games that will enhance IL skills and help assist librarians in their quest to promote IL and lifelong learning.

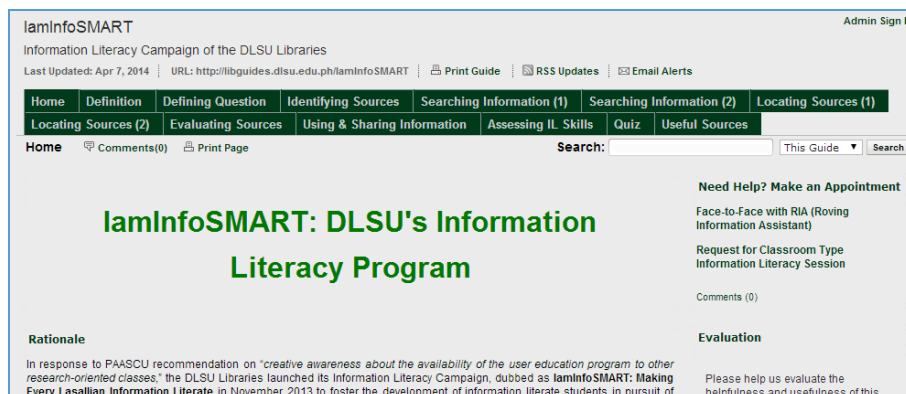


Figure 4: Screenshot of the online version of lamInfoSMART
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Use of information sources by social science scholars: implication for library service

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ABSTRACT

This study investigates the information seeking activities of the social science scholars in the Faculty of Arts, University of Peradeniya, Sri Lanka. The study adopted the survey method and data was collected through a questionnaire. The responses revealed that social science scholars used various sources of information for acquiring required information and that books and journals were the most preferred sources used for teaching and research. Most of the respondents indicated that browsing through book shelves is the main method used for acquiring current information in their subject disciplines. The study also revealed that most respondents preferred both print and electronic formats while English was the most preferred language of reading. With regard to IT based services most of the respondents use internet to access electronic journals, for email communication and to search OPAC and most of them use these services frequently. The results further revealed that most of the respondents use internet for educational purposes and they access the internet from home. Outdated reading materials, unavailability of foreign journals and required materials on their respective discipline in the library were mentioned as main problems faced when seeking information in the library. Based on the findings recommendations were made.

Key words: Information resources; Social science scholars; Library use; Library use; Sri Lanka

INTRODUCTION

Information is a very essential commodity for today's information driven society. According to Wilson (2000) information seeking is a term describing the ways individuals seek, evaluate, select, and use information. In the course of seeking new information, the individual may interact with different people, information sources and computer-based information systems. Information seeking is a process in which humans engage in order to advance and potentially alter their state of knowledge. It is also an important cognitive function related to learning and problem solving, sometimes known as a "higher cognitive process" (Marchioni, 1995)

Studying of information seeking activities of users is of paramount importance to libraries because libraries have a role to play in helping members meet their information needs. Therefore librarians are obliged to provide an effective information service for

the users to satisfy their needs. In order to achieve this goal, librarians must carry out studies on library use and information seeking patterns to assess current library practices to determine the future direction for library development (Tahir, 2008). Since information-seeking activities differ among user groups, academic librarians must understand the different information needs of different user categories in order to address their needs. Therefore understanding of information needs and information seeking pattern of various professional groups is essential as it helps in the planning, implementation and operation of information system and services in work setting (Devadason & Lingam, 1997)

Within library and information science research, a substantial body of literature exists on information seeking activities of social scientists. But no study could be found on use of information sources and seeking activities of academic social scientists in Sri Lanka. There was one study however which focused on information needs and use of resources by social science academics in the Open University, Sri Lanka (Gunasekera, 2008) which reported different information needs of the academics in the distance mode. Therefore, there is a pressing need for research in information needs and information seeking activities among academic social scientists in Sri Lanka. This study addresses the questions of how social science scholars at the University of Peradeniya locate and use relevant information, particularly through electronic resources and other technologies for their specific research and teaching needs. Various sources of information utilized by social science scholars in the university as well as the perceived problems when seeking information are identified.

For the purpose of the current study, the following definition was used for the term social science scholars. Social science scholars are defined as any scholar who considers him or herself a member in one or a combination of two or more of the following academic disciplines: psychology, sociology, political science, geography, history, economics, education, law, and management. (Meho , 2001)

OBJECTIVES OF THE STUDY

The study was intended to ascertain the information seeking activities of social science scholars in Faculty of Arts, University of Peradeniya, Sri Lanka. The specific objectives of the study were as follows:

1. To find out information sources and methods used by social science scholars for teaching and research
2. To study the purpose of their information seeking
3. To study their library use and information gathering activities
4. To study the use of information technology
5. To reveal language used in reading material
6. To find out problems faced by social science scholars while seeking information.

LITERATURE REVIEW

Since the 1960s and even before, there has been an increasing volume of literature on user studies, information needs and information seeking activities (Nandozie, 2008). Many studies have been conducted to investigate the information needs of library users based on their subject interests, occupation, information environment and geographical location. Information needs and information seeking patterns of academics have been a popular area of research for information scientists for decades (Majid and Kasim, 2000).

In 1990, Sethi (1990) conducted a study on information-seeking activities of 256 Social Science faculty members in Indian universities. It was found that the respondents preferred journals, books, government documents, and reference sources for meeting their information needs. Folster (1995) conducted another study to review social scientist's information-seeking patterns and found that faculty members preferred journals instead of other sources to follow citations instead of using indexes or abstracts to find articles. They also did not view librarians as important sources of information.

In 2000 a longitudinal study of information use by 124 humanists and social scientists of a university in Argentina was conducted by De Tiratel (2000). The study found that a majority of the social scientists (77%) do not use bibliographies. They first consult colleagues, prefer books (47 %) than journals (30%), and have a preference for Spanish materials (73%). These social scientists made less use of the library. Shokeen and Kushik (2002) studied information seeking patterns of social scientists working in the universities in Haryana. They reported that most of the social scientists visit the library daily and that browsing was the most preferred method to locate the required materials followed by searching through indexing and abstracting periodicals and citations in articles respectively. The study further reported that social scientists use current journals followed by books.

SuriyaNambi (2004) also carried out a research project on information seeking pattern of faculty members from Government Arts Colleges in Cuddalore District, India. The purpose of their study was to investigate how faculty members seek information from the library. It was revealed that most of the respondents (38 %) visited the library several times a week to meet their information needs. Francis (2005) investigated the information-seeking behavior of a social science faculty of a university in the West Indies. The study found that the respondents used textbooks (85%), journals (54%), monographs (42%), and conference proceedings (27)% for teaching purposes; while they used journals (84%), conference proceedings (58%), conferences (54%), and newsletters/bulletins (39 %) for conducting research. The study further revealed that they mostly depended on citations from journals (85 %), books (81%) and indexing and abstracting tools (42%) for identifying retrospective materials and that they preferred to access journals in electronic format.

Al-Suqri (2007), investigated the information-seeking behavior of the Social Science faculty at the Sultan Qaboos University in Oman. He found that the most frequently types of information resources used were journals and books. They still prefer print rather than electronic resources indicating that the availability of information resources in that format in the Arabic language was very limited. The respondents made fewer

visits to the library to check out materials. The use of online information resources was increasing and changing the way they seek information for their research and teaching purposes. Another study was carried out by Shen (2007) to investigate social scientist information needs and activities and perceptions in relation to today's information systems and services in the Sociology Faculty, University of Wisconsin-Madison. The study found that the social scientists use variety of information sources and channels, primarily electronic information systems and services in seeking information. These findings refine the understanding of the dynamic relationship between information systems and services and their users within social scientific research practice and provide implications for scholarly information- system development.

Later Marouf and Anwar (2010), investigated the information behavior of social science faculty at Kuwait University and they found that the faculty members heavily depend on books and journals for teaching and research purposes. Recently, Kumar and others (2011), conducted a study to investigate the use of information sources by social scientist in the Mizoram University. They found that social scientist heavily depend on print sources (books and journals) than electronic sources and more than 80% of them use seminars, workshops and conferences for seeking information.

METHODOLOGY

The study used the questionnaire-based survey method to investigate the information seeking activities of academic social science scholars at the University of Peradeniya Sri Lanka. The sample for the study was 108 staff members who work in the Departments of Sociology, Psychology, Geography, Political Science, Economics, Education, Law, History and Management, in the Faculty of Arts. The faculty handbook was used to obtain this information.

Survey Questionnaire

After comprehensive literature search, a questionnaire was prepared which included both open ended and closed ended questions. The questionnaire was based on a questionnaire used in a previous study (Patitugkho & Deshpande, 2005) with some modifications. The questionnaire comprised four parts; background information, types of resources used for research as well as teaching, methods used for seeking information and usage of information technology. These questions attempted to quantify social science scholars' library use and how this affects different aspects of information seeking activities of them. The questionnaires were personally administered among the staff members in the above departments between the months of January to March, 2014. A total of 61 completed questionnaires were received, showing an overall response rate of 56 %. The number of questionnaires distributed among the departments and the received questionnaires are given in the Table 1.

Table 1: Distribution of Questionnaires among the Departments

	Department	No.of questionnaires distributed	No.of questionnaires received	Response rate (%)
1	Sociology	17	12	71
2	Psychology	10	03	30
3	Geography	16	07	44
4	Political science	13	04	31
5	Economics	20	14	70
6	Education	08	04	50
7	History	10	06	60
8	Law	02	01	50
9	Management	12	10	83
	Total	108	61	56

As shown in Table1, the Department of Management accounted for the highest response rate (83%) and the second highest rate by the Department of Sociology (71%) followed by the Department of Economics (70%) of response rate.

DATA ANALYSIS

The data gained from the responses were analyzed to understand social science scholars' information-seeking activities and the analysis was based on the questionnaire survey of the research. The data collected from the survey were analyzed using simple percentage technique.

Demographic characteristics of the sample

The results obtained from the questionnaire on demographic characteristics of the sample are presented in Table 2 where the respondents represented 36 (60 %) males and 25 (40%) females. The age of participants ranged from 23 years to 63 years and more than half of them were within the age group of 21 to 40 years. In terms of academic rank, most of the respondents (62%) were senior lecturers, 31% lecturers, and 7% professors. With reference to their qualifications, the majority of the participants had postgraduate degrees.

Purpose of information seeking

The purpose of seeking information has high validity in doing research on information seeking activities. The purpose is a guiding tool to select different types of information. The participants of the survey were asked to indicate the purpose of information seeking according to their choice in the list of purposes given in the questionnaire. The

results revealed that 59% of the respondents seek information to prepare lecture notes and 52% seek information to update their knowledge (Table 3). The gathering

information for writing and presenting scientific papers has been the next in line with 46% of participants. Of the respondents, 38% have indicated that they seek information for research purposes while 34% of them seek information for guiding researchers.

Table 2: Demographic Characteristics of the Respondents

	Demographic Characteristics	Frequency	Percentage
Gender	Male	36	60
	Female	25	40
Age	21 to 30 years	17	28
	31 to 40 years	16	26
	41to 50 years	07	11
	51 to 60 years	12	20
	> 60 years	09	15
Academic Rank	Lecturer	19	31
	Senior Lecturer	38	62
	Professor	04	07
Highest Qualification	Bachelors	18	29
	Masters	34	56
	PhD	09	15

Table 3: Purpose of Information Seeking

Purposes	Frequency	Percentage
Preparing lecture notes	36	59
Update their knowledge	32	52
Writing and presenting papers	28	46
Research purposes	23	38
Guiding researchers	21	34
Entertainment	06	10
For Master's and PhD research	04	06

Information sources used for research and teaching purposes

Types of information sources used by any user category are a valid indication of the preference and the availability of information sources in different disciplines. The respondents of the present study were asked to indicate information sources such as books, journals, conference papers that they very often prefer to use to meet the information needs of teaching and research purposes. Table 4 presents the data obtained.

As revealed in the Table 4, books are the main information sources used by the social science scholars at the University of Peradeniya for teaching (69%) and research (51%). Seventy percent (70%) of participants used journals for research while 36 % used journals for teaching. This finding confirmed the results of other studies (Shokeen & Kushik, 2002; Francis, 2005). Web resources have been identified as the third major

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information source used by social science scholars, for teaching (26%) and for research (39%). Theses and dissertations, conference / seminar papers and government publications accounted for a low percentage when compared with books, journals and web resources.

Table 4: Information Sources Used for Teaching and Research Purposes

Source	Teaching purpose		Research purpose	
	Frequency	Percentage	Frequency	Percentage
Books	42	69	31	51
Journals	22	36	43	70
Web resources	16	26	24	39
Theses and dissertations	12	20	17	28
Conference/seminar papers	09	14	11	18
Government publications	09	14	14	23
Indexes/abstracts	04	6	09	15
Bibliographies	04	6	08	13

Preferred information formats

Respondents were asked to indicate the information format preferred by them for meeting their information needs.

Table 5: Preferred Information Formats (Multiple Responses)

Channels of information	Frequency	Percentage
Printed and electronic	46	75
Printed only	09	15
Electronic only	07	11

As revealed in Table 5, the social science scholars prefer to use printed and electronic information sources for their academic work. Of the respondents, 15% indicated that they prefer to use printed materials whereas 11% of preferred to use electronic materials only for their academic work. Several previous studies support the findings of this study and indicated that there may have been an increase in the use of technology in information seeking by social scientists, but they still prefer to use print resources. (Meho & Hass, 2001 and Francis, 2005)

Preferred language for reading

The social science scholars were asked to indicate the most preferred language to seek information. In Sri Lanka, there are three major languages used for speaking and writing; Sinhala, Tamil and English. In general, academic staff in the universities is competent in using English language in addition to their mother language. The reason of high use of

English may be that major texts books and other materials are mainly written in English language.

The data revealed that the most preferred language for social science scholars is English with 95% of respondents (Table 6). Twenty three percent of respondents indicated that they preferred Sinhala followed by 7% indicating Tamil as the preferred language for their reading.

Table 6: Language Use (Multiple Responses)

	Language	Frequency	Percentage
1	English	58	95
2	Sinhalese	14	23
3	Tamil	04	07

Information seeking methods

Participants were asked to indicate the methods employed by them to obtain current information in their field of study. The data revealed that fifty one (51%) of the respondents browsed information by through looking book shelves. Thirty nine percent of the respondents consulted a subject specialist in the field followed by 29% of respondents using abstracting and indexing journals. Several research studies provide some evidence supporting this finding. (Line, 1999; De Tiratel & Romanos, 2000; Francis, 2005) Twenty one percent of the respondents have indicated that they use library indexes and 20% use publishers' catalogs for seeking current knowledge in their field.

Table 7: Information Seeking Methods (Multiple Responses)

Methods	Frequency	Percentage
Browsing through book shelves	31	51
Consult a subject specialist and expert in the field	24	39
Abstracting and indexing journals	18	29
Library indexes	13	21
Publishers catalogs	12	20
Internet	07	11
Consult colleagues	04	06
Discussion with librarian or reference librarian of the library	03	04
Mass media	02	03

Library visits

The use of the library can be measured in various ways. One such way is the frequency of user visits to the library. Frequency of use is an important indicator of its relative importance.

Table 8: Library Visits

	Library visit	Frequency	Percentage
1	Daily	09	15
2	Once a week	19	31
3	Once or twice a week	21	34
4	Once a month	05	08
5	When necessary	07	12
	Total	61	100

The findings revealed that 15% of the respondents visited the library daily, while 34% visited once or twice a week and 31% visited once a week. It is surprising to note that 12% of the respondents visited the library only when it was necessary. This finding is in contrast with the Indian study (Shokeen & Kushik, 2002) which found that the majority of the social scientists visit library daily.

Use of IT- based sources and facilities

It is believed that information and communication technology (ICT) play a significant role in supporting and enhancing academic and research activities of the teaching staff in universities. ICT has provided the library with many avenues to improve their services and resources for the user community. E- Resources are becoming a useful information source for academic and research work in universities. University students and teachers prefer to use e-resources for the convenience and currency of the sources. One of the objectives of this study was to examine the use of information technology by the social science scholars at the University of Peradeniya and a question was asked requiring the respondents to indicate the different electronic facilities which are available in the internet. The data revealed (Table 9) that 92% of respondents use internet facility for academic and research work.

Table 9: Use of Electronic Resources and Services (Multiple Responses)

Electronic services / resources	Frequency	Percentage
Internet Facility	56	92
Electronic Journals	51	84
Electronic Mail facility(E-Mail)	46	75
Online Public Access catalog (OPAC)	34	56
Library web pages	12	20

As shown in Table 9, 84% of respondents use the internet to access electronic journals. Seventy five percent (75%) of respondents indicated that they use internet for e-mail communications. Online Public Access catalog (OPAC) is being used by 56% of social science scholars while 20% of respondents use library web pages to gain information. Some library web pages carry full text documents and it is a single access point to gather information for teaching and research. The data of the present study shows a low usage of the library web pages by the respondents. It can be attributed to the fact that the

library web pages are not properly publicized for the academic community. The respondents who used e-resources were also asked to mention the frequency of use.

Table 10: Frequency of Using E-Resources

Electronic services/ resources	Frequently	Sometimes	Rarely
Internet Facility	51(91%)	04(7%)	01(2%)
Electronic Mail facility(E-Mail)	40(87%)	06(13%)	0
Electronic Journals	32(63%)	16(31%)	03(6%)
Online Public Access Catalog (OPAC)	21 (62%)	09(26%)	04(12%)
Library Web Pages	05(42%)	06 (50%)	01(8%)

It is evident from Table 10 that 91% of the respondents used internet and 87% of the respondents used e-mail facility frequently. At least 63 % of them used electronic journals and 62% of them used OPAC frequently. Only 42 % of the respondents used library web pages frequently.

Use of internet

The internet plays a vital role in the teaching, research and learning process in the present academic environment. Various internet services such as email, World Wide Web, online journals and databases have had major impact on the information environment, within which social science researchers operate particularly in Sri Lanka which has limited resources locally available in the form of research materials and information databases. A question was asked to identify the various purposes for which internet is used by social scholars and the results are presented in Table 11.

Table 11: Purpose of Internet Use (Multiple Responses)

Purpose	Frequency	Frequency
Education	52	93
News	34	61
Entertainment	12	21
Obtain health information	11	20
Other (Online shopping)	05	09

A total of 93% of the respondents use the internet for education purposes. This finding confirmed the results of earlier findings that reported that a majority (52%) of the faculty staff used internet for education purposes (Patitugkho & Deshpande, 2005). Sixty one percent (61%) of the respondents use the internet for obtaining current news while 21% of the respondents use the internet to obtain health information and 20% use the internet for entertainment. (Table 11)

Since most of the respondents (93%) mentioned that they used the internet for educational purposes, they were further asked to indicate the frequency of use of the Internet. Eighty eight percent of the respondents use the Internet daily whereas 9% of

Use of information sources by social science

the respondents use at least a once a week and 3% use the internet once a month. (Table 12).

Table 12: Frequency of Internet Use

Frequency of use	Frequency	Percentage
Daily	49	88
At least once a week	05	09
Once a month	02	03

The respondents were also asked to mention the place/s where they access the internet.

Table 13: Locations Used to Access Internet (Multiple Responses)

Place	Frequency	Percentage
Home	38	68
Department	29	52
Library	14	25
Internet café	03	09

In terms of where they access the internet, nearly 68% of the respondents indicated that they accessed the internet from home while 52% access the internet from their departments. Of the respondents, only 25 % of them access the internet from the library and 9% of them access the internet from the internet café (Table 13).

Internet search engines

In order to obtain further information on internet use, respondents were asked to mention the internet search engines used by them.

Table 14: Search Engines

Search Engine	Frequency	Percentage
Google	47	84
Yahoo	07	12
Other	02	04

The data revealed that most of the respondents (84%) use Google and 21% of the respondents use Yahoo to access the internet (Table 14).

Problems faced while seeking needed information

The study looked at problems faced by social science scholars while seeking information. Only twenty nine participants (48%) responded to this question. Table 15 reveals the problems and difficulties in detail which provide useful information for library management. Most of them pointed out that they face the problems such as outdated reading materials (66%), non availability of foreign journals in the library (48%), non

availability of required materials (41%) and lack of current periodicals in the library (41%).

Table 15: Difficulties and Problems

	Difficulties and problems	Frequency	percentage
1	Outdated reading materials	19	66
2	Unavailability of foreign journals in the library	14	48
3	Required material is not available	12	41
4	Lack of current periodicals	12	41
5	Material is not available on the shelf	10	34
6	Insufficient computer terminals available in the library to access internet	10	34
7	Information sources are scattered everywhere	7	24
8	Inadequate opening hours	5	17
9	Lack of knowledge about library use	5	17

SUMMARY OF FINDINGS AND RECOMMENDATIONS

In general, social science scholars seek information for preparing lecture notes, updating their knowledge, writing and presenting papers and research purposes. With regard to the information sources, a majority of the respondents used books and journals for research as well as for teaching purposes. It was found that all the respondents preferred to use print and electronic formats for meeting their information needs. Browsing through book shelves was the most common method to locate new knowledge of their respective field. It was found that most of the respondents used internet for academic and research purposes and most of them used the internet to access electronic journals and for email communication. The main obstacles the respondents faced while seeking information are; outdated reading materials, non availability of foreign journals in the library, non availability of required materials on their respective field of study and lack of current periodicals. On the basis of findings received, the following recommendations are made for the improvement of the library.

1. As the respondents depend heavily on print resources (books and journals), the library needs to promote awareness and use of electronic resources by conducting user education programs. Training on information literacy skills with hands on practice sessions should be conducted for the faculty staff to improve their searching skills.
2. The library should have a detailed collection development policy that should make provision to input faculty recommendations and use them for library acquisitions.
3. The library should subscribe to scholarly journals (print as well as electronic) and acquire current materials to update the collection. At the same time, the library should provide more IT based resources and services to update current knowledge.
4. The library should conduct information needs studies with academic departments at regular intervals in order to involve the user community in the

development of the library collections and to develop effective user-centered library and information services.

5. Library should develop strategies to disseminate information to faculty staff on new resources and services available in the library effectively.
6. The library has to identify strategies to develop collaboration between faculty and library that will help understanding the needs of the faculty.
7. There is also a need to conduct further research on certain aspects related to this study. Information-seeking activities of other academic groups consisting of closely related disciplines should also be conducted.

CONCLUSION

The study concluded that social science scholars used a variety of resources, formats and information channels to fulfill their information needs. Several previous studies support the conclusion of this study that social science scholars utilize a wide variety of sources in their information seeking. (Stoan, 1991; Meho, 2001; Case, 2002; Shen, 2007) The study revealed that the respondents used IT-based library resources and services less frequently compared with printed sources. This might be due to lack of awareness about their availability, improper selection of materials or unfamiliarity with these products. Similarly, it is also noted that email is the most popular internet application, whereas other internet-based services and applications are only used by a limited number of respondents. This is a matter of concern, as presently, electronic information sources and the internet are considered extremely important tools for effective teaching and research. Therefore, the library should review its electronic information resources while at the same time conduct extensive user awareness and user education programs. This type of study on information seeking activities and library use will enable the library to evaluate and align the library resources and services according to users' requirements. The results of the study provide valuable information on current information needs of the social science scholars which should be used to make important management decision about collection, services, electronic information sources and necessary infrastructure that needs to be used them effectively.

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Socio-cultural approach to digital information literacy of postgraduate students in Sri Lanka

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ABSTRACT

In today's information era, combined with technological advancement, most of the information is presented in the digital form. Therefore, the individuals who deal directly with information should be fluent in handling digital information or they should be digital information literate, since creating a digital literate student community is responsibility of librarians and Information Science and Technology teachers. The current study is a socio-cultural approach to investigate the digital information literacy level of postgraduate students in Sri Lanka. Hundred and fifty subjects from two reputed universities in Sri Lanka were included in the study, and the results clearly indicate a higher shift towards digital information literacy skills among the post graduates. Based on this study, recommendations have been made to develop the infrastructure facilities at university level, and to facilitate the availability of more digital information literacy programs for postgraduate students through their respective libraries.

Keywords: Information literacy; Digital information literacy; Socio-cultural theories; Digital information literacy-Sri Lanka

INTRODUCTION

Since the 1980's 'Information Age' has been one of the key terms used to describe today's world. A society characterized by a high level of information intensity with creation, distribution, use, integration and manipulation is called an 'information society'. Information literacy is the prerequisite for a developed society and individuals from primary school to senior citizens must attain a certain level of information literacy in order to face the challenges of the Information Age (Edzan 2008). Information literate individuals understand more than how to find information, they understand its limitations and the need to examine how they use information, and they understand how to manage and communicate information (Nawarathne and Singh 2013).

One of the most salient features of the information society is the continuous change. As the amount of information increases, technology gains momentum, the use of

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technology is becoming widespread and societies are restructuring themselves in ways that react to these changes (Kurbanoglu, Akkoyunlu, and Umay 2006). Internet is the super highway of information and a vast array of digital information comes through Internet. Although the library and information professionals are responsible in making the students information technology literate, information literacy does not merely depend on library skills and it is focus using various information sources independently. However, the teaching information literacy competencies cannot be removed. With this hasty exploit of information which comes through widespread technology, the need is raised for expanding the definitions of information literacy. The new skills requirements related to the rapid development of new media and technologies have been given names and labels, such as information technology literacy, digital information literacy and media literacy (Limberg, Sundin, and Talja 2013).

Digital information literacy is one aspect of information literacy and very relevant for the 21st century, because the use of computers, other technological devices, the Internet and the World Wide Web has become integral to many forms of information access, communication and knowledge generally (Chandrashekar, Ramasesh, and Raju 2012). In this regard educational settings where change manifested itself as the creation of more diverse and digitally enhanced learning environments for their students, or librarians attempt on enhancing their students' digital information literacy skills through developing more and more digital resource collections and courses as well. According to (Hegarty et al. 2010) digital information literacy is the ability to recognize the need for, to access, and to evaluate electronic information. The digitally literate can confidently use, manage, create, quote and share sources of digital information in an effective way.

Digital information literacy level in Sri Lanka

The information society is seen to manifest itself in a variety of ways: in networks, in the economy, in technology, in expertise, content and action, leading to internationalisation and in the very idea of postmodernism (Viherä and Nurmela 2001). Not all countries in South Asia have attained the same level of development as an "information society". An island nation in South Asia, Sri Lanka, has a literacy rate of over 90%, which is one of the highest in the region. However, according to the survey of last year conducted by the Department of Census and Statistics, the digital literacy of the country had been far behind, at less than 10% in 2004. In the context of a national objective, the Sri Lankan government recognized the vital importance of developing the digital literacy skills of the nation. The Sri Lankan government's e-Sri Lanka strategy outlines the country's vision for the development of an information society and forms the basis for initiatives related to ICT development (*Mahinda Chinthana* 2005). In order that all citizens obtain the benefits of ICT, they need to be digital literate.

Even though Sri Lanka is a country with a small geographical span, the power of ICT plays a major role in almost all the fields. As such, Sri Lankan higher education is becoming increasingly technology-intensive (Aturupane 2008), since digital information is becoming essential to almost every aspect of modern academic life. This rapid influx of the new technologies and tools for interacting with them came at a time when libraries are struggling to share data across their own institutions (Marty and Kazmer 2011). Further, lecturers and librarians have been compelled to improve their own

digital information literacy skills and knowledge; in order that they will be better empowered to meet their students, with competency in this technological context, and feel better equipped to work with the students on improving students' information literacy skills. As a result almost all the university libraries in Sri Lanka have adopted various methods to improve the information literacy level of the students in the technological environment, ranging from limited orientation programs to dedicated information literacy programs with credit based and non-credit based methods.

This means that there is a need as never before, especially for academics and researchers to be information literate in this digital context. They require digital information literacy, and a degree of skill using computers and the Internet to be successful players in the workforce in a knowledge-based society. Therefore, it is clear that to live and work in the technology-enabled world of the 21st Century, digital information literacy skills are essential. With this objective in mind, this study was carried out to examine the digital information literacy among postgraduate students and to set the priorities for the promotion of digital information literacy among them. However, there has been very little effort to investigate such an objective in the literature of Sri Lanka. Therefore, the current study will be very significant.

LITERATURE REVIEW

In the Library and information science, the concept of information literacy refers to purposeful information practices in a society characterized by almost limitless access to information and information practices in digital environments (Limberg, Sundin, and Talja 2013). Most researchers have focused on access to digital information with the ICT revolution.

Literature demonstrates that a number of studies have been made on the use of e-resources by lecturers, research scholars and students all over the world. While a few researchers have revealed that there is low access to e-resources (Bashorun, Isah, and Adisa 2011); (Ojo and Akande 2006), the majority of researchers (Khan and Raju 2014) (Peiris and Peiris 2013); (Chandrashekhara, Ramasesh, and Raju 2012)(Hegarty et al. 2010)(Maharana and Mishra 2007) have revealed that there is a positive shift towards digital information literacy skills and capability even in Sri Lanka. For the majority this manifested as an increase in their digital information literacy scores and changes in the way they used and managed digital information. This included a change in attitude towards more open sharing of information, and a willingness to learn new technologies.

Socio-cultural theoretical perspectives

While growing attention is being paid to the researches on digital information literacy, less interest has been shown for theoretical perspectives. This may be because of the unavailability of particular theoretical underpinnings specifically for digital information literacy. However, the meaning of the term information literacy varies according to the theoretical lens from which it is approached. Although there are various theoretical approaches on information literacy, the socio-cultural perspective involves particular theoretical assumptions about the ways in which digital environments and tools reshape

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conditions for learning. It addressed the critical importance of social and cultural context to human cognitive development (Vygotsky 2012).

The socio-cultural perspective emphasizes that information seeking is carried out for a specific purpose in a specific practice, for instance for writing an academic thesis, and with the help of tools such as a library catalogue, a bibliographic database or Google Scholar. It emphasizes for information literacy research, not least for understanding how people learn to seek and use information, relate to how practices and digital media (and other tools for interacting with information) transform each other (Limberg, Sundin, and Talja 2013). Further, they state, for information literacy education this implies that it is important to reveal and make explicit the perspectives, values, and beliefs connected to specific tools for information seeking and how the application and understanding of these tools differ in different practices. This implies that seeking, critically scrutinizing, compiling or publishing information are always to some extent social activities (Säljö 2005). For example, the ways in which students today understand information seeking is integrated with their understanding of the physical objects for information seeking, such as Google, blogs and Wikipedia.

Further, the socio-cultural perspective emphasizes the material aspects of digital information (Limberg, Sundin, and Talja 2013). For example, the way in which a web page is structured and functions will influence the conditions for interacting with it. This means that a kind of evaluation of digital information is utilized.

Considering the above facts, the socio-cultural theoretical approach has been adopted for this study. The application of socio-cultural theory is, however, still new in information literacy research (Lloyd and Williamson 2008)(Wang 2007)(Tuminen, Savolainen, and Talja 2005). This study has been undertaken with the objective in mind to fill the gap in the theoretical approach to digital information literacy; and through its focus on information and information practices, to illustrate that the interaction between information seeking and use, and learning under digital culture is of vital importance.

RESEARCH DESIGN AND METHODOLOGY

Socio-cultural theories are based on the social constructivist paradigm which considers that knowledge is constructed socially through interaction and shared by individuals (Bryman 2012). Within the socio-cultural perspective information use should be studied in relation to the tools through which they are accessed and based on the social practices where they are carried out. Therefore, the socio-cultural perspective often favors ethnographically oriented research, which consists of rich qualitative descriptions of information use in their 'natural settings' in digital culture. However, this research contributes to the knowledge base by using a positivistic approach with quantitative methods, based on socio-cultural theoretical underpinnings.

The conceptual framework of the study is based on the concepts of socio-cultural theoretical underpinnings and past literature on information literacy under digital environment.

Socio-cultural approach to digital information literacy

Based on the above facts, some aspects were formulated in this taxonomy, to identify a digital information literate person. These were;

1. Recognition (of the information needed)
2. Tools (to search the information)
3. Access (obtaining the information)
4. Evaluation (of the reliability of the information and the effectiveness of the tools) and
5. Use or application (to create new understandings)

The conceptual framework of the study is depicted in Figure 1.

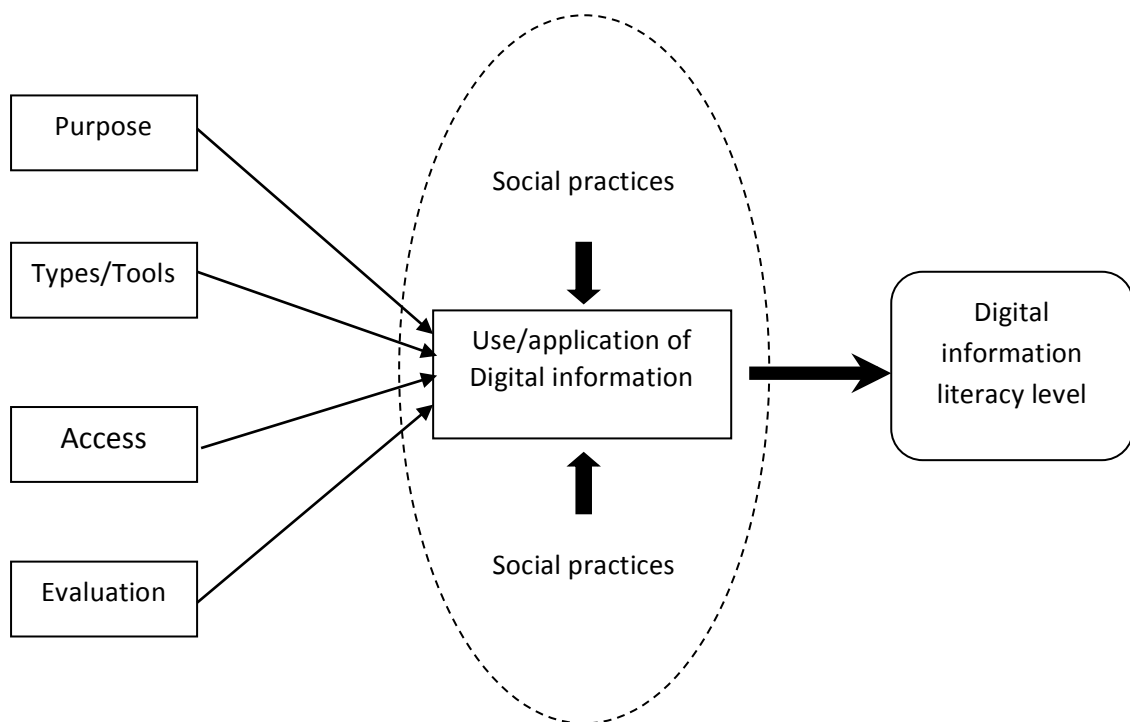


Figure 1: Conceptual framework of the study

The research design is based entirely on the conceptual framework. Conceptual framework indicates the identification of digital information through their purposes, types of information need, and tools that can be used to access them, and then to evaluate whether they are best suited to fulfill the information need. These aspects may complete the process of identifying the digital information literate person.

The research was designed in a manner so that the survey research strategy could be adopted for the study. Established data collection methods were followed in the selected research strategies, and therefore structured questionnaires were used as the data collecting methods based on the survey strategy. Questionnaires were electronically distributed during July-August 2014. Hundred and forty (140) post

graduate students from the University of Colombo and the University of Moratuwa were drawn for the investigation. The method of selection of the sample was based purely on purposive sampling, as the researcher wanted to select the subjects scrupulously based on their usage of digital information.

RESULTS OF THE STUDY

The majority of the respondents (67.8%) were from the University of Moratuwa and 32.2% were from the University of Colombo. The sample consisted of one PhD student; two M Phil students and the rest of the participants (97.9%) were those following a Master's Degree in the respective universities. Most of the post graduate students (42.9%) were between the ages of 31-40 years. Only 18.6% were above 40 years and 38.6% below 30 years. Results further showed that a lower percentage (43.9%) of post graduate students had followed an information literacy course under digital environment.

However, a majority of the respondents (67.39%) have more than ten years experience with computer and Internet use. Further, a higher percentage (58.99%) have rated themselves as having a high computer literacy level. 40.29% have rated themselves as having a moderate level of competence and only 0.72% had a poor level. These results reveal that there is a trend among postgraduate students to shift towards a digital environment.

Purpose of using digital information

As the first and last components of digital information literacy, the identification of the need of digital information literacy for their academic purposes, and measuring whether these purposes aim to create new knowledge was evaluated.

As depicted in Table 1, the largest percentage (91.4%) has identified that they need digital information literacy to keep their knowledge up-to-date. 88.6% needed digital information for their assignments, and 80.7% identified the need in order to support research.

Only 40% had sought digital information for writing their publications. However, the results reveal that more than 50% of the respondents have identified the need of digital information for almost all their academic purposes and no significant differences have been found with gender, age, ethnicity, community, and religion in relation to computer literacy.

Table 1: Purpose of using digital information

Purpose	Percentage
To update knowledge	91.4% (128)
To support research (dissertations)	80.7% (113)
To write publications	40.0% (56)
To prepare materials/ assignments	88.6% (124)
To prepare for exams	79.3% (111)
Regarding seminars/ conferences/ workshops	63.6% (89)

These results undoubtedly indicate that a majority of respondents have used digital information to create new knowledge. The respondents have identified the need of digital information to add new knowledge to their knowledge base at a higher percentage. This means that these scholars are moving faster on the path towards competency in digital information literacy.

Sources and tools used for digital information searching

According to the conceptual framework of the study, digital information sources and the tools employed to search digital information are also important components of measuring the digital information literacy level of the postgraduate students.

Table 2: Digital information sources use

Sources	Percentage
E-journals	76.3% (106)
E-articles	84.9% (118)
E-books	88.5% (123)
E-dissertations or theses	51.1% (71)
E-databases	43.2% (60)
Subject gateways	26.6% (37)
E-archives	34.5% (48)
E-forums/ groups/ mailing lists	64% (89)

As shown in Table 2, the highest percentage (88.5%) of respondents has used e-books to obtain digital information and a considerable percentage (84.9%) had referred e-articles. However, results reveal that a considerable percentage of respondents had used electronic formats of the major scholarly materials such as books, journals, scholarly articles, and theses, etc.

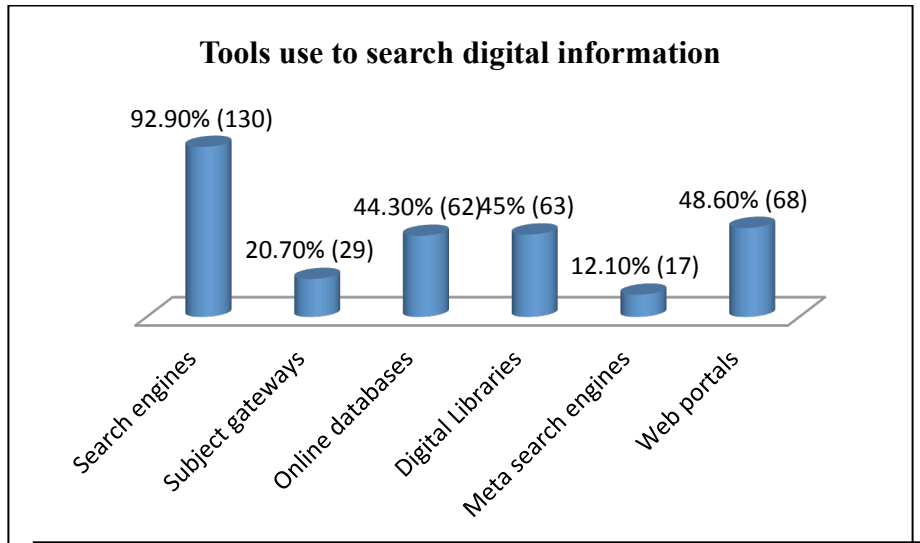


Figure1: Tools used to search digital information

As shown in the Figure 1, majority of the postgraduate students (92.9%) have used search engines to find digital information and substantial percentage of participants have used digital libraries, online databases and web portals too.

Access to digital information

Respondents were queried regarding the frequency at which they accessed digital information. More than 50% of the respondents (54.7%) accessed digital information several times a day. Only 21.6% accessed about once a day and 16.5% accessed about once a week. The rest of the participants stated that they access digital information at least once a month. However, the frequency of accessing digital information differs significantly (p -value=0.002), depending on whether respondents have followed an information literacy course or not.

Evaluation of digital information

Postgraduate students were queried regarding the criteria used to evaluate the reliability of the information, and the effectiveness of the tools.

According to Table 3, majority of the respondents rated that all these criteria are important or very important. Only a very few rated that some criteria are not important. Others have rated that these criteria are less important, or neutral. These results indicate that the respondents are reasonably competent to evaluate the digital information they use.

Table 3: Evaluation of criteria of digital information

Criteria	Percentages				
	Not important	Less important	Neutral	Important	Very important
Reliability	0	5.1% (7)	2.2% (3)	40.4% (55)	52.2% (71)
Authenticity	5.9% (8)	7.4% (10)	11.0% (15)	44.9% (61)	30.9% (42)
Currency (Up to date)	0.8% (1)	5.4% (7)	16.3% (21)	42.6% (55)	34.9% (45)
Coverage	0.7% (1)	2.9% (4)	8.0% (11)	52.6% (72)	35.8% (49)
Accessibility	0	4.5% (6)	6.0% (8)	39.6% (53)	50.0% (67)
Comprehensiveness	0	2.9% (4)	10.3% (14)	51.5% (70)	35.3% (48)
Usability	2.2% (3)	2.2% (3)	8.8% (12)	44.5% (61)	42.3% (58)
Objectivity	0	2.9% (4)	11.0% (15)	50.7% (69)	35.3% (48)

CONCLUSIONS AND RECOMMENDATIONS

Since digital information literacy skills have become essential with the technological advancement in the world, the current study examined the digital information literacy level of the postgraduate students by using a socio-cultural theoretical base. Results revealed that the recognition of the information need through common scholarly practices, and application of digital information to create knowledge, is at a high level. Postgraduate students have frequently used the digital formats of the major scholarly materials such as books, journals, scholarly articles, and theses, mostly via search engines, digital libraries and web portals which are the most common tools used to search digital information. It was revealed that more than 50% of the postgraduate students accessed digital information several times a day signifying a rapid trend towards using digital information. Finally, it was found that the post graduate students are knowledgeable to check the reliability of digital information, via some criteria such as reliability, authenticity, currency, coverage, accessibility, comprehensiveness, usability and objectivity, as these were rated as important and very important.

This study clearly reveals that the digital information literacy level of the postgraduate students is extensive and that there is a rapid growth towards using digital information under new technological developments. This seriously impacts on university libraries to take measures such as procuring more digital collections, and conducting systematic information literacy courses, to enable the new generation to ascend the digital information ladder towards the digital era. Therefore, recommendations were made to develop infrastructure facilities at university level, and to facilitate the availability of more digital information literacy programs for postgraduate students, in order to enhance their digital information literacy skills further.

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Student anxieties and future implications for the library

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ABSTRACT

The purpose of this paper is to explore anxieties inherent in students which can hinder the optimal use of library resources, services, and facilities. The instruments used were the Malay translated versions of LAS, FLCAS, and PRCA-24. The study was carried out among final year undergraduates at a public university in Malaysia. The findings revealed that communication anxiety in students correlated with Library Staff Barriers, Library Services Barriers, Library Resources Barriers, Affective Barriers, and Internet Services Barriers. Foreign language anxiety correlated with Library Staff Barriers, Library Services Barriers, and Affective Barriers. The implications for the library is that students who are anxious using a foreign language and have difficulty communicating with others will be unlikely to make full use or demand services from the library. While it is difficult to extricate the multifarious dimensions, to be aware of other anxieties manifesting as library anxiety must be acknowledged and acted upon by librarians.

Keywords: Student anxieties, Library services, Library anxiety, Communication anxiety, Language anxiety

INTRODUCTION

University and college students are susceptible to anxieties which can impede academic performance. Among the types of academic anxieties identified by the Academic Anxiety Resource Center are mathematics anxiety, reading anxiety, foreign language anxiety, science anxiety and social phobia (Academic Anxiety Resource Center). Battle (Battle 2004) indicated library anxiety as one of the academic anxieties that can affect college students. The potential sources of study anxieties identified among Malaysian undergraduates (Prima et al. 2010) were related to examination, presentation, mathematics, language, and social anxiety while family and library anxieties were found to arouse student anxiety on a moderate scale.

Academic-related anxieties are of relevant concern to libraries and librarians. Firstly, substantial funds are allocated annually to provide adequate information resources, services and facilities. Studies at the University of Malaya where this study was conducted, have reported that students were found to be more concerned with locating materials listed in their reading lists rather than searching additional reference materials for increasing knowledge (Chan & Zaharah, 2001). In another study, the behavioural pattern of students when looking for information sources for their final year projects favoured internet sources, followed by lecturers, friends, seniors, and only then the

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sources in the library (Mohd Shariff & Zainab, 2007; Nor Edzan, 2007). Secondly, a large portion of the print and electronic resources procured by libraries are in the English language. The analysis of students' diaries among Sudanese undergraduates reveal that they become anxious if the textbooks are written in English, especially if the mastery of the English language is poor (Abusin & Zainab, 2010).

In Malaysia, English has increasingly become more of a foreign language. In a study among third year students in a public university in Malaysia, 50.7% identified English as a second language, 36.2% as a third language and 10.2% as a fourth language (Faridah Noor, 2004). Students coming from the west part of Peninsular Malaysia speak relatively good English due to urbanization as compared to the east part of Peninsular Malaysia. In some of the eastern states like Sabah and Sarawak, government funding for computers in schools is a recent initiative. Students entering the universities at a young age of 17 to 20 years come from all parts of the country resulting in a very diversified group of learners. Furthermore, some students can originate from states where there are no public or school libraries, while some had been members of public libraries ever since they were children. Students from well to do families have parents buying books for them and inculcating reading habit amongst them when compared to students who had only read school textbooks and may find the library books and reading intimidating. This awareness of students' background is vital for libraries because it reveals that students using libraries have individual differences which can influence their perceptions and use of the library resources, services, and facilities.

OBJECTIVE OF STUDY

It has been reported that besides the usual demographic characteristics such as race, gender, age, year of study and personality, behavioral traits can influence the level of library anxiety (Onwuegbuzie, Jiao & Bostick, 2004). In Cleveland's (2004) summary of the antecedents of library anxiety, behavioral traits identified are perfectionism, lack of persistence, procrastination, negative self-perception, learning preferences, and study habits. Interestingly, such behavioral traits have also been reported in other anxieties such as communication anxiety and foreign language anxiety. Students' behavior and perception of the library and library staff, at any one particular time, can be caused by pre-existing anxieties. Earlier research by Mellon (1986) and Karabenick and Knapp (1988) have repeatedly reported that students categorised as not interested in getting information may in fact be experiencing some kind of fear and anxiety and are actually afraid of approaching library staff for assistance. The scope of this study was limited to three academic related anxieties namely library anxiety, communication anxiety, and foreign language anxiety. The objective of this study is thus to explore the correlation between library anxiety with (i) communication anxiety, and (ii) foreign language anxiety.

LITERATURE REVIEW

Past library research reports have stated that students who needed help most are the least likely to ask for it (Karabenick & Knapp, 1988). Asking for help by some students

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was perceived as a failure. Self-esteem and the accumulation of repeated failures were cited as important factors for the refusal of students to communicate and seek guidance from librarians. Keefer (1993) referred to this emotional state as the hungry rats syndrome where poor performers who desperately need information face feelings of low expectations and experience cognitive and emotional obstacles to obtain the required help. Daly and Stafford (1984) have also reported that an individual who had prior unpleasant experiences tend to withdraw or avoid communication situations in future. McCroskey (1984), the father of research on communication apprehension, claims that communicating with people who are similar to themselves is easier than talking to people who are greatly different. Jiao and Onwuegbuzie (1997) also reported that students' levels of library anxiety perhaps are exacerbated by their own incompetence and belief that the others are better, resulting in the individual feeling shameful of their incompetence. This arousal of anxiety when communicating particularly in English seems more significant among Asians than Europeans or Americans (Maio, 1995).

In the past, efforts by libraries to reduce any form of anxiety among students have tended to be more library-centered rather than student-centered. Interventions designed to reduce anxiety in the form of bibliographic instruction classes, online tutorials, and collaboration with faculty had reduced library anxiety at times (Mumtaz, Noriah & Al-Qallaf, 2004; Battle 2004; Jiao & Onwuegbuzie, 1997) but also had no impact sometimes (Mohundro, 1999; Moore, 2005) citing other factors influencing the affective behavior of students. What constitutes information recipients' deficits are seldom explored by libraries and librarians (Grassian, 2001). The concern is that these students' other anxieties may be spilling over and influencing students' behaviour when using library resources, facilities, and services.

Library anxiety while using the libraries were best described by Mellon (1986) as "when confronted with the need to gather information in the library for their first research paper many students become so anxious that they are unable to approach the problem logically or effectively". In 1992, Sharon L. Bostick (1992) developed a quantitative scale called the Library Anxiety Scale (LAS) to measure library anxiety. She categorised five subscales for the occurrence of library anxiety: barriers to library staff, affective barriers, comfort with the library, knowledge of the library, and mechanical barriers.

Communication anxiety or apprehension as defined by McCroskey (1984) as "an individual's level of fear or anxiety associated with either real or anticipated communication with another person or persons". McCroskey's cognitive approach to communication explains that people develop expectations with regards to other people and situations. When expectations are not met and found to be inaccurate repeatedly, anxiety is produced. In new situations, strong anxious feelings can be evoked creating a state of helplessness. This fits Mellon's (1986) description of how freshmen at college feel lost and helpless when using the academic library for the first time.

Foreign language anxiety as defined by Horwitz, Horwitz, and Cope (1986) is a "distinct complex of self-perceptions, beliefs, feelings, and behavior related to classroom learning arising from the uniqueness of the language learning process". Students become

anxious when they have to speak in front of others. They experience social anxiety where they fear being negatively evaluated by their peers as well as instructors and also making mistakes in front of them which can have an effect on their self-esteem.

METHODOLOGY AND APPROACH

The design of this study is a combination of exploratory and explanatory methodology. The model used is the Library Anxiety Expectation Antecedent Model by Onwuegbuzie, Jiao and Bostick's (2004). Based on this model, cognitive and affective variables are related to each other in a reciprocal manner such that a change in either one would culminate in changes in the other in order to reestablish equilibrium. In this study, it is hypothesised that communication anxiety (affective variable) and foreign language anxiety (cognitive variable) correlate with each other to influence the behavior of a student towards the library. Students susceptible to foreign language anxiety and communication anxiety are predicted to experience any one or more of the subscales of library anxiety.

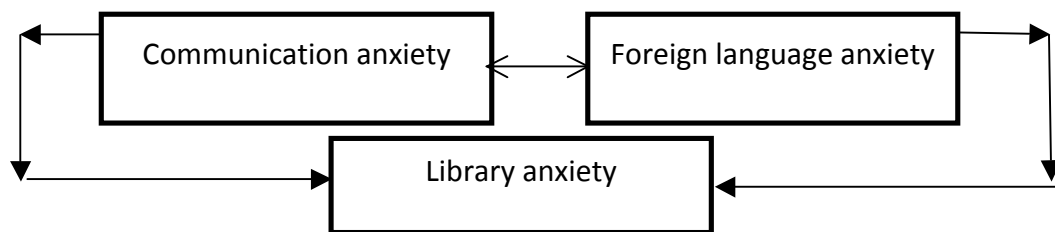


Figure 1: Foreign language anxiety and communication anxiety as correlates of library anxiety

Three sets of survey instruments were used to collect data for this study. They were the Malay translated versions of (i) Library Anxiety Scale (M-LAS), (ii) Foreign Language Classroom Anxiety Scale (M-FLCAS), and (iii) Personal Report of Communication Apprehension (M-PRCA). All statements in the M-FLCAS with the word 'foreign language' were changed to 'English language'. The LAS and FLCAS were translated using the back translation method with the help of linguists while the PRCA was earlier translated into the Malay language and validated (Fuziah, 1995). The study was conducted among final year undergraduates. The names and emails of the students were obtained from the Admission Unit of the university. Allowing for plus/minus 5% error rate, a sample of 438 students was randomly selected. A total of 114 responded; 37% (n=42) were males and 63% (n=72) were females.

A series of exploratory factor analysis and reliability tests were conducted on the results of the final survey. Using Eigenvalue greater than 1.00 and factor loadings of 0.5 or greater, the M-LAS yielded 27 items loaded on five factors which explained 56.8% of total variance. The factors were Library Staff Barriers (10 items, 19.6% variance), Library Services Barriers (6 items, 12.2% variance), Library Resources

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Barriers (4 items, 9.5% variance), Affective Barriers (4 items, 8.8% variance), and Internet Services Barriers (3 items, 6.7% variance). The overall Cronbach's coefficient alpha value was 0.89. The M-FLCAS yielded 27 items loaded on three factors which explained 58.1% of total variance. The factors were Speaking Anxiety (17 items, 38.3% variance), Classroom Anxiety (6 items, 9.1% variance) and Learner Anxiety (4 items, 5.7% variance). The overall Cronbach's coefficient alpha value was 0.79. The M-PRCA yielded 23 items loaded on four factors which explained 59.1% of total variance. The factors describing the various communication settings were Formal (10 items, 31.7% variance), Interpersonal Conversations (6 items, 11.6% variance), Group Discussion (4 items, 9.3% variance) and Public Speaking (3 items, 6.4% variance). The overall Cronbach's coefficient alpha value was 0.83.

FINDINGS

Mean Level of Library Anxiety, Foreign Language Anxiety, and Communication Anxiety

The findings showed that the final year undergraduates experienced library anxiety, communication anxiety and foreign language anxiety on a moderate level. The anxiety levels were within +/- 1 SD from the norm except for library anxiety where the mean level was below the norm. The norm values were obtained from original studies by Bostick (1992), McCroskey (1984) and Horwitz, Horwitz, and Cope (1986). A visual inspection of Table 1 shows that the overall mean and standard deviation of library anxiety level was M=72.2, SD=12.7 and the subscales: Barriers with Staff, M=22.7, SD=5.7; Library Services Barriers, M=10.1, SD=2.6; Library Resources Barriers, M=11.8, SD=3.6; Affective Barriers, M=8.7, SD=3.0; and Internet Services Barriers, M=7.6, SD=2.2. The overall mean and standard deviation of communication anxiety was M=59.7, SD=11.4 and the dimensions: Formal, M=26.0, SD=5.9; Interpersonal Conversations, M=13.1, SD=3.4; Group Discussion, M=5.6, SD=2.0; Public Speaking, M=7.0, SD=1.8. The overall mean and standard deviation of foreign language anxiety was M=87.4, SD=17.3 and the dimensions: Speaking Anxiety, M=49.6, SD=12.7; Classroom Anxiety, M=11.1, SD=2.8; and Learner Anxiety, M=8.9, SD=2.4.

The level of library anxiety in this study was lower when compared to reports across populations such as Americans (Jiao & Onwuegbuzie, 2002), African-Americans (Jiao, Onwuegbuzie & Bostick, 2006), and Caucasian Americans (Kwon, Onwuegbuzie, & Alexandar, 2007). One of the possible reason could be the students in this study have attended a compulsory bibliographic instruction course for 14 weeks. Earlier studies by Jiao and Onwuegbuzie (1997), Abusin (1998), and Cleveland (2004) have reported that attending library instruction programs will significantly lower the level of library anxiety. A comparison of the mean level of foreign language anxiety across populations revealed that the overall mean in this study was lower than Aida's study (1994) among Japanese students. The fact that Malaysian students are bilinguals could have made a difference. The mean level of communication anxiety was comparatively lower than other Malaysian students from a northern university in the country (Azmi & Gillani, 2011), and a central university (Indra Devi & Farah, 2008). The findings of this study was similar

to Norshaipah, Natrah, and Junaidah’s study (2004) which reported that final year students have the lowest level of communication anxiety.

Table 1: Mean levels of library anxiety, communication anxiety, and foreign language anxiety

	Library anxiety Bostick, 1992		Communication anxiety McCroskey, 1984		Foreign language anxiety Howitz, 1986	
	Mean	SD	Mean	SD	Mean	SD
Norm	118.6	15.8	65.6	15.3	94.5	21.4
This study	72.2	12.7	59.7	11.4	87.4	17.3
Subscales/Dimensions						
Barriers with Staff	22.7	5.7				
Library Services Barriers	10.1	2.6				
Library Resources Barriers	11.8	3.6				
Affective Barriers	8.7	3.0				
Internet Services Barriers	7.6	2.2				
Formal			26.0	5.9		
Interpersonal Conversations			13.1	3.4		
Group Discussion			5.6	2.0		
Public Speaking			7.0	1.8		
Speaking Anxiety					49.6	12.7
Classroom Anxiety					11.1	2.8
Learner Anxiety					8.9	2.4

Correlation of the Dimensions of Communication Anxiety and Subscales of Library Anxiety

The results of this study provided empirical evidence that there is a correlation between communication anxiety and library anxiety (Table 2). Using Pearson Product Moment Correlation, it was found that the communication settings ‘Formal’ correlated significantly with Library Services Barriers ($r=0.4$, $p<0.005$), Library Resources Barriers ($r=0.2$, $p<0.05$), and Affective Barriers ($r=0.2$, $p<0.05$). ‘Interpersonal Conversations’ correlated significantly with Library Staff Barriers ($r=0.4$, $p<0.005$) and Affective Barriers ($r=0.4$, $p<0.005$). ‘Group Discussion’ correlated significantly with Library Services Barriers ($r=0.2$, $p<0.05$), Library Resources Barriers ($r=0.2$, $p<0.005$), and Internet Services Barriers ($r=0.2$, $p<0.05$). ‘Public Speaking’ correlated significantly with Library Staff Barriers ($r=0.3$, $p<0.005$), and Affective Barriers ($r=0.3$, $p<0.005$).

Table 2: Correlation of library anxiety and communication anxiety

Library anxiety subscales	Communication anxiety dimensions			
	Formal	Interpersonal Conversations	Group Discussion	Public Speaking
Library Staff Barriers		0.4**		0.3**
Library Services Barriers	0.4**		0.2*	
Library Resources Barriers	0.2*		0.2**	
Affective Barriers	0.2*	0.4**		0.3**
Internet Services Barriers			0.2*	

* $p<0.05$, ** $p<0.005$

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The findings revealed that students perception of the library as a formal, serious situation and their anxious feelings during interpersonal conversations, group discussions and public speaking do spill over when having to seek assistance from library staff. Status discrepancy between participants such as subordinate status, unfamiliarity, and formality in communication settings can lead to anxiety (Buss, 1984). Students perceive library staff as having higher status and more knowledge about the library resulting in the perception of a superior-subordinate communication setting. Malaysian students have been reported to feel nervous and very self-conscious when they have to speak in front of others especially when they are unprepared (Khairi & Nurul, 2011). The anxieties that students experienced when using the library's collections and services are influenced by the students' self-perception of their abilities. This was also observed and reported by Mellon (1986) that students felt scared and inhibited to use library resources because they feel inferior and thought the other students were smarter and were also afraid of how others perceive them.

Correlation of Dimensions of Foreign Language Anxiety and Subscales of Library Anxiety

The results of this study provided empirical evidence that there is a correlation between foreign language anxiety and library anxiety (Table 3). Using the Pearson Product Moment Correlations, it was found that the dimension 'Speaking Anxiety' correlated significantly with Library Staff Barriers ($r=0.2$, $p<0.05$) and Affective Barriers ($r=0.2$, $P<0.05$). 'Classroom Anxiety' correlated significantly with Library Services Barriers ($r=0.2$, $p<0.05$). 'Learner Anxiety' correlated significantly with Affective Barriers ($r=0.3$, $p<0.005$).

Table 3: Correlation of foreign library anxiety and language anxiety

Library anxiety subscales	Foreign language anxiety dimensions		
	Speaking Anxiety	Classroom Anxiety	Learner Anxiety
Library Staff Barriers	0.2*		
Library Services Barriers		0.2*	
Library Resources Barriers			
Affective Barriers	0.2*		0.3**
Internet Services Barriers			

* $p<0.05$ ** $p<0.005$

The findings revealed that students' own incompetence in the form of affective barriers is an obstacle when speaking out and articulating reference queries in English language. A person's information seeking feelings, thoughts and actions are influenced by the individual's past experiences and anticipation of future events (Kuhlthau, 2004). Onwuegbuzie, Jiao, and Daley (1997) have also reported that students' perceptions of librarians increased their level of anxiety. The correlation of Affective Barriers with 'Speaking Anxiety' and 'Learner Anxiety' inferred that anxious feelings using a foreign language can spill over when using the services offered by the library.

IMPLICATIONS FOR THE LIBRARY

Malaysian students, based on the findings of this study, do have a risk of experiencing library anxiety due to language and communication anxiety. Students come from different parts of the country which are marginally divided economically, digitally, and in some instances by language. The students' understanding of the library's policies and practices may be blurred particularly if it is the first time they are exposed to a big library and university (Mellon, 1986). They may not even comprehend fully what the librarians say during orientation tours. Limited communication skills and lack of confidence make them hesitate to ask for help. Using academic libraries can be a bewildering experience (Liu, 1993) since school libraries have closed stacks and are used mainly for studying only.

It is evidenced from this study that using the library is intertwined with apprehensive feeling. The distal effect of using a foreign language manifesting in speaking anxiety and learner anxiety result in communication anxiety in various situations. Trying to articulate reference queries, seeking information from library resources, having confidence to optimize the use of library facilities can be traced to the dimensions of language anxiety. In comparison, it had been observed that private university students have lower levels of communication anxiety particularly with lecturers (Gecer & Gumus, 2010). There are opportunities to communicate in private universities and students are encouraged to communicate, resulting in willingness of students to participate. Another reason given is that students in private universities have a high socio economic status since they have to pay higher fees. The traditional and conservative approach in public universities, including academic libraries in Malaysia, may add to the anxiety already inherent in the students.

As library anxiety is a state of anxiety and has a social context (Jiao & Onwuegbuzie, 2002), any form of anxiety using the library resources, facilities and services cannot be elevated by taking steps within the library alone. The implication is that the experience of library anxiety seem more of the perception of individual students. This somehow reiterates the findings of Jiao and Onwuegbuzie (1999) and Van Kampen (2004) when they reported that library anxiety is a factor of the perceptions of students towards the library, library staff and library services. The significance of this study is a revelation that students' inherent learner anxieties and their fear of communicating with other people in public or formal situations are also brought into the library scenario.

RECOMMENDATIONS

Based on the findings and data analysis of this study, the following recommendations can be made to embark on an 'anxiety-free' environment in the library:

(a) Computer Medicated Communication (CMC) Tools

Libraries and librarians should acknowledge that students who require assistance feel anxious to seek assistance from librarians. In an era of sophisticated technology combined with the presence of the Net generation, the library must enhance more use of CMC tools as a means to assist students who are experiencing student-related

anxieties. Tools such as interactive virtual map of locating library materials, electronic signages directions on every shelf area on every floor could be of help for students who are reluctant to seek assistance. Jiao and Onwuegbuzie (1999) had indicated that students whose perception of librarians heightened their anxiety level, like to receive information via visual mode.

(b) Empathy

Librarians on duty should use gentle or non-authoritative methods of answering any queries, whether the query is face-to-face or via email/online. Library staff should be more sensitive to students' lack of composure in posing questions and should not be agitated and tense for questions which are too easy and obvious for the librarians. The highest point of anxiety in an interaction is during the greeting and opening line (Von Worde, 1988).

(c) Interactive Information Skills Sessions

Bibliographic instruction librarians have to be alert and sensitive to individual students' needs. It must be remembered that high anxious students are reluctant to share their feelings of anxiety which can lead instructors to overestimate their library skills (Jacobson, 1991). Letting the students know that we understand their anxiousness and that they are not alone can go a long way to make them feel less stressful using the library. Most of the time bibliographic instruction classes are in groups and students seldom will admit their feelings of anxiety in front of their peers.

(d) Understanding cultural diversity

Familiarity with culture and ethnic background can be helpful in reducing anxiety. The findings of this study revealed that students who use Chinese as their first (dominant) language have the highest level of library anxiety, foreign language anxiety and communication anxiety. This could be due to their perfectionist nature. Perfectionism as described by Onwuegbuzie and Jiao (1998) is important for some students as they have to maintain a perceived need to attain standards and expectations by their friends, families, and teachers. Such people, because of their anxiety, refrain from asking for help (Keefer, 1993). This could explain their need to use Internet resources and seeking friends' help rather than the librarians as reported by Nor Edzan (2007) and Safahieh and Diljit (2006). Students who use Tamil as their first (dominant) language have the lowest levels of anxiety in almost all the subscales and dimensions. This could be because of their individualistic nature as ascertained by Jiao and Onwuegbuzie (2002) that individualistic culture have the lowest level of anxiety. Students who use other languages as their first (dominant) language have high levels of anxiety using the Internet and speaking with library staff. Students who use Malay as their first (dominant) language have no problem communicating with library staff most probably because almost all of the library staff are of the Malay ethnic group.

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Uncertainty and perceived task complexity in information seeking process among lawyers

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ABSTRACT

The objective of this research was to understand the role of uncertainty in determining perceived task complexity and to understand the role played by law librarians in the information seeking process of lawyers. Interviews were conducted among commercial lawyers in Lagos State, Nigeria. The interviews transcribed were analysed using constant comparative analysis. Results showed that uncertainty related to feelings of anxiety was a major factor responsible for perceived task complexity among lawyers under study. Other factors identified include: lack of time for task performance, task novelty, information requirements, and non-availability of information resources. The roles of librarians as mediators in the information search process were also discussed.

Keywords: Uncertainty; Perceived task complexity; Information Search Process; Law librarians; Lawyers.

INTRODUCTION

Information seeking has been studied as part of activities that workers engage in, in order to perform their work activities. A worker is faced with various kinds of tasks; each with its own peculiarity such as the information required to perform the task. A worker looks for information majorly for the purpose of performing his/her job-related tasks. In doing so, he/she interacts with certain sources in order to get the desired information. However, the process of looking for information derives from perceived need for such information. In most cases, this felt need arises as a result of one's perception that his/her existing knowledge is inadequate to handle the task at hand. This situation is referred to as uncertainty. The feeling of uncertainty therefore prompts an individual to look for information in order to satisfy his information need. Uncertainty is important to the process of information seeking as it is the drive behind information seeking.

Meanwhile, looking for information requires that a worker interacts with certain information sources. At this stage, the role of librarians as mediators in the information seeking process becomes important. In the information seeking process, librarians have been identified as mediators in improving access to information (Kuhlthau 1994). They

intervene either by providing reference services such as helping in the location of information and information sources or by providing bibliographic instructions by teaching the methods for finding and using information tools and sources.

LITERATURE REVIEW

Uncertainty and Its Role in Information Seeking

Since the 1940s, uncertainty has been identified as a frequent characteristic and driving force behind information seeking (Anderson 2010). Uncertainty has been conceptualised in different information seeking studies such as Belkin (1980), Dervin (1992), and Kuhlthau (1991). Belkin (1980) relates uncertainty to information seeker's problem in forming query in order to get desired information. He relates uncertainty to the "Anomalous state of knowledge" (ASK) in which a gap in knowledge is bridged by getting desired information. Another conceptualisation of uncertainty is reflected in Dervin's sense making theory. The sense making theory explains the process by which people give meanings to their experiences (Dervin and Nilan 1986). Thus, it focuses on how an individual moves through time and space, encounters gaps, and "make sense" of such situation to move ahead (Dervin 1998). Uncertainty may be referred to as the extent to which a task performer is clear about how to accomplish a task (Leach et al. 2013). Kuhlthau (2004) defines uncertainty as "a cognitive state that commonly causes affective symptoms of anxiety and lack of confidence" (p.103). Kuhlthau conducted a series of studies to better understand the Information Search Process (ISP) Model and library users.

The ISP is also referred to task model, which begins with a task doer's feeling of anxiety at the beginning of the task performance, due to lack of information required for task performance (Kuhlthau 2004). The anxiety eventually gives way for confidence after information must have been gathered on the task accomplishment. Hence, the affective feeling is as a result of an initial cognitive feeling of uncertainty. Uncertainty is also characterised by feelings of frustration and irritation (Nahl 2007). It is an affective symptom that accompanies unclear idea about a topic or task. Uncertainty usually instigates the information seeking process, and it is often reduced as more information is obtained by the task performer (Kuhlthau 2004). It is a psychological experience of the task performer's perceived complexity of the task rather than the objective task itself (Kuhlthau 1999). Moreover it is characterised by a sense of being overwhelmed (Kuhlthau 1999), and frequently associated with risk, fear, and danger (Anderson 2006).

However, uncertainty may not essentially be associated with negative feelings of anxiety and confusion; it may also be reflected with positive feelings of motivation of new enquiry, innovation, and creative thinking (Anderson 2006; Chowdhury, Gibb, and Landoni 2011). In other words, uncertainty may also be characterised by positive feelings, thereby making the information seeker feel enthusiastic about looking for information.

A deep understanding of uncertainty is important in information seeking as it the bedrock of the information seeking process. Uncertainty has been studied for decades; however, there has been lack of studies that focus on the affective feelings associated

with uncertainty in library and information science studies prior to the Information Search Process (ISP) the ISP model by Kuhlthau (1991). The ISP model is important as it describes the dimensions (especially affective) of the uncertainty from the beginning to the end of the information seeking process. The information seeker usually experiences feelings of apprehension and vague, and this gives way for confidence as information is gathered on the topic (Kuhlthau 2004). Previous studies have shown that the stages of the ISP as experienced by an individual are a function of his/her knowledge of the problem at hand and the extent to which construction of knowledge should be made during the information seeking process. Routine tasks are usually seen as simple, since they are aimed at providing answers to simple questions. As such, they may not experience the stages of the Information Search Process (ISP); while complex tasks are characterised by high level of construction of knowledge, thus, individuals may experience the stages of the ISP (Kuhlthau and Tama 2001).

Task Complexity

Task complexity has been studied by various researchers from many disciplines such as organisational management (Campbell 1988; Wood 1986) and information science (Bystrom and Jarvelin 1995; Serola 2006, Saastamoinen et al. 2013). Campbell (1988) explained three dimensions of task complexity. One, task complexity which is “primarily psychological” (based on the experience of its performer). The second dimension relates to “person-task interaction”, thus, task complexity depends on the capability of the task performer, while the third category involves the “objective task characteristics” and does not involve the task performer.

Basically, task complexity can either be subjective or objective. Objective task complexity is that which is determined independent of the task performer (Campbell, 1988). It is usually determined by the characteristics of the task itself; hence, the complexity of such tasks is not influenced by its performer. Wood (1986) suggests three measures of objective task complexity: component complexity (which is related to the information cues needed for task performance), coordinative complexity (relationship between task input and output), and dynamic complexity (which is as a result of transformation in world state that eventually have impact on association between input and output of task). Campbell (1988) suggests that objective task complexity is characterised by multiple paths, information diversity, conflicting interdependence of tasks, and several end states.

On the other hand, subjective or perceived task complexity is determined with the involvement of the task performer. Hence, the task performer determines the complexity of the task based on his/her perceptions about the task. In most cases, subjective task complexity involves the task performers’ “a priori determinability” of the task requirements for task performance (Bystrom and Jarvelin 1995) and the psychological experience of the task performer (Gill and Hicks 2006). As such, this measure of task complexity is highly dependent on the task performer (Saastamoinen et al. 2013).

In information seeking studies, efforts have been made to understand task complexity for provision of improved systems for clients or users (Kuhlthau and Tama 2001). Nonetheless, there is need for a better understanding of users and their tasks in order to

ensure better service provision on the part of the librarians and information professionals.

Relationship between Uncertainty and Task Complexity

In the work environment, the driving force behind looking for information is for task performance. Tasks are part of work duties of professionals (Leckie, Pettigrew, and Sylvain 1996) and workers' information seeking behaviour heavily depends on the task to be accomplished. Task complexity has been found to be associated with feelings of uncertainty, particularly about the information required for the task accomplishment (Kuhlthau and Tama 2001). According to Aldaijy (2007, p.7) task complexity is "the degree to which work to be performed is difficult to understand and complex". It is also associated with psychological feelings of uncertainty about the task requirements such as information, and/or how to go about accomplishing the task, as well as the possibility of the task outcome (Bystrom and Hansen 2005; Guo 2011).

Theoretical Framework

The framework from which this study derives is the Information Search Process (ISP) model (Kuhlthau 1991). The ISP model explains the cognitive and affective experiences of information seekers. The model derives from a series of five studies of users' experiences during information seeking (Kuhlthau 1991). It explains user's "constructive activity of finding meaning from information in order to extend his/her state of knowledge on a particular problem or topic" (p.361). The ISP is a six-stage model (initiation, selection, exploration, formulation, collection, and search closure), with uncertainty and anxiety characterising the beginning of the stages.

The initiation stage is the stage where the lack of knowledge is first experienced and it is usually characterised by feelings of uncertainty. At the selection stage, a general topic or idea is recognized. As such, the feeling of uncertainty reduces and gives room for some confidence to begin the process of looking for information. The exploration stage is the stage where uncertainty may resurface if the seeker comes across inconsistent information. At the (third) formulation stage, an information seeker is able to form a focus; as a result, he/she is more confident. This stage followed by the collection stage, where the information seeker is more focused and relevant information is gathered; and uncertainty reduces. The information search process ends with the presentation stage. At this stage, the search for information is complete, and the information seeker is equipped with new knowledge and he/she is ready to describe or utilize the knowledge acquired. It integrates series of encounter by a user in the process of looking for information over a period of time. Although feelings of apprehension and uncertainty are common at the beginning of the information search process, it usually gives way for optimism and confidence at the end.

RESEARCH DESIGN

The study adopts the qualitative research design. Data were gathered using face-to-face interview. Twelve lawyers participated in the study. The interviews were conducted between July and September, 2013 and each session lasted between thirty and forty minutes. The interviews were recorded with voice recorder with the permissions of the

respondents. Notes were also taken by the researcher in order to keep records of non-verbal expressions of respondents. The questions were semi-structured in order to allow for participants' in-depth explanation or expression of their views (Newton 2010).

Verbatim transcriptions of the interviews were made, and the data was analysed using constant comparative analysis, thereby grouping similar responses under the same themes. Analysing data using the Constant Comparative Method involves the process by which a researcher gathers information on a concept by moving (back and forth) amid the data and field (Glaser and Strauss 1967). This method allows data to be broken down into units (Lincoln and Guba 1985) and then coded into categories.

Recorded data were initially transcribed, after which themes and sub-themes were generated using the guidelines suggested by Glaser and Strauss (1967). These steps involve:

- 1) Comparing the incidents related to each category
- 2) Combining the groups (categories) and their features
- 3) Delimiting the theory, and
- 4) Writing the theory

RESULTS

Participants' Demographic Profile

The interview participants consisted of ten males (83.3%) and two females (16.7%). Five of them (41.7%) hold a Bachelor degree in Law, five (41.7%) also hold Masters degree in Law (LLM), while the other two (16.6%) hold Doctoral degrees (PhD). In terms of their ages, one (8.3%) of them was less than thirty years, eight (66.7%) aged between 31-40 years, two (16.7%) were between 41-50 years, while one (8.3%) aged between 51-60 years. As regards their years of professional work experience, seven (58.3%) had worked for 6-10 years, three (25%) had worked between 1-5years, while the remaining two (16.7%) had 11-15 years' work experience.

Lawyers' Perception about Task Complexity

It is evident that lawyers perceive routine tasks such as soliciting as rather simple. Almost all lawyers under study agree with the fact that the advocacy task (preparation of court processes and appearance) is more complex because of its mental demand and time required for its completion. Simple tasks such drafting documents requires less time and information. This is in concord with Kuhlthau and Tama's (2001) findings where complex task was associated with the construction of knowledge. Respondents relate the complexity of the advocacy task to its mental and time demand. Some excerpts from the interviews are stated below:

...advocacy is more complex because it needs a lot of research in order to push home one's demand before their lordships... Unlike ordinary preparation of contractual agreement that will not take 3-4 hours in drafting. (Respondent 4, Male, 41-50 years)

...any job involving litigation seems to be more difficult than the normal solicitor job. Solicitor job involves like writing a letter on behalf of a client, there are precedents you follow... But when you talk of litigation, then (nods his head) you have a major task ahead of you. (Respondent 2, Male, 31-40 years)

Complex Tasks are Associated with Feelings of Uncertainty

Uncertainty associated with psychological feelings of anxiety and panic was expressed by some lawyers in situations where they had to perform tasks they felt were complex. Psychological feelings of anxiety were expressed especially at the beginning of the task, while lawyers became confident after they had gotten the desired information for the task performance. This is similar to the affective feelings as explained in Kuhlthau's ISP model, uncertainty gives way for confidence after information need is being satisfied and task accomplished. Some lawyers remarked:

...initially there was anxiety, but overtime I was able to equip myself with the law relating to that aspect of legal practice. So I felt at home at the end of the day. I built confidence over time because through the law reports, I became well equipped to handle the matter.... (Respondent 10, Male, 51-60 years)

Though I was a bit prepared, I had that psychological problem that how will I go about this? ... but at the end of the day, it went off.... (Respondent 2, Male, 31-40 years)

Meanwhile, some participants expressed uncertainty in relation to positive feelings of enthusiasm and motivation. This corroborates Anderson's (2006) and Chowdhury, et al.'s (2011) submission that uncertainty may not necessarily be associated with negative feelings. Some respondents expressed sense of motivation even when they were faced with difficult tasks. According to some respondents:

I am just the type that derives pleasure in discharging my duties, especially the difficult ones. I feel that if I do not complete the job I will not rest. I felt no sense of anxiety; I was determined...". (Respondent 8, Male, 31-40 years)

..it was quite challenging, but I was not in any way disturbed because I knew right from the beginning that I will be able to handle the situation. It was tasking but it was just all good (smiling)... (Respondent 9, Male, 31-40 years)

Experience Influences Feelings of Uncertainty

This study confirms that uncertainty is expected for complex tasks. It is rather taken as something expected and expressed positively by some others, especially the experts. Experts can be referred to as those having six to ten years professional experience according to Kuhlthau and Tama (2001). Negative feelings of uncertainty was regarded as something normal for the lawyers young at the bar, while uncertainty associated with positive feelings of enthusiasm and challenge was expected after some years of experience. As remarked by one respondent with over twelve years experience:

Uncertainty and perceived task complexity

When I was young at bar, I used to panic when I was before the court, but over time, I became an expert, very good and brave. (Respondent 6, Male, 41-50 years)

Another respondent remarked:

I was mentally challenged because it was first experience at the court of appeal. The Court of Appeal is next to the apex court. Even many senior lawyers don't appear there. They end up only at the high court level and the Magistrate courts which are lower courts. (Respondent 2, Male, 31-40 years)

However, responses in relation to the influence of experience on uncertainty seem inconclusive. Regardless of experience, uncertainty was expressed as something normal in situations where task outcomes are unpredictable. As noted by a respondent who has over twelve years of work experience:

It is normal and human. If a person is engaging in anything that has to do with seeing the beatific facial of another person, especially their lordships on any case, you have to be anxious.. I have done my best in seeing that my briefs are prepared and other judicial authorities cited are apposite. Will they[judges] listen to it as overwhelming enough to push home my demand? (Respondent 4, Male, 41-50 years)

Other Factors That Contribute To Perceived Task Complexity

Having noted the association between uncertainty and task complexity, it was also found that some other factors apart from uncertainty are associated with perceived task complexity. Previous studies have shown that task complexity has been various dimensions such as task analysability, difficulty, novelty, information requirements (Bystrom and Jarvelin 1995; Iskandar and Sanusi 2011; Gwidzka and Spence 2006). The other factors accountable for perceived task complexity as found in this study include lack of time for task performance, clarity of information sources to use for task performance, and kind of information required to perform such tasks.

i) Lack of time for task performance

Some of the respondents found their tasks complex because they were not given enough time to prepare for the task. Lack of time affects their ability to look for enough information to be able to represent their clients' interests, especially in court (advocacy) related cases.

A respondent complained about the impromptu assignment of a given task saying:

I was informed by my principal that I had to represent a client at the court in just fifteen minutes before the court hearing.... I had no choice than to plead to the court for a stand down when the case was called, so I could have some time to go through the files... (Respondent 12, Male, 31-40 years)

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Having enough time for task performance no doubt brings about productivity and positive outcomes from the task. As for a client who had enough time to seek information for task performance, his remark was;

I thank God that I had enough time to prepare for the task ahead. There was a period within which we were trying to settle the matter amicably. So within that period, I read through all the cases and the statutes relating to banking transactions... So I had equipped myself at that point in time...
(Respondent 10, Male, 51-60 years)

ii) Task novelty

Task novelty may also be associated to its complexity. Regardless of a task performer's experience on a job, the novelty of a specific task tend to contribute to the perceived complexity of such task. Performing a kind of specific task for the first time no doubt determines the perceived complexity of such tasks. According to a respondent who performed a task relating to drafting legal documents, even though he had performed certain related tasks before, he felt incorporation of trustees was quite complex because he was doing that for the first time in about five years of his career.

I never knew it would be that tasking. It got to a stage I told the corporate affairs staff that incorporated trustee is the most difficult out of all the incorporations... I was not aware of that because I had done "Limited" before, and it was easy, it took me less than a month... (Respondent 9, Male, 31-40 years)

iii) Information requirements

Based on Bystrom's (2002) assertion, task complexity could be associated with the complexity of the information required for its accomplishment. As such, tasks that require more kinds of information may be perceived to be complex by the task doer. This was found in this study, as one of the respondents noted:

Talking about advocacy, the information required is among the factors contributing to its complexity. As you get more information, you get more equipped to prepare for your case and that greatly determines your success or otherwise on the case.... it is the most important aspect of the task...
(Respondent 3, Female, below 30 years)

iv) Non-availability of information sources

The non-availability of the information sources to use for task accomplishment was another factor complained by respondents. In situations where task to be performed relates to issues that are of recent and do not have well established information sources, lawyers find such tasks quite difficult to perform as they have to make use of the resources at hand for the task performance. As complained by some respondents:

...although you have the Kelly's draftsman which is quite old and useful book when it comes to drafting documents, there are latest issues that are not in the draftsman like the issue of IT[information technology] agreement drafting. Availability of materials on this aspect of drafting is very rare. It makes it more

Uncertainty and perceived task complexity

challenging for those really involved in drafting of agreements.... (Respondent 11, Male, 31- 40 years)

In cases where we have a new area of law and there is scarcity of decided authorities, we rely on opinion of text writers and we may just combine internet sources with that.... (Respondent 7, Male, 31- 40 years)

Roles of Librarians as Mediators in the Information Search Process of Lawyers

Findings from the study indicate that librarians have been very important in the information search process of lawyers under study. The roles played by librarians as identified by respondents include provision of bibliographic instructions and reference services. This further reiterates the fact that librarians are not only helpful in the academic environment as found in many studies; they are also very important mediators when it comes to the information seeking of professionals.

i) Librarians' roles as reference service providers

Responses from the interviews show that librarians are very helpful in providing reference services to clients such as answering questions or helping in locating information and/or information sources. According to respondents:

...if you meet a professional librarian and you tell him/her this is what I want, he/she will tell you immediately, go to so and so place or catalogue, you'll get the information there. (Respondent 1, Female, 31-40 years)

Law professionals know what is available from the first shelf to the last, and that will save your own time because you have limited time. (Respondent 1, Female, 31-40 years)

There was a time I went to a library; I was just used to the old style of searching for materials all around... He [referring to the librarian] showed me so many ways of doing it... And since then, once I want to search for materials, I find it very easy to do..... (Respondent 12, Male, 31-40 years)

ii) Librarians' roles as bibliographic instructors

Giving bibliographic instruction is a very important role played by librarians as found in this study. Bibliographic instructions include teaching people the methods for finding and using information tools.

..... We were trained for like 4-5 days on how to search for all these legal materials online from important databases and from other sources. So we had to learn from them. The law librarians are very helpful in getting all these legal materials. (Respondent 5, Male, 31-40 years)

Albeit, it was obvious that apart from the knowledge of library science, librarians working in specialised libraries such as the law library need some knowledge of the domain or subject areas. This will assist in their organization and retrieval tasks when their help is needed by users. As complained by one respondent:

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...our librarian is not a law librarian, she just happens to read library science and the way lawyers will think or be able to source for their own materials she may not be able to at that particular time. (Respondent 8, Male, 31-40 years)

DISCUSSION

There have been efforts to understand task complexity and its antecedents in information studies. However, a handful of research has been done to understand the psychological feelings of the task performer in relation to the complexity of tasks. The findings from this study have enabled a better understanding of the psychological feelings of uncertainty a task performer goes through, which initiates the information seeking process while performing complex tasks. The feeling of uncertainty and complexity of tasks prompts the task performer to look for information to perform the task at hand. And this feeling of uncertainty gives way for confidence after the desired information must have been gathered.

In this study, lawyers identified routine tasks as simple ones that require less mental efforts and time. Feelings of uncertainty are associated with complex tasks, especially at the commencement of the tasks. Thus, uncertainty reduction can be said to initiate information seeking for a worker's task accomplishment.

However, there were different accounts on the psychological feelings of uncertainty among lawyers under study, while some expressed uncertainty with negative feelings of anxiety and panic, others who seem to have more experience expressed uncertainty with positive feelings of enthusiasm and critical thinking. As such, there were mixed outcome on the effects of experience on the perceived task complexity among the participants as some lawyers who may be referred to as quite "experienced" (that is, having worked for over five years) still expressed negative feelings of anxiety.

Findings from this study indicate that complex tasks are also characterised by factors such as lack of time, task novelty, information requirements, and non-availability of information sources to be used for task accomplishment. The importance of law librarians as mediators in the information seeking process was also a crucial finding of the study. Librarians act as mediators by providing reference services and bibliographic instructions which go a long way in helping lawyers' tasks' accomplishments.

CONCLUSION

Uncertainty which arises as a result of feelings of inadequate existing information has been the bedrock of information seeking studies for decades. Despite identifying uncertainty as the drive for information seeking, a handful of studies have focused on the affective dimension of the concept in the process of information seeking. Findings from the study indicate that workers do experience psychological feelings of uncertainty when they are faced with complex tasks.

In addition, the roles of librarians in the information seeking process have been found to be very vital. Librarians have been identified as being useful in the information search process by either giving bibliographic instructions or providing reference services. However, the knowledge of domain or subject area by librarians is also a factor which calls for concern, especially in areas like law, where the collections are specialised. As such, apart from the knowledge of librarianship, it is highly crucial that librarians (especially those are in the specialised libraries, e.g. law libraries, medical libraries, etc.) have a basic knowledge of the domain in which they are practising.

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Are students thinking critically while seeking for information?

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ABSTRACT

Critical thinking (CT) is a meta cognitive process, a considerable issue and a desirable outcome for higher education in the 21st century. CT is more noticeable when information users want to seek relevant information in an appropriate time and reasonable approach. Nowadays, CT is an equipment to be qualified in each dimension of life today, and also it can be an ability during the information seeking process (ISP). The aim of this paper is to find the level of CT of postgraduate students in the University of Malaya as well as investigating the Usage of CT when they seek for information. The study has adopted a quantitative research design. Watson-Glaser critical thinking appraisal- UK (WGCTA-UK) edition was used to find the level of CT of postgraduate students. Moreover, another survey was prepared by the authors to find whether postgraduate students use CT in ISP or not. Printed questionnaires are distributed among postgraduate students randomly as a pilot test, 45 out of 50 responded to the surveys comprehensively. This study uses the theory that “a critical thinker is able to seek information more precise and accurate than a person without critical thinking”. The findings from the study revealed that those postgraduate students had the highest score in “recognition of assumptions” and the lowest score in “inference”. Furthermore, 71% of subjects are below average and average areas of CT. The result also shows that when students seek information, they use several CT skills and dispositions such as their inference, recognition of assumption, deduction and evaluation of arguments. This is the first attempt to show that postgraduate students use their critical thinking skills (CTS) and dispositions (CTD) when they seek information.

Keywords: Critical thinking; Information seeking behavior; Information seeking process;

INTRODUCTION

In the 21st century, students must not only be highly knowledgeable, but must also be equipped with soft skills, which include critical thinking skills, (CTS) and problem-solving skills as well as the 4Cs – communication, collaboration, critical thinking (CT), and creativity (Ledward and Hirata 2011). These skills will prepare them for post-secondary education, employment, and to become competent members of society. The Common Core State Standards also mentioned that CT is one of the vital cross-disciplinary skills for education and in the workplace (Lai 2011). There are several definitions for CT depending on different viewpoints of researchers. Ennis (1991) defined CT as “reasonable, reflective thinking that is focused on deciding what to believe or do”. On the other hand, constant Internet coverage and several types of information are key factors to emerge the seeking appropriate information among users and researchers. Applying CTS during information seeking is important because they provide the means

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for students to question assumptions, analyze arguments, and evaluate the quality of information inside and outside of their chosen fields (Bensley and Spero 2014).

Many researches related to CT have been carried out. For instance, in the research which was conducted by Bensley and Spero (2014) direct infusion as one of the instructional approaches to cultivate CT is studied. Problem-based learning as a teaching strategy has the potential to develop CTS, therefore, it is used increasingly to develop CTS among higher-education students, including nursing students (Kek and Huijser 2011). Although, there are many studies about cultivating CT through instructional methods with emphasis on the information age and decision making about suitable information to solve a problem, there is no study about the effects of critical thinking of information seeking behavior (ISB). For that reason, the main purpose of this study is to demonstrate a statement by Ennis (1989), that claims those who think critically are able to seek information that is not only of quality but is also accurate.

According to Wilson (1999) many information behavior models exist in LIS research. However, Kuhlthau (1991) 's model is relevant in this context because she has developed an information literacy program that relates the information seeking process of users in the process of learning and problem solving when they are carrying out a project (Kuhlthau 2002). Users use a variety of sources of information to learn about a particular subject, complex problem or extensive issue. Users often have difficulty in the early phases of information seeking. This can be particularly noticeable with students' who have been assigned a research paper, (Kuhlthau 1991)

In this paper, we explain that postgraduate students should use their critical thinking skills while seeking information. Although higher-education institutes emphasize the importance of having graduate students with high quality in soft skills and critical-thinking skills, the results of the WGCTA - UK edition show that respondents do not have enough critical thinking. A second survey carried out to investigate in each stage of the information seeking process, what critical-thinking skills and dispositions are used by respondents. The results show that when students seek information, they use several CT skills and dispositions such as their inference, recognition of assumption, deduction and evaluation of arguments. This is the first attempt to show that postgraduate students do use their critical-thinking skills and dispositions when they seek information.

The rest of the paper is organized as follows: literature review which includes critical thinking and information seeking behavior; the method section which is divided into three parts: sample, materials and instrument; and this is followed by data analysis. In the next section labeled as finding, we explained the demographic analysis, level of critical thinking of postgraduate students, and the presence of critical thinking skills in students' information seeking process (ISP). Finally, in the discussion and conclusion section, the key points of this paper are summarized.

LITERATURE REVIEW

(a) Critical thinking

Ennis (1987) provided a taxonomy for CT which includes dispositions and skills such as clarify the problem; identify the problem; formulate a question; gather information;

distinguish relevant from irrelevant information; make inference; deductive reasoning, recognize unwarranted claims; conduct advanced clarification; determine the strength of arguments; decide on answer, solution or course of action; and make a judgment. There are many studies based on the CT taxonomy, by Ennis (1987), to teach critical thinking (De Wever et al. 2006, Colucciello 1999, Webb 1994). ten Dam and Volman (2004) used the taxonomy and definition of critical thinking of Ennis (1989) to show that CT can be understood and taught as a set of general cognitive skills and dispositions. Tsui (2002) showed that there are several arguments on the basis of connection between CT and problem solving. Although these studies focused on the CT taxonomy and also the relationship with several factors such as learning styles (Colucciello 1999), reading (Aloqaili 2012), writing (Naber and Wyatt 2014), thinking styles (Lun, Fischer, and Ward 2010), and classroom interaction (Yiqi 2012), the importance of critical thinking in information seeking has not been considered.

(b) Information seeking process

Information seeking behavior is a process driven by humans' needs for information so that they can interact with the environment, emphasizing communication and the needs, characteristics, and actions of information seekers (Marchionini 1997). There are famous models for information seeking, such as behavioral model of ISB (Ellis, Cox, and Hall 1993), information seeking process (ISP) (Kuhlthau 1991), and problem-solving model (Wilson 1997). Prior research on ISB has focused on key factors, which influenced on information seeking and the relationship between ISB and disciplinary, demographic details such as education status and gender (Zhou 2014), positions (Al Qadire 2014) and information needs (Weiler 2005), personal traits (Malliari, Korobili, and Zapounidou 2011), and information literacy (Wahoush and Banfield 2014, Williamson and Asla 2009, Branch 2003).

The ISP presented by Kuhlthau (1991) includes six stages. In initiation, researchers recognize their needs for information to go to the second stage which is called selection. In selection, researchers identify and select the general topic to be investigated or the approach to be pursued. The third stage is an exploration that researchers investigate information on the general topic in order to extend personal understanding. In formulation which is the fourth stage of ISP, researchers form a focus from the information encountered to go to the next stage that is information collection, and researchers gather related information to the given topic. Finally, researchers complete the search and prepare to present or otherwise use the findings. Therefore, this stage is presented. Kuhlthau (1991) represented the user's sense-making process and incorporates three realms of human experience includes feelings, thoughts, and actions at each stage. Although her study was conducted in a traditional library environment, Kuhlthau's findings suggest that user cognitive, physical, and affective states are the driving force in any information seeking process.

Many LIS researchers have been inspired by Kuhlthau's research. For instance, Seldén (2004) points to the differences between bachelor students', doctoral students' and researchers' information needs and seeking; researchers may prefer to ask colleagues instead of seeking help from the librarians. According to Selden, the researchers are not motivated towards information literacy training programs as are the freshmen.

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Hyldegård (2006) has also investigated how Kuhlthau's ISP-model may apply to the information behaviour of group members in an academic setting. She found differences between the individual information seeker in Kuhlthau's model and group members' information seeking behaviour. These differences turned out to be related to contextual, social and personal factors.

There were several studies on information seeking process and feelings such as uncertainty (Chowdhury, Gibb, and Landoni 2011, Wilson et al. 2002). Moreover, several researchers have studied the information seeking process from different views such as the dimension of tasks (Xie 2009), effects of information seeking process in collaborative task-based (Shah and González-Ibáñez 2010), and in virtual learning environment (Byron and Young 2000). Critical thinking is known as a meta cognitive process (Dwyer, Hogan, and Stewart 2014). In spite of these studies, there is no work on the effect of critical-thinking skills and dispositions in information seeking behavior.

METHOD

The main objective of the study is to investigate whether postgraduate students think critically while they seek information or not and which CTS and CTD they use during the information seeking process. To address this research objective, the following research questions are postulated:
RQ1: What is the level of critical thinking of postgraduate students?
RQ2: Are the students thinking critically when seeking for information?

This study employed a quantitative method using survey questionnaires. Two sets of a questionnaire survey were distributed among postgraduate students in a Research Center of University of Malaya (UM).

(a) Sample

This is a pilot study of a larger scale research work. Therefore a total of 50 questionnaires were distributed among postgraduate students in the Research Center of UM. Postgraduate students in the Research Center of UM include Master's, PhD's and Research Assistants. They study in different majors such as Engineering, Education, Medicine, Computer Science, Science, Business, and Economics. From about 11484 postgraduate students, 330 students were selected as target population to answer the questions. In the pilot test, 50 postgraduate students were selected and only 45 students responded to the survey.

(b) Materials and instruments

Watson-Glaser critical thinking appraisal - UK edition (WGCTA-UK) (Watson and Glaser 2002) was used to answer the first research question. It has five items with separate scenarios that students should decide about them and conclude. These items are inference, recognition of assumptions, deduction, interpretation, and evaluation of arguments.

To address the second research question, the other survey was prepared to find whether postgraduate students think critically when they seek information using CT and ISP. According to the ISP model by Kuhlthau (2004), this information seeking process is

in five processes. The following stages presented Kuhlthau’s ISP-model with her proposals for information literacy education in each phase. Common patterns of thinking, feeling and acting are found in each stage: initiation, selection/exploration, formulation, information collection, and presentation. To investigate the relationship between CTS and CTD in the five processes of information seeking, 10 CTS and CTD are asked from respondents. The questionnaire is divided into 5 sections based on 5 stages of the ISP, and at each stage of the ISP; the CTS and CTD were asked from respondents in 5-Likert scale. Figure 1 is the preliminary model to show the correlation between CTD, CTS and ISP. These 10 CTS and CTD are on the basis of the taxonomy of critical thinking, which was presented by Ennis (1987) that they are clarifying a problem, identify or formulate the question, gather information, distinguish relevant from irrelevant information, make an inference, deductive reasoning and recognize unwarranted claims; conduct advanced clarification, determines the strength of arguments, decides on answer, solution or course of action, and makes a judgment.

(c) Data analysis

In order to answer the first research question, Watson-Glaser critical thinking appraisal-UK edition (WGCTA-UK) was used (Watson and Glaser 2002). It includes five items with separate scenarios that students should decide about them and conclude. These items are inference, recognition of assumptions, deduction, interpretation, and evaluation of arguments (Table 1).

To address the second research question, the other survey was prepared to find whether postgraduate students think critically when they seek information by using CT and ISP. According to the ISP model by Kuhlthau (2004), this information seeking process is in five processes (Table 1). The following stages presented Kuhlthau’s ISP-model with her proposals for information literacy education in each phase. Common patterns of thinking, feeling and acting are found in each stage: initiation, selection/exploration, formulation, information collection, and presentation.

Table 1: The measurements

Critical thinking	Mean	S.D.
Inference	1.34	0.938
Recognition of assumption	2.56	1.14
Deduction	1.58	0.882
Interpretation	1.80	0.901
Evaluation of arguments	1.59	0.774
Information seeking process		
Initiation	2.52	0.639
Selection/exploration	2.88	0.751
Formulation	2.65	0.784
Information collection	2.54	0.786
Presentation	2.55	0.928

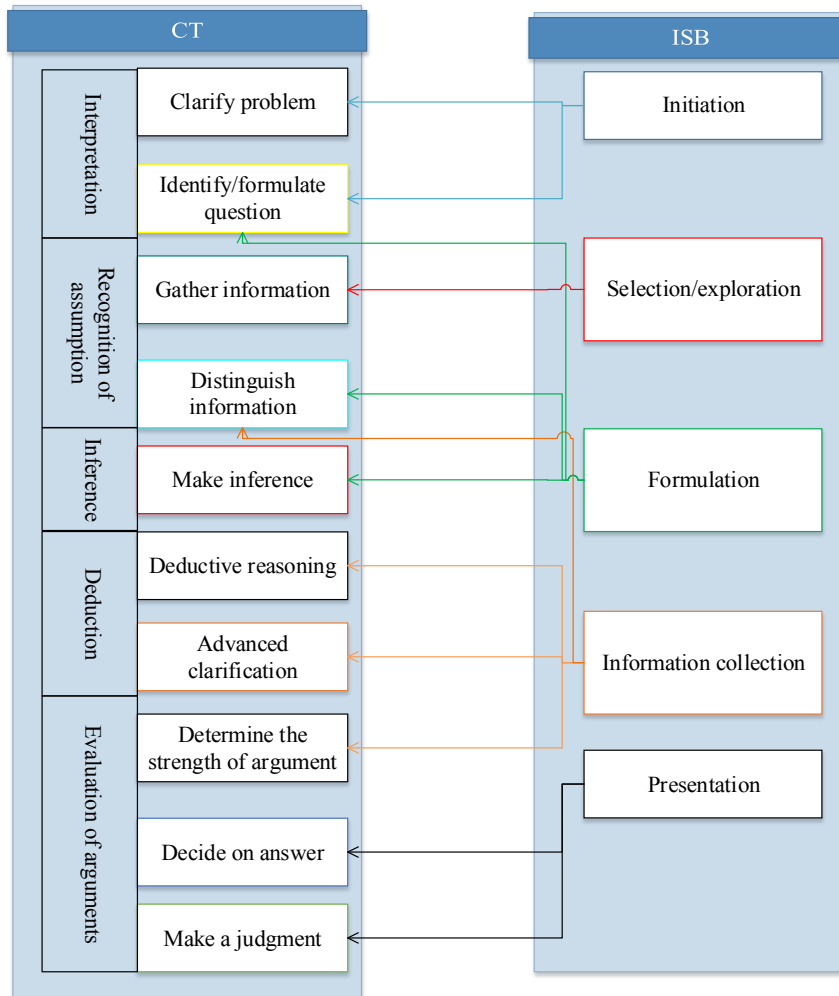


Figure 1: The relationship between critical thinking and information seeking process

FINDINGS

(a) Demographic Analysis

The printed questionnaires were distributed among 50 postgraduate students and only 45 answered them. They study in different majors and 11 of them are Master students and 34 are PhD candidates. Their ages ranged from 20 to 43 years old and 33 respondents are male, and the rests of them are female. The demographic details of respondents are presented in table 2.

(b) Level of critical thinking of postgraduate students

The total score in WGCTA-UK edition is 17; for this group that 41 of them answered the survey, the range was from 5 to 14, Mean= 9.37, and Standard Deviation= 2.083. According to the user's guide of WGCTA, 9 respondents are below average area of critical thinking and 23 respondents are also in the average level (Watson and Glaser 2012). Therefore, more than 71% of respondents suffer from lack of critical thinking as it can be seen in Table 3.

Table 2: Demographic details of respondents

Characteristics (n=45)		Frequency	Percentage
Degree	Master's	11	24.4%
	PhD	34	75.6%
Field	Computer science	31	68.9%
	Education	1	2.2%
	Engineering	9	20.0%
	Medicine	1	2.2%
	Science	3	6.7%
Gender	Male	33	73.3%
	Female	12	26.7%
Age	20-25	5	11.1%
	26-30	12	26.7%
	31-35	19	42.2%
	36-40	5	11.1%
	Over 41	4	8.9%

Table 3: Level of critical thinking of respondents

Below average 0%-40%	Average 40%-60%	Above average 60%-100%
9	23	13
20.00%	51.11%	28.88%

According to the score of participants in each item of the WGCTA-UK and the overall mean score of them, it is shown that the lowest score of respondents is in the inference (1.34) and the highest score is in recognition of assumption (2.56). Table 4 shows the critical thinking scores.

Table 4: Critical thinking score of respondents

Critical thinking	Overall mean score	Std.
Inference	1.34	0.938
Recognition of assumptions	2.56	1.14
Deduction	1.58	0.882
Interpretation	1.80	0.901
Evaluation of arguments	1.59	0.774

The WGCTA-UK results show that the level of critical thinking of postgraduate students is low, and also it is considerable when they answered the survey on the relationship between critical thinking and information seeking process. Furthermore, it is shown that participants who have below average score in critical thinking are more problematic in inference (weak point) while participants with a high score in critical thinking are good in recognition of assumption (strong point).

(c) The presence of Critical thinking skills in students' ISP

The survey of the presence of CTS in student's ISP includes 50 questions with 5-point scale ranging from "always" to "never". It was distributed among 50 postgraduate students and finally 45 of them answered the questions.

(i) Critical thinking skills (Interpretation) in ISP (Initiation)

Initiation is the first stage of ISP in which a person becomes aware of lack of knowledge, information and understanding to solve a complex problem or accomplish a project. During this stage, information seekers felt uncertainty and their thoughts are vague, therefore, users attempted to clarify and identify the problem. According to the percentage of response rate, in the initiation stage of ISP, participants clarify and identify problem. As it is shown in Figure 1, the CTD and CTS of taxonomy of CT (Ennis 1987) can be similar to the WGCTA-UK edition which were replied by respondents. To clarify it, when subjects answered the questions about the interpretation skill in the WGCTA-UK edition, postgraduate students informed that they clarify problem (95.0%) and identify it (73.0%) and it shows that they used these skills and dispositions while they seek information.

(ii) Critical thinking skills (Recognition of assumption) in ISP (Selection/exploration)

Selection is the second stage of the ISP model, and it happens after identifying the task. In this stage, users feel optimism, but it is not constant and when users want to go to the exploration stage, they feel uncertain, doubtful and confused because users need to understand the problem and investigate it. Postgraduate students in selection/exploration step of ISP identify their problem (81.8%), distinguish relevant information from irrelevant information (72.8%), and gather information (92.8%) skills.

(iii) Critical thinking skills (Inference) in ISP (Formulation)

In formulation stage, uncertainty is diminished, and it is replaced by understanding and users formed a focus from the information encountered in exploration. In the formulation step of ISP, subjects showed that they identify a problem (79.5%), distinguish relevant information from irrelevant information (75.0%), and make inference skills (68.2%).

(iv) Critical thinking skills (Deduction) in ISP (Information collection)

Users in an information collection stage of the ISP had effective communication with the system; therefore, they were able to collect information about the topic systematically. Due to feeling confident and increased interest among users, they have the ability to distinguish relevant from irrelevant information (75.0%). Regarding the frequency and percentage of responses to the questions related to the information collection of ISP and CTS (deduction), subjects gathered information (81.8%), made inference (68.2%), used deductive reasoning (70.5%) and advanced clarification (77.3%) and determined the strength of arguments (63.6%).

(v) Critical thinking skills (Evaluation of arguments) in ISP (Presentation)

In the final stage of the ISP model, information seekers completed their search activities and their problems were solved. They had to reread and organized all notes about the given topic. Participants had shown that they used deductive reasoning (63.6%),

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conducted advanced clarification (70.5%), determined the strength of arguments (70.5%), decided an answer (83.0%) and made judgment (90.0%) before they concluded and finalized their search activities.

Table 5: Frequency and Mean Value for CT in ISP

ISP stage 1: Initiation							
	CT construct: Interpretation	Always	Often	Usually	Sometimes	Never	Mean
1	I clarify and interpret the meaning of the topic.	60.0% (27)	0	35.0% (16)	4.4% (2)	0	1.84
2	I can determine the existing information are related to the topic or not	24.4% (11)	2.2% (1)	46.7% (21)	24.4% (11)	2.2% (1)	2.78
	CT construct: Recognition of assumption						
3	I gather information	26.7% (12)	2.2% (1)	68.9% (31)	0	2.2% (1)	1.64
4	I distinguish relevant information from irrelevant information about the topic.	40.0% (18)	6.7% (3)	33.3% (15)	20.0% (9)	0	2.33
	CT construct: Inference						
5	I assess the information about the topic and identify to reach a reasonable conclusion.	35.6% (16)	11.1% (5)	28.9% (13)	22.2% (10)	2.2% (1)	2.44
	CT construct: Deduction						
6	I recognize the unwarranted information about the topic.	13.3% (6)	17.8% (8)	26.7% (12)	37.8% (17)	4.4% (2)	3.02
7	I define terms and judge definitions by using appropriate criteria.	22.2% (10)	6.7% (3)	35.6% (16)	28.9% (13)	6.7% (3)	2.91
	CT construct: Evaluation of arguments						
8	I determine the strength of arguments or information about the topic.	20.0% (9)	4.4% (2)	37.8% (17)	35.6% (16)	2.2% (1)	2.96
9	I decide to find the suitable answer	35.6% (16)	6.7% (3)	33.3% (15)	24.4% (11)	0	2.47
10	I make a judgment about the answer and draw a conclusion	24.4% (11)	11.1% (5)	33.3% (15)	24.4% (11)	6.7% (3)	2.78
Average scale for initiation:							2.51
ISP stage 2: Selection/exploration							
	CT construct: Interpretation	Always	Often	Usually	Sometimes	Never	Mean
11	I clarify and interpret the meaning of the topic.	43.2% (19)	4.7% (2)	32.6% (14)	14.0% (6)	7.0% (3)	2.36
12	I can determine the existing information are related to the topic or not	29.5% (13)	0	52.3% (23)	15.9% (7)	2.3% (1)	2.61
	CT construct: Recognition of assumption						
13	I gather information	50.0% (22)	0	43.2% (19)	6.8% (3)	0	2.07
14	I distinguish relevant information from irrelevant information about the topic.	34.1% (15)	2.3% (1)	36.4% (16)	25.0% (11)	2.3% (1)	2.59
	CT construct: Inference						

15	I assess the information about the topic and identify to reach a reasonable conclusion.	25.0% (11)	0	56.8% (25)	11.1% (5)	6.8% (3)	2.75
CT construct: Deduction							
16	I recognize the unwarranted information about the topic.	11.4% (5)	9.1% (4)	34.1% (15)	43.2% (19)	2.3% (1)	3.16
17	I define terms and judge definitions by using appropriate criteria.	31.8% (14)	4.5% (2)	36.4% (16)	22.7% (10)	4.5% (2)	2.64
CT construct: Evaluation of arguments							
18	I determine the strength of arguments or information about the topic.	22.7% (10)	6.8% (3)	47.7% (21)	22.7% (10)	0	2.70
19	I decide to find the suitable answer	43.2% (19)	11.4% (5)	18.2% (8)	22.7% (10)	4.5% (2)	2.34
20	I make a judgment about the answer and draw a conclusion	25.0% (11)	6.8% (3)	38.6% (16)	25.0% (11)	6.8% (3)	2.82
Average scale for selection/exploration:							2.604

ISP stage 3: Formulation

	CT construct: Interpretation	Always	Often	Usually	Sometimes	Never	Mean
21	I clarify and interpret the meaning of the topic.	34.1% (15)	2.3% (1)	15.9% (7)	27.3% (12)	20.5% (9)	2.98
22	I can determine the existing information are related to the topic or not	31.8% (14)	4.5% (2)	43.2% (19)	9.1% (4)	11.4% (5)	2.64
CT construct: Recognition of assumption							
23	I gather information	41.95 (18)	2.3% (1)	27.9% (12)	20.9% (9)	7.0% (3)	2.55
24	I distinguish relevant information from irrelevant information about the topic.	36.4% (16)	4.5% (2)	34.1% (15)	20.5% (9)	4.5% (2)	2.52
CT construct: Inference							
25	I assess the information about the topic and identify to reach a reasonable conclusion.	25.0% (11)	0	43.2% (19)	29.5% (13)	0	2.61
CT construct: Deduction							
26	I recognize the unwarranted information about the topic.	22.7% (10)	9.1% (4)	31.8% (14)	34.1% (15)	2.3% (1)	2.84
27	I define terms and judge definitions by using appropriate criteria.	24.4% (11)	0	42.2% (19)	28.9% (19)	2.3% (1)	2.84
CT construct: Evaluation of arguments							
28	I determine the strength of arguments or information about the topic.	25.0% (11)	4.5% (2)	47.7% (21)	22.7% (10)	0	2.68
29	I decide to find the suitable answer	40.9% (18)	4.5% (2)	31.8% (14)	18.2% (8)	4.5% (2)	2.41
30	I make a judgment about the answer and draw a conclusion	38.6% (17)	6.8% (3)	34.1% (15)	13.6% (6)	6.8% (3)	2.43
Average scale for formulation:							2.65

ISP stage 4: Information collection

	CT construct: Interpretation	Always	Often	Usually	Sometimes	Never	Mean
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Are students thinking critically

31	I clarify and interpret the meaning of the topic.	38.6% (17)	0	31.8% (14)	13.6% (6)	15.9% (7)	2.68
32	I can determine the existing information are related to the topic or not	36.4% (16)	6.8% (3)	31.8% (14)	18.2% (8)	6.8% (3)	2.52
CT construct: Recognition of assumption							
33	I gather information	40.9% (18)	2.3% (1)	38.6% (17)	13.6% (6)	4.5% (2)	2.39
34	I distinguish relevant information from irrelevant information about the topic.	36.8% (16)	6.8% (3)	31.4% (14)	20.5% (9)	6.8% (3)	2.64
CT construct: Inference							
35	I assess the information about the topic and identify to reach a reasonable conclusion.	36.4% (16)	6.8% (3)	25.0% (11)	31.8% (14)	0	2.52
CT construct: Interpretation							
36	I recognize the unwarranted information about the topic.	27.3% (12)	6.8% (3)	36.4% (16)	25.0% (11)	4.5% (2)	2.73
37	I define terms and judge definitions by using appropriate criteria.	31.8% (14)	9.1% (3)	36.4% (20)	18.2% (6)	4.5% (2)	2.55
CT construct: Evaluation of arguments							
38	I determine the strength of arguments or information about the topic.	29.5% (13)	9.1% (4)	34.1% (15)	22.7% (10)	4.5% (2)	2.64
39	I decide to find the suitable answer	20.5% (9)	2.3% (1)	31.8% (14)	45.5% (20)	0	2.27
40	I make a judgment about the answer and draw a conclusion	31.8% (14)	6.8% (3)	45.5% (20)	13.6% (6)	2.3% (1)	2.48
Average scale for information collection:							2.54

ISP stage 5: Presentation

	CT construct: Interpretation	Always	Often	Usually	Sometimes	Never	Mean
41	I clarify and interpret the meaning of the topic.	38.6% (17)	2.3% (1)	18.2% (8)	11.4% (5)	29.5% (13)	2.91
42	I can determine the existing information are related to the topic or not	25.0% (11)	9.1% (4)	27.3% (12)	22.7% (10)	15.9% (7)	2.95
CT construct: Recognition of assumption							
43	I gather information	31.8% (14)	2.3% (1)	27.3% (12)	18.2% (8)	20.5% (9)	2.93
44	I distinguish relevant information from irrelevant information about the topic.	27.3% (12)	9.1% (4)	27.3% (12)	25.0% (11)	11.4% (5)	2.84
CT construct: Inference							
45	I assess the information about the topic and identify to reach a reasonable conclusion.	38.6% (17)	9.1% (4)	22.7% (10)	20.5% (9)	9.1% (4)	2.52
CT construct: Interpretation							
46	I recognize the unwarranted information about the topic.	29.5% (13)	13.6% (6)	20.5% (9)	27.3% (12)	9.1% (4)	2.68
47	I define terms and judge definitions by using appropriate	40.9% (18)	11.4% (5)	18.2% (8)	25.0% (10)	4.5% (2)	2.43

	criteria.						
	CT construct: Evaluation of arguments						
48	I determine the strength of arguments or information about the topic.	45.5% (20)	6.8% (3)	18.2% (8)	25.0% (11)	4.5% (2)	2.36
49	I decide to find the suitable answer	48.9% (21)	6.8% (3)	27.3% (12)	13.6% (6)	2.3% (1)	2.11
50	I make a judgment about the answer and draw a conclusion	61.4% (27)	6.8% (3)	22.7% (10)	9.1% (4)	0	1.80
Average scale for presentation:							2.55

DISCUSSION

This study attempted to find the level of CT by using the WGCTA-UK edition. The results revealed that about 71% of postgraduate students are in below and average level and 29% of them are high in critical thinking. It can be seen that postgraduate students suffer from lack of critical thinking and it influences their behavior while they seek information. For example, the weak point of respondents is in the inference, hence, respondents who have low and average score in critical thinking are weak to make inferences. On the other hand, the strong point of respondents in critical thinking is in “recognition of assumption” and it is apparent in respondents with high scores in critical thinking.

The other question is whether postgraduate students use critical thinking while seeking information. The main goal of this study is to show the level of CT of postgraduate students and to find the usage of CT among subjects. Therefore, the study integrated concepts of CT from the taxonomy of critical thinking (Ennis 1987) and ISP (Kuhlthau 1991). In the ISP model, Users are using a variety of sources of information to learn about a particular subject, complex problem or extensive issue. Users often have difficulty in the early phases of information seeking. This can be particularly noticeable with students’ who have been assigned a research paper, but it is not a characteristic of students’ alone (Kuhlthau 1991). Moreover, the taxonomy of CT includes CTS and CTD as Ennis believe that critical thinking can be thought if the role of CTD besides CTS is considered (Ennis 1989) and it is one of the key reasons to study the usage rate of CT in ISP. The findings contribute to our understanding of the usage of CTS and CTD when respondents seek information.

Several researchers emphasized on critical thinking as a metacognitive process (Dwyer, Hogan, and Stewart 2014) and some studies on information seeking behavior in libraries (Ramirez et al. 2002, Kerins, Madden, and Fulton 2004) but there is no study about CT and ISP together. Our research is one of the first to explore the usage of CT during the information seeking process.

After conducting the research, we found that in each stage of ISP model, some CTS and CTD are used. In initiation stage, students clarify and identify a problem to find information needs and start searching activities. In selection/exploration stages of the ISP, subjects identify a problem, gather information and distinguish relevant from irrelevant information. In formulation stage, participants identify the problem,

distinguish relevant from irrelevant information and make inference to go to the next stage of ISP. During information collection step, students gather desired information and distinguish relevant from irrelevant information, then make inferences. Participants use their deductive reasoning skills; conduct advanced clarification and determines the strength of arguments. At the final stage of ISP, students use their deductive reasoning skills; conduct advanced clarification, and determines the strength of arguments. Finally, they use their mind whether to answer the question or solve the problem and make a judgment to complete search activities.

CONCLUSION

Being equipped with critical thinking skills is important because these skills play a vital role for students, and it allows students to question assumptions, analyze arguments, and evaluate the quality of information which they encounter in their fields (Bensley and Spero 2014). In addition, it creates an opportunity for students to be well-equipped with higher-order thinking skills and qualified as competent citizen. One of the main contributions of this study is to find out the level of critical thinking of postgraduate students, which indicates that they do from lack some critical thinking skills. The other contribution is to find the usage rate of using critical thinking in students' information seeking process. This study shows that people who demonstrate critical thinking are able to seek better and more accurate information mentioned by Ennis (1989).

In connection with library user education, Kuhlthau (2002) has developed a further step – assessing the process, which is the evaluation of the ISP. At this stage, identification of what cause difficulty, and determination of what could have been done differently to improve the process of learning as well as the final product is carried out. It is important that information literacy programs make users aware of focus, use of time, use of sources, and use of librarians. The quantity of information has increased, and it can, be difficult for users to have an overview of the most reasonable way to seek for information. As a consequence of this, many research libraries are offering information literacy programs on the use of information systems, and some libraries are trying to integrate students' project work into the information literacy curriculum by, for instance, focusing on problem-based learning (Egeland 2004, Poulsen 2002).

Our study is limited by several factors. First, the data of our study came from one university and one category– postgraduate students–, which may limit its generalizability. The use of one university causes potential range restrictions on the sample, and could actually yield relationships that appear weaker than they might be in a more diverse sample. Thus, the results we reported may only provide a conservative estimate of the usage rate under study. Second, we collected data in a short time, which limits our ability to draw definitive conclusions about causality. Third, postgraduate students were asked to write down their demographic information for data matching purposes, which may cause social desirability concerns.

Future research could proceed in a number of directions. First, our research focused on critical thinking as a metacognitive process and the information seeking process in which users seek their information and show their behavior and did not discuss strategies used in information seeking. Second, this research is about the use of some CT skills and

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dispositions, and we did not consider all critical-thinking skills and dispositions separately, however, investigating all skills and dispositions can show the clear usage rate of critical-thinking skills and dispositions in information seeking. Finally, several researchers suggested different methods to cultivate critical thinking among students, but they did not pay attention to the role of critical thinking in information seeking and the correlation between critical thinking and information seeking. We are looking for finding the mutual effects of (Ennis 1989) critical thinking and information seeking to cultivate critical thinking by improving information seeking behavior of students.

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Examining school librarians' readiness for information literacy implementation

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ABSTRACT

This study investigates how school librarians perceive their readiness in implementing information literacy (IL) education in schools. It addresses the concerns that school librarians are not adequately prepared in delivering the IL programme in secondary schools. This study uses a quantitative research design with two distinct data collection techniques; a semi structured interview and a survey involving 710 school librarians from secondary schools in Malaysia. School librarians' readiness construct is derived from the cognitive, functional and technical sub-scales of IL implementation readiness. School librarians' professional qualification has an impact on their cognitive, functional and technical readiness. However, their experience as a school librarian has an impact on technical readiness only. The study proposes an IL Implementation framework that emphasizes School Librarians' Readiness as a factor to the successful implementation of ILE in Malaysian schools.

Keywords: School Librarians, Library Media Teacher, Information Literacy, Readiness, Malaysia

INTRODUCTION

This paper discusses findings of a study on the self-perceived readiness of secondary school librarians in Malaysia, with a focus on implementation of information literacy (IL) education in schools. The motivation for this study was the researcher's experiences as a school librarian and the vast literature in information literacy that lacked in studies to understand the implementers of IL in schools, i.e. the school librarians.

Information literacy (IL) is the term used to describe the ability to find and use information effectively in relation to need and purpose. Some of the definitions of IL is the ability to:

- "...access, evaluate and use information from a variety of sources" (Doyle, 1992; Eisenberg, et al., 2004).
- "...knowing when and why you need information, where to find it, and how to evaluate, use and communicate it in an ethical manner" (CILIP, 2012).

In 2012, the Moscow Declaration on Media and Information Literacy (UNESCO, 2012), appealed to the relevant authorities to integrate media and information literacy in all national educational policies. It also urged support for necessary structural and

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pedagogical reforms in the education system and integrates media and information literacy in the curricula including systems of assessment at all levels of education, including workplace learning and teacher training. These proposals further emphasized the importance of information literacy in the national education system. The main purpose is to improve student success in the classroom. However to do so, the policy makers must first understand that well-prepared teachers play an important role in achieving this (Boyd, et al, 2007). This would include well-trained school librarians to impart information literacy to students. However, there remains an ideological divide on how to prepare school librarians, what the role of school librarians is, and how to ensure successful and effective implementation of information literacy in the school curricula.

PROBLEM STATEMENT

The American Association of School Librarian (AASL, 2013), proposes the school librarian as cadre of school specialists - reading specialists, technology integration specialists, curriculum specialists, or any other specialists with a whole-school mission. These roles require school librarians to be knowledgeable in information literacy and constantly update their personal skills in order to work effectively with teachers, administrators, and other staff to assist them in their information issues. To date much of the research on IL implementation has focussed mainly on pedagogical approaches in delivering and assessing effective information literacy instructions (Horton, 2008; Bruce 2002, Williams and Wavell, 2006; Halida, et al, 2011; Intan Azura & Shaheen, 2006; Intan Azura, Shaheen & Foo, 2008, Sajjad and Suha, 2013) or the instructional role of the library media specialist (Dotan & Aharony, 2008; Drake, 2007). There have also been several studies on the perceptions of school media specialist or school librarians on their role in information literacy education (McCracken, 2001; Miller, 2002; Martin, 2011; Smith, 2013; Subramaniam et al, 2013). These studies have individually focussed on diverse issues plaguing IL implementation.

The school librarians are at the forefront of successful information literacy education implementation in schools, yet little is known about the preparedness or readiness of school librarians in successfully executing this responsibility. To date the extent of school librarians' readiness in the information literacy education implementation in Malaysian secondary schools is unknown. The literature suggests that school librarians may not be prepared to teach information literacy (Combes, 2008; Diao & Chandrawati, 2005; Duke & Ward, 2009; Norhayati, 2009) as they appear to be lacking in IL skills and competencies (Tan & Singh, 2008, 2010). Therefore, this study aims to address this void and present a model of school librarian readiness towards information literacy implementation at schools.

LITERATURE REVIEW

School Librarians in Malaysia

In Malaysia, school librarians are teachers, academically qualified and professionally trained in the discipline of Education. They are subject teachers and familiar with the

school curriculum (Norhashimah, 2007; Lee, et al, 2003). Once, their services are confirmed with at least three years of teaching experience, they are eligible to be appointed as school librarians (Ketua Pengarah Pelajaran Malaysia, 2005). Their responsibilities include managing the school libraries in terms of budgeting, collection building and execution of school library programmes. They are expected to collaborate with teachers, management of the school, Teachers' Activities Centre, Education Technology State Department, as well as the Education Technology Department to plan, implement information skills programme, carry out research, and provide in-house training to teachers in their respective schools. In addition, they may have full-time teaching responsibilities (Abrizah, 1999). However, many of them have little or limited library and information science (LIS) qualifications (Raja Abdullah & Saidina Omar, 2003). The general practice is for them to attend a Basic Thirty-five Hours SRC (*School Resource Centre*) Management Course followed by Advance Forty-five Hours SRC Management Course prior to or after their appointment as school librarians (Abrizah, 1999). The highest qualification may be a Master degree in LIS or Education Technology or Information Science Studies.

School Librarians and Information Literacy

The school librarians' capability in their IL skills is empirically unknown. The school librarians may need better IL skills to provide services and perform their tasks in the school libraries (Combes, 2008; Tan, Gorman & Singh, 2012). Table 1 depicts some of the more pertinent research papers related to IL and school teachers. Merchant and Hepworth (2002) observed the use of information resources by teachers and concluded that teachers are information literate but their skills were not transferred to their pupils, which they conclude could have been influenced by their attitude towards IL. In 2006, Williams and Wavell delved further into understanding the relationship between IL and learning. Their investigation into curriculum-based information activities led them to conclude that many teachers regard IL skills as cross-curriculum skills formation or a separate subject rather than a way of learning and teaching. Later Williams and Wavell (2007) found that teachers' conception of IL is influenced by individual experiences and curriculum priorities. School librarians' also face the dilemma of decreased support from their colleagues.

Two interesting studies focussing on the school librarian are conducted by Ritchie (2011) and Nelson (2011). Both studies investigated school librarians' perception about their status and professional identity. Ritchie (2011) used the survey method to obtain a wider response, while Nelson (2011) used the semi-structured interview method to solicit in-depth perception of school librarians about their professional identity. Nelson found that school librarians often lack current job description, though they understand their professional role. The study by Kamal and Normah (2012a) revealed that schools in Malaysia do not employ full-time adequately trained professional school librarians. The school librarians are without proper professional library or information science training. Furthermore, Kamal and Normah, (2012b) also revealed that there is no formally instituted school librarian training policy and as such standard practices are not evident. They stress that there is a clear lack of commitment in developing human resource for school libraries in Malaysia. Several researchers have found that school librarians need

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professional development relating to IL, particularly the information skills in teaching programme, a framework of skills for students and practical help for teaching and evaluating information skill (Clyde, 2004, 2005; Probert, 2006; Slyfield, 2001).

Smith (2013) found that secondary teachers are confused about the phrase of information literacy and are ill-prepared to instruct IL effectively. They need experience in IL instructions. This is an old and basic issue which is still facing neglect. In 1990, Buckley and Caple (1990) clarified training as a planned and systematic effort to modify or develop knowledge or skills or attitudes through learning experience and to achieve effective performance in an activity or range of activities. The training is to improve the school librarians' performance to ensure that they achieve the best possible results in their job (Carliner, 2003).

Experiential Learning Theory

The notion of "experiential learning" originated from the work of Dewey, Lewin and Piaget (Kolb, et al., 2000; Miettinen, 2000). Kolb's (1984) experiential learning theory describes learning as "the process whereby knowledge is created through the transformation of experience". Based on the theory, it is assumed that experience plays a fundamental role in the school librarians' learning process that combines experience, perception, cognition and behaviour. Thus, the school librarians' experience may be the foundation for the creation of knowledge on Information literacy. Therefore, Kolb's experiential learning theory provides a link between theory and practice, between abstract generalisations and concrete experiences as well as between the affective and cognitive domains. It provides linkages among school librarians' education, work and personal development. Thus, the researcher adapts and utilizes the Kolb's experiential learning theory (Kolb & Kolb, 2008; Kolb, 1984) to illustrate and justify that school librarians' experience may have an impact on their knowledge, skills, and competencies relating to IL.

OBJECTIVES

The main objectives of this study are to examine information literacy education implementation in Malaysian schools from the perspective of the school librarians. This study aimed to answer the following questions in relation to the stated objectives:

1. What is the general perception of school librarians' about information literacy implementation in Malaysian secondary schools?
2. What is the level of school librarians' readiness for information literacy implementation in Malaysian secondary schools?
3. How does experience and professional qualifications influence school librarians' readiness?

[Several hypotheses are tested to examine if there is a statistical significant mean difference between school librarians' readiness and their professional qualifications and experiences.]

This study contributes to understanding the necessities and readiness of school librarians to successfully implement information literacy education in schools.

METHODS

This study adopted a quantitative research methodology, specifically the descriptive research design. Since the objective was to investigate the perception of school librarians about IL implementation and to assess the readiness of Malaysian school librarians in implementing IL, the target population was school librarians from all states in Malaysia. Thus, a survey research method was conducted in two sequential phases. Phase one using interviews with selected school librarians to explore their perception of IL implementation and Phase two using a survey questionnaire to assess school librarian readiness.

Study Sample

The target population for this study was school librarians from all sixteen states in Malaysia. The samples were generated from a total of 2,189 secondary schools (based on data from MoE, Kementerian Pelajaran Malaysia, 2009). Using the Krejcie and Morgan's (1970) sample size table determination for research activity, a total of 326 responses were necessary. The number of questionnaire sent to each state was based on a 50% expected response rate. A total of seven hundred and ten school librarians participated in the survey. This represents 32.4% of school librarians' population in Malaysia. The respondents were school librarians with teaching experience ranging from 3 months to 35 years. Whereas their experience as a school librarian, ranged from 3 months to 28 years. About 72.30% of these school librarians have less than 5 years of experience as school librarians. The school librarians' qualification includes the in-service SRCM (School Resource Centre Management) courses and LIS qualifications at Diploma, Degree or Masters level. It can be summarized into 4 levels of qualifications as shown in Table 1.

Table 1: LIS related qualifications (n = 710)

Courses in LIS	Frequency	Percent, %
a. None	259	36.5
b. In-service SRCM courses less than one semester	351	49.4
c. In-service SRCM courses one semester or more	59	8.3
d. Tertiary levels in LIS	41	5.8
Total	710	100

The data reveal that there is a substantive number of school librarians (36.50%) in this study have no formal qualification in LIS or in school library management.

Table 2 School librarian experience, n=710

Length of School librarians experience	Frequency	Percent
a. 0 - 5 years	513	72.30
b. 6 - 10 years	139	19.60
c. 11-30 years	58	8.20
Total	710	100

Study Instrument

This study utilized a self-administered questionnaire resulting from an analysis of the literature pertaining to IL and school librarians. The measures for information literacy implementation readiness were confirmed via interview sessions with six school librarians and two Education technology officers from the MoE. Based on data from nine hours of interview, the emerging themes were similar to those from the literature: understanding information literacy, information literacy skills, information literacy attributes, school librarians' role as the information literacy educator, school librarians' qualifications and experience. These themes formed the basis of a proposed framework into the investigation of school librarians' readiness for IL implementation and the survey instrument. The questionnaire was prepared in dual languages, English and Bahasa Malaysia (National language). There were six questions of demographic nature. School librarians' readiness for IL implementation was measured with 12 items on cognitive readiness, 6 items on functional readiness and 14 items on technical readiness, all of which employed a five scale Likert-type response (i.e., 1= strongly disagree, to 5= Strongly agree). The reliability was ascertained through a Cronbach's Alpha value of 0.961.

Study limitation

The researchers acknowledge several limitations in this study that should be known to others. The study is solely based on the perception of school librarians. It is limited to the school librarians' self-assessed IL skills as it does not test on or evaluate the school librarians' actual IL skills. Furthermore, in terms of IL implementation, the research focused only on school librarians' perception and does not attempt to explore or report on actual implementation as in the classroom activities or library activities. The researchers acknowledge that Klob's experiential learning theory is comprehensive but in this study only two constructs are examined, professional qualification and experience as measures of experiential learning.

Analysis methods

McCain and Tobey (2004) described the presence of readiness when adults are able to face the situations that require them to use the new knowledge, skills, or abilities. Their readiness involves a wide range of aspects such as skills, social, affective, capabilities, experience, intellectual, interest, knowledge, and physical aspects in order to understand certain fundamental principles. They are to accomplish a specific work task and their readiness related to their abilities and willingness as well as to requisite knowledge and skills to perform the tasks which leads to the accomplishment of the educational organization's goals (Hersey, Blanchard, & Johnson, 2001; Strohschen & Elazier, 2009). In this study the school librarians' readiness was measured on 3 sub-scales of readiness which were derived from the analysis of the interview data in the first phase of the study : (i) **Cognitive Readiness** is conceptualised as pertaining to the act or process of knowing, perceiving, understanding IL concepts and attributes of an information literate person. **Functional Readiness** is conceptualised as the act of functioning as an IL educators, in other words it is about how school librarians perceive their roles in the implementation of IL in education. **Technical Readiness** is

conceptualised as the capabilities to perform the task, in this case the self-assessed IL skills among school librarians. The mean score of each construct is interpreted as shown in Table 3. The mean score ranging from 4.00 to 5.00 is interpreted as school librarians are 'Ready'. The mean score 3.00 - 3.99 is interpreted as they are 'Approaching readiness', whereas mean score of below 3.00 infers that school librarians are 'Developing Readiness' for the IL implementation.

Table 3 Readiness scale

Likert Scale/ Mean score		Readiness
Strongly agree	5.00	Ready
Agree	4.00-4.99	
Neutral	3.00-3.99	Approaching Readiness
Disagree	2.00-2.99	Developing Readiness
Strongly Disagree	1.00-1.99	

FINDINGS

Perception of IL implementation

In the interviews, school librarians and education officers discussed about the various issues that plagued IL implementation in schools. Generally they were of varying opinion about what constitutes IL. Discussions were focussed on attributes and skills of an information literate person. The participants also questioned their role in IL implementation and there was a clear distinction between the more experienced teachers as compared with the younger ones in verbalising their understanding of IL. Thus, it was revealed that school librarians are experiencing a lot of uncertainty in their role as information literacy implementers. The school librarians' readiness to implement information literacy could play a major role in the successful implementation of information literacy in school. This study further explored this issue on a broader scale based on the second research question.

Besides the teachers' self-reflective concerns, they also reported external factors that they perceived to have major impact on successful IL implementation in schools. School librarians were convinced that factors such as policies and standards as guides for implementation were not in clearly in place. Even the IL education curriculum had not been formulated and formalized. Most school librarians did not have the opportunity for continuous professional development in improving their own training in carrying out a curriculum focussed on IL. Several librarians highlighted that the lack of infrastructure in schools has an impact on their ability to carry out IL education in schools. These results are used to formulate a preliminary framework for IL implementation in schools focusing on school librarians' readiness (Figure 1).

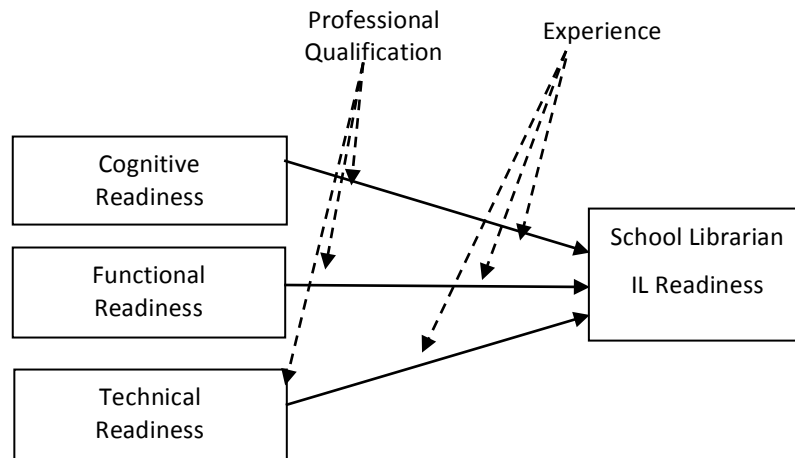


Figure 1: Conceptual framework of the study

School Librarians' Readiness

The mean score of each construct is used to interpret the each sub-scale of school librarians' readiness, specifically cognitive readiness, technical readiness and functional readiness. Table 4 depicts they mean scores for items on the Cognitive readiness.

Table 4: Mean and standard deviation of Cognitive Readiness

Dimension : Cognitive readiness	Mean	SD
Information literacy enables you to access, evaluate, and use information from a variety of sources.	4.43	0.60
The information-literate person recognizes the need for information.	4.39	0.60
Information literacy is a set of skills that can be learned.	4.38	0.60
The information-literate person recognizes accurately the information needed.	4.38	0.62
The information-literate person accesses sources of information through computer-based and other technologies.	4.32	0.66
The information-literate person identifies potential sources of information.	4.30	0.59
The information-literate person integrates information found with existing knowledge.	4.27	0.64
The information-literate person develops successful search strategies.	4.26	0.62
The information-literate person uses information in problem solving.	4.24	0.65
The information-literate person formulates questions based on information needs.	4.22	0.62
The information-literate person organizes information for practical applications.	4.22	0.64
The information-literate person uses information in critical thinking.	4.17	0.66
Overall Cognitive Readiness	4.30	0.48

Most items measuring cognitive readiness are above the mean of 4.0. School librarians score better in their knowledge about IL but lower in recognising the attributes of an information literate person.

Examining school librarians' readiness

The mean score of each item measuring functional readiness ranges from 4.20 to 3.77 (Table 5). Though school librarians agree that they have a role to play in providing reference, supporting teachers and being leaders in IL education, they are less confident about being the information specialist and training others in IL.

Table 5: Mean and standard deviation of Functional Readiness

Dimension: Functional Readiness	Mean	SD
School librarians provide reference services in school libraries.	4.20	0.63
School librarians view their role as supporting teachers and students.	4.19	0.59
School librarians view their role as providing information.	4.11	0.69
School librarians play a leadership role in educating students on the importance of IL skills.	4.04	0.74
School librarians perform as information specialists.	3.97	0.81
School librarians train teachers during in-house training programs to incorporate IL knowledge.	3.77	0.84
Overall functional readiness	4.05	0.57

As for technical readiness, all items scored below 4 (Table 6). Clearly school librarians do not perceive themselves as having high level of IL skills. They score better in selecting, organising and synthesizing the information, but rate themselves lower in the basic skills of identifying need for information and carrying out a search, especially using Boolean operators.

Table 6: Mean and standard deviation of Technical Readiness

Dimension: Technical Readiness	Mean	SD
Select the best sources of information.	3.78	0.68
Extract relevant information from information source.	3.74	0.68
Locate sources intellectually and physically.	3.72	0.73
Organize information from multiple sources.	3.71	0.74
Synthesize information found in the sources.	3.71	0.72
Present the information found.	3.70	0.7
Find information within sources.	3.65	0.72
Identify information needed (to solve the information problem)	3.65	0.69
Judge the effectiveness of the information found to carry out the task.	3.63	0.74
Determine all possible sources of information.	3.60	0.70
Define the information task (define the information needed).	3.59	0.68
Judge the efficiency of the information process.	3.55	0.78
Search for information using the keyword search and alternative keyword search.	3.52	0.90
Search for information using Booleans operators (AND, OR, NOT).	3.00	1.11
Overall Technical readiness	3.61	0.60

The school librarians' readiness is measured by the mean score of each construct as in Table 7. The highest mean score of school librarians' readiness is Cognitive Readiness with the mean score of 4.30 (sd=0.48) followed by Functional Readiness with then mean score of 4.05 (sd=0.57). This indicates that they are only "Ready" in their cognitive

readiness and functional readiness. The Technical Readiness mean score is 3.61(sd=0.60). This indicates that they are “Approaching Readiness” in their technical readiness.

Table 7: School Librarians Readiness

School Librarians Readiness	Mean	SD	Readiness
Cognitive Readiness	4.30	0.48	Ready
Functional Readiness	4.05	0.57	Ready
Technical Readiness	3.61	0.60	Approaching Readiness
Overall School Librarians Readiness	3.95	0.45	Approaching Readiness

Therefore, using the overall mean score of the three sub-scales, the overall mean score of School Librarians Readiness is 3.95 (sd=0.45). The result shows that school librarians are “Approaching Readiness” for IL implementation.

Relationship between Experience and Qualifications and school librarians’ readiness

The study further explored the influence of years of experience as a school librarian and LIS related qualifications on school librarians’ readiness for ILE implementation in secondary schools. The school librarians’ qualifications and experiences are as depicted in Table 2 and 3 respectively. One-way ANOVA was used to explore relationships between the dimensions of readiness and variables of qualifications and experience. The results are seen in Table 8.

Table 8: One way ANOVA

Dimensions	SL experience		SL professional qualification	
	F-value	Sig.	F-value	Sig.
Cognitive readiness	1.459	.233	2.836	.037*
Functional readiness	2.789	.062	7.106	.000**
Technical readiness	8.136	.000**	16.216	.000**

* p < 0.05 ; ** p < 0.01

The results suggest that school librarians’ cognitive readiness and functional readiness is not significantly different across the three levels of school librarians’ experience, but is there is a significant difference across the four levels of school librarians’ professional qualifications. This means that school librarians with LIS related professional qualifications portray higher levels of cognitive and functional readiness. The better understand the concept and attributes of IL and better recognize their role in ILE.

With regards to technical readiness, it is found that there is a statistical significant mean difference across the three levels of school librarians’ experience and also across the four levels of school librarians’ professional qualifications. School librarians’ self-perceived IL skills are influenced by their years of experience as a school librarian and also the LIS related qualifications they possess.

DISCUSSION

This section presents the findings of the research based on three major research objectives.

School librarians' perception about information literacy implementation

School librarians' perception about information literacy implementation in Malaysian secondary schools was gauged through face to face interviews. It was found that school librarians were concerned about two main issues. Primarily, their own understanding about the concept of information literacy and what are information literate attributes, their role as information literacy educator and the information literacy skills they themselves have. This finding confirms previous studies (Diao & Chandrawati, 2005; Norhayati, Nor Azilah & Mona, 2006; Norhayati, 2009) that have revealed that school librarians often do not fully understand the concept and sometimes even confuse it with ICT skills. This further causes them to perceive themselves to have low level of IL skills (Tan and Singh, 2008, Kamal & Normah, 2012a). School librarians are experiencing a lot of uncertainty in their role as information literacy implementers. School librarians' opinion differed based on their experience and qualifications. Secondly, they expressed concern about external factors, mainly IL related policies, standards, curriculum, professional development and infrastructure to support, facilitate and strengthen the ILE implementation. Concerns by previous researchers, that school librarians are unable to teach information literacy concepts and research strategies to their students (Edzan & Mohd Sharif, 2005; Saidatul Akmar, Dorner & Oliver, 2011), they have to be put into practice in schools (Raja Abdullah, Raja Ahmad & Kamaruzaman, 2011).

Generally it is concluded that school librarians' readiness was an issue worth examining on a larger scale. Their understanding of the concepts and attributes related to IL were considered cognitive readiness. Their recognition of their role as IL educators was conceptualized as functional readiness and their IL competencies are conceptualized as technical readiness. The findings revealed an issue that needed further examination that is the school librarians' readiness in implementing information literacy in school. The readiness is measured on the school librarian's self-perception on three scales; cognitive readiness, functional readiness and technical readiness.

School librarians' readiness for IL implementation.

This research provides an insight of school librarians' readiness to IL implementation. The finding suggested that overall they are only **partially ready** for IL implementation. They are ready in cognitive and functional readiness, but only partially ready in technical readiness.

The school librarians' cognitive readiness is a measure of their self-perceived knowledge about IL and information literate attributes. They need to be clear that IL is a set of skills that can be learned to enable them to access, evaluate and use information from a variety of sources. They have to know that as an information-literate person, they must have the necessary attributes. The information-literate attributes requires them to recognize accurately the information needed as well as recognize the need for

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information. They need to formulate questions based on information needs. They need to identify potential sources of information and develop successful search strategies to search for information. They are able to access sources of information through computer-based and other technologies. Once they obtain the information, they need to organize information for practical applications. They can integrate the information through the knowledge they have and use the information in critical thinking and in problem solving.

The findings indicate that they are ready in their cognitive readiness. This contradicts the findings of Norhayati (2009)'s research which indicates that school librarians appear not to understand the information literacy concept. They often misunderstand it as information communication technology. They assume that information literacy is the skill to look for information online and presume that this skill as being information literate.

The school librarians' functional readiness is based on perceiving school librarians' role as IL educator. In order to be functional ready, school librarians need to fulfill these characteristics: able to train teachers during in-house training programs to incorporate IL knowledge; play a leadership role in educating students on the importance of IL skills; perform as information specialists; provide reference services in school resource centres. They view their role as supporting teachers and students and also view it is their role to provide information. The findings indicate that Malaysian school librarians are ready in their functional readiness.

Thus, school librarians are the instructional partner to foster IL education by providing resources not only for the students but also for professional resources and support for teachers (Abrizah & Zainab, 2008; Church, 2008; Li, 2006). They are resource managers (Hockersmith, 2010) as well as multi-tasking as teachers, collaborators, curriculum leaders, instructional leaders, information specialists, instructional technologist, programme managers and advocates. They are also the facilitators to student learning to the greatest possible extent (Church, 2008; Novo & Calixto, 2009; Reed, 2009).

The school librarians' technical readiness is based on the self-assessed IL skills. The findings indicate that they are partially ready. In order to be technically ready, school librarians need to be able to know and possess the Big Six Model IL skills. The school librarians' technical skills are a fundamental factor, as they need better IL skills to provide services and to perform their tasks in the school libraries (Combes, 2008; Tan, Gorman & Singh, 2012). The need of IL is essential, so they are required to acquire and comprehend the IL skills as well as knowledge in order to assist, provide and teach IL in schools (Morizio & Henri, 2003). Thus, school librarians have to develop their technical competency in acquiring new skills and competencies notwithstanding disparities in technological and intellectual disciplines in this new learning paradigm (Sit, 2003).

Influence of experience and professional qualifications on school librarians' readiness.

The influence of professional qualifications on school librarian's readiness is significant in cognitive, functional and technical readiness. School librarians who qualify in the In-service SRCM courses of one semester or more or Tertiary level in LIS are equipped with their cognitive, functional and technical readiness. Thus, professional qualifications are needed to facilitate their cognitive, functional and technical readiness. This findings bear

similarity to Farmer's (2007), research where she indicated that school librarians who have high regards for continuing education and pursuing a Master's degree have a deeper understanding of the profession as they hold a longer-term perspective.

The influence of experience on school librarians' readiness is significant in leading to technical readiness. Experience facilitates technical readiness for the school librarians to learn and comprehend IL skills. The literature confirms that their experiences are a dominant factor of information literacy knowledge that is considered as a means and strategy to learning opportunities for the teachers. Their prior learning, teaching combined with school librarians' experiences are the main principles for the new information literacy knowledge (Zepeda, 2008).

School librarians' experience influences their technical readiness in their professional IL learning (Williams & Coles, 2007). Thus, the Kolb's experiential learning theory (Kolb & Kolb, 2008; Kolb, 1984; Kolb, Boyatzis, & Mainemelis, 2000; Kolb & Plovnick, 1974) illustrates and justifies that school librarians make full use of their experience to smoothen and expedite their learning process.

The school librarians' experience highlighted in the Kolb's experiential learning theory shows that their IL skills knowledge is created through the transformation of experience. Their experience is the foundation for the creation of knowledge as they transform their experience into knowledge. In this respect, their knowledge represents their self-assessed IL skills as their technical readiness.

CONCLUSION

This research investigated school librarians' perception about themselves in the implementation of IL in schools. It found that school librarians were indeed very concerned about their readiness in implementing ILE. Their concern is related to their cognitive readiness, that is, their firm understanding of information literacy and the attributes of an information-literate person. It was found that the school librarians were quite ready in this aspect. They understood what IL is and they could also identify several attributes that defies an information literate person.

Based on their role as implementers of IL education in schools, school librarians are also concerned about their functional readiness. Becoming a specialist entrusted with the authority to train other teachers is a role school librarians are not keen on. They have to be ready to embrace their role as information literacy champions in order to lead the other teachers in implementing it successfully across the curriculum. Malaysian school librarians are ready for their role as ILE implementers. However they are less ready in providing in house training and confident in their role as information specialist.

An important aspect of the school librarians' readiness is their own information literacy level. It is found that in terms of technical readiness, that is, their own IL skills, Malaysian school librarians are only partially ready. This in turn could affect their perception of their functional role as well. When asked to self-assess their IL skills, school librarians have shown a low level of readiness. This indicates that there is a need for further training to enhance their skills before they can be expected to implement IL initiatives in schools involving teachers and students.

School librarians' personal readiness in cognitive, functional and technical aspects enables them to be skilled and confident performers as IL educators. Their experience

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and professional qualifications help to consolidate their readiness in the ILE implementation.

Future studies should explore qualitatively the level of school librarians' readiness for ILE implementation in relation to their attitude towards IL in the curriculum. Their perception that they are not fully ready for IL implementation can be investigated based on their perception of their professional identity. One can further investigate how experiences influence their knowledge about IL and how they are able to better comprehend their function as an IL implementer over the years of service as a school librarian.

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Appendix: Interview questions for school librarians

Interview semi-structured questions

1. Can you tell me about yourself? Your experiences? Qualifications, etc?
 2. How long have you been in charge of the school library?
 3. What are your main responsibilities as the school librarian?
 4. What do you know about information literacy?
 5. Would you consider yourself as an information literate person? Why?
 6. What do you know about information literacy implementation in schools?
Probe : Government policy? Standard? Integrated curriculum?
 7. Have you had any formal training in information literacy education?
 8. How do you think IL can be taught in schools?
 9. What support do you need to have to teach information literacy in schools?
 10. What are the setbacks in implementing information literacy in schools?
-

Appendix: Survey instrument

**B I. Perceptions of School Librarians
about Information Literacy.**

To what extent do you agree or disagree with these elements of information literacy?
Please tick (✓) the number that best describes the extent of your opinion, ranging from
1 for **Strongly disagree** to **5** for **Strongly agree**.

7. Information literacy is a set of skills that can be learned.

① ② ③ ④ ⑤

8. Information literacy enables you to access, evaluate, and use information from a variety of sources.

① ② ③ ④ ⑤

9. The information literate person recognizes accurately the information needed.

① ② ③ ④ ⑤

10. The information literate person recognizes the need for information.

① ② ③ ④ ⑤

11. The information literate person formulates questions based on information needs.

① ② ③ ④ ⑤

12. The information literate person identifies potential sources of information.

① ② ③ ④ ⑤

13. The information literate person develops successful search strategies.

① ② ③ ④ ⑤

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14.The information literate person accesses sources of information through computer-based and other technologies.

① ② ③ ④ ⑤

15.The information literate person organizes information for practical applications.

① ② ③ ④ ⑤

16.The information literate person integrates information found with existing knowledge.

① ② ③ ④ ⑤

17.The information literate person uses information in critical thinking.

① ② ③ ④ ⑤

18.The information literate person uses information in problem solving.

① ② ③ ④ ⑤

19. A skilled school librarian with information literacy expertise has knowledge of resources.

① ② ③ ④ ⑤

20. School librarians train teachers during in-house training programs to incorporate information literacy knowledge.

① ② ③ ④ ⑤

21.School librarians play a leadership role in educating students on the importance of information literacy skills.

① ② ③ ④ ⑤

22.School librarians perform as information specialists.

① ② ③ ④ ⑤

23.School librarians provide reference services in school resource centres.

① ② ③ ④ ⑤

24.School librarians view their role as supporting teachers and students.

① ② ③ ④ ⑤

25.School librarians view their role as providing information.

① ② ③ ④ ⑤

II. Self-Assessment of Information Literacy Competencies.

Please indicate your level of your information literacy abilities of the following skills. Please tick (✓) the number that best describe your abilities, ranging from 1 for Do not know at all to 5 for Excellent.

26.Define the information task (define the information needed).

① ② ③ ④ ⑤

27. Identify information needed (to solve the information problem).

① ② ③ ④ ⑤

28. Determine all possible sources of information.

① ② ③ ④ ⑤

29. Select the best sources of information.

① ② ③ ④ ⑤

30. Locate sources intellectually and physically.

① ② ③ ④ ⑤

31. Search for information using Booleans operators (AND, OR, NOT).

① ② ③ ④ ⑤

32. Search for information using the keyword search and alternative keyword search.

① ② ③ ④ ⑤

33. Find information within sources.

① ② ③ ④ ⑤

34. Extract relevant information from information source.

① ② ③ ④ ⑤

35. Synthesize information found in the sources.

① ② ③ ④ ⑤

36. Organize information from multiple sources.

① ② ③ ④ ⑤

37. Present the information found.

① ② ③ ④ ⑤

38. Judge the effectiveness of the information found to carry out the task.

① ② ③ ④ ⑤

39. Judge the efficiency of the information process.

① ② ③ ④ ⑤

A review of using podcasts in academic libraries: A case study at Shahid Beheshti University

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ABSTRACT

Using Web2.0 capabilities in academic libraries, librarians can provide their users with more special and better information services. Podcasting and vodcasting are the most common consequences of Web2.0 used for publishing online information. Most of librarians suppose that podcasts serve as information services in the Web2.0 collection. So, current paper aims to introduce the role that podcasts play in identification of academic libraries services, discuss their role as new electronic information resources, and deal with features and advantages of podcasting in academic libraries and information centers. This paper, presents experience for library of Education and Psychology Faculty in using podcasts. All scientific lectures of this faculty accessible from library webpage and podcasts link. So users can click on their needed files and download their needed audio & visual files or save them in their cellphone, Ipad, note book, mp3 player and so on. Also downloaded podcasts and videocasts would be useful for e-learning. By this services, all students and scholars can easily use information resources such as audio & visual files of speeches, conferences, thesis defense meetings and so on.

Keywords: Academic libraries; Podcasting; Videocasting; Shahid Beheshti University; Web2.0

INTRODUCTION

Web2.0 or reading-writing web, is amongst the new instances of the World Wide Webnext generation that allows the users to create, change, and publish the dynamic content of all kinds. Web2.0 points to the second generation of the network infrastructure and is called reading-writing network by the librarians that is where the users are both consuming and producing online contents. Podcast is amongst the “social softwares” considered as Web2.0 products. In today’s borderless world, podcast can keep people connected. Despite the mono-dimensional and traditional atmosphere, it has not only prevented people from dissociation, but also supported the social and scientific collaborations. Indeed, “social software” is a device which makes it possible for two or more users to share and associate free of geographical limits. Its ultimate goal is to create the knowledge network the members of which are exchanging valuable and impressive knowledge.

Podcasting is a method of providing content by publishing the audio file on the internet. It is also a general name for an audio program placed on a digital music player, commonly Ipod, by the users. The term "Podcast" is a combination of Ipod and Broadcasting and "podcasting" is the act of broadcasting and publishing the podcast. It is a new service among the Weblogs, RSS, and so on thanks to the social web. Podcasting origin goes back to early 2000, and the technical components were available since 2001. In 2003, regular podcasts appeared on famous websites and their supporting softwares spread. In 2004, the term "Podcast" was used for the first time. At late 2004, thousands of podcasts were available. In summer 2004, 24 searches in Google search engine retrieved for the word "podcast". In 2005, Yahoo also launched podcast service. In the same year, Oxford new dictionary chose "podcast" as the best word of the year. In 2006, Google search engine retrieved 242 million searches for the term "podcast". The increased rate of podcast production, scientific papers published, and numerous workshops held in this regard show the popularity of the podcast amongst the users. Videocast, shortened as Vodcast and Vidcast, is the continuous publication of the video pictures via the Internet. The term is a combination of Video and Cast. Steve Garfield started his videoblog on January 1, 2004. The first videocast about natural history was published in Montana State University on October 1, 2005(Wikipedia, 2007). Usually, the same devices used for digital music players are used for listening to podcasts and watching videocasts. The devices are small and portable so that the users can apply the audio-video content anytime and everywhere. After downloading from internet, the content is usable offline while in other methods the connection is required for using the content.

In podcasts and videocasts, users have full control over the content such as rewinding and fast-forwarding, listening and watching a part of the content, and so on. Users can use the content as much as they want without browsing the Web to access the contents. By setting up the software and adding the podcast and videocast address to the list, copying the content to PC and finally to the player device, file transferring will be done automatically, and the user has access to the latest data in his/her device. Figure 1 simply shows a podcast creation. Academic libraries and information centers according to their needs in various periods use numerous technologies. After forming the user oriented concept instead of library oriented, applying technologies have been changed. Web2 bestowed many benefits for libraries and their users. The trends in social software and collaboration technologies caused the users' expectations to be changed and the libraries have to match themselves with the users' needs (Stephens, 2005).

Users' information demands of academic libraries are mainly parallel with research goals and fulfilling main organization missions. So, these users need to have fast and easily access to credible, organized and up-to-date information. Podcast and videocast are another form of data transferring to the users in the shortest time. Academic libraries apply them for free and optimum use of information sources by the users. Free access movement developed in response to exorbitant costs of information resources. However, with the advent of new technologies and software, data gathering and distribution will be done in a lower cost. One of the benefits of free access is broader availability of scientific resources for libraries in smaller institutes or those placed in weaker economics all over the world (Anderson, 2004). On the other hand, Web2.0 has changed the world in a way that doing complex tasks is possible having little knowledge

(Jowett, 2008). Therefore, podcasts and videocasts can be used as a media for free data transferring by users (McKinney, 2009).

Academic libraries not only can prepare podcasts and videocasts by themselves, but also they can search the Web for podcasts and videocasts with high quality adequate for users' needs. Because everyone can prepare podcast and videocast and publish them in the internet, it is very important to find and select podcasts with the best quality. Therefore, when librarians start choosing from podcasts in the web, they should consider their credibility and the publisher reputation. Also, they should select a format for the files to be easily downloadable and usable. Using podcasts and videocasts cause more and more connection between the library and its users and receiving more feedback from them, resulting in improvement to the planning and performance of the library.

According to the nature of podcasts and videocasts that is ease of creation and simplified usage; they can be applied in various tasks as follows:

- i. As a radio or TV station, they can be used with the least cost via a PC so that researchers and users can be informed of library events, news, lectures and workshops (Barnes, 2007). All kinds of distance learning that need oral and pictorial explanation, such as how to use a database or virtual tours, can be performed with podcasts and videocasts.
- ii. They can be used to prepare audio sources to serve the blind and low vision people.
- iii. Recording educational home and amateur movies from classrooms and workshops to present to all students especially deaf, slow-learning and exceptional ones and to ease the learning process for them.
- iv. Advertising the library services by the means of marketing methods with the help of sales and marketing experts of the organization.

Capabilities of Podcast and Videocast

With considering special features of podcasts and videocasts as electronic resources in libraries, it seems that their management process is similar to other resources that are containing selection, storage, organizing and distribution. In the selection and storage stage of the podcasts and videocasts, audio and video files can be selected and retrieved via internet. Different methods of recording such files are like other resources or by making an index published in the library website or weblog. The index will be revised and updated according to the changing internet addresses in specific interval depending on the policy of master organization. It is suggested by Moradi, et al (2008) that organizing process of such resources are conducting via folksonomy and terminology controlling. Consequently, the process will facilitate the librarian's tasks and user's access to the required data.

RESEARCH DESIGN

Approach of this paper is review of literature and case studies about using podcasts in libraries. Podcasts and vodcasts were introduced in Iran in Fall 2007. After 7 years, a few libraries in Iran use these media for their users. Aim of this

research is present an experience in library of Psychology and Education Faculty Shahid Beheshti University. We describe our activities for providing new services for our library clients.

Case Studies

- In 2005, public library of Orange County in Florida started a project aiming at using podcasts and videocasts in 14 branches of the library in the county. It contained limitations and experiences in presenting such files into the internet, and showed that most people use MP3 format and Windows Media Player for playing the files. With regard to the warm welcome from the users, educational aspects of the project can be emphasized (Sampson, 2006).
- Special Library of Mississippi State University used podcast as a model for collecting governmental documents in special libraries. The library introduced podcast as a tool for information service, collecting instructions and awareness of researchers and professors about documents and resources (Barnez, 2007).
- American Special Libraries Association¹ has encouraged its librarians to use podcasts. The association believes that by this method, the librarians can distribute resources to the users and do the services more efficiently. Special libraries are able to put the resources in their websites as audio or video files to be downloaded by users. The libraries can assess the rate of podcast usage by statistics analysis.
- By designing a webpage, the library of Kentucky University² let the users to have access to audio-video files of the conferences, lectures, scientific debates, and the sessions held in the university. The files are categorized and downloadable.
- Alden library³ in Ohio University, presents an educational tour of library via podcast.
- Library of Congress⁴ contribute to keep the librarians' knowledge up to date by podcasting archive subjects and library and information science.
- Jowitt (2008) studied the usage rate of podcast in UCOL – Universal College of Learning, analyzed the amount of users' understanding of the device, and estimated its usage rate in the future. The result showed a difference in usage rate of the educational podcasts amongst the various classes of users the most of which welcomed podcast as a useful device in education.
- Peoples and Tilley (2011) defined three types of podcasts: institutional podcasts, episodic podcasts, and audiobooks. All podcasts share common issues concerning discovery and access and digital curation. The authors suggest that podcasts should be included in academic library collections, as research has shown that podcasts are becoming a trusted information resource. Bierman and Valentino (2011) found that approximately one third of American Research Libraries have a podcasting initiative, the subjects vary widely and social media are only used occasionally to promote the podcasts.

The authors conclude that podcasting is a technology that has not yet reached its zenith and libraries have many avenues left still to explore using this technology. Sarkar (2012) found that library podcasts have some basic features and are implemented for specific purposes. It also revealed that adoption of podcast varies along the geographical regions. The study found that extension of implementation of podcast is high in North

¹ . <http://www.sla.org/content/resources/podcasts/index.cfm>

² . <http://www.wku.edu/library/podcast/>

³ . http://www.library.ohiou.edu/podcasts/?page_id=14

⁴ . <http://www.loc.gov/podcasts/>

American libraries whereas intension of adoption of podcast is high in Australian libraries.

LITERATURE REVIEW

Some researches that are related to using podcasts in libraries include:

Asadi, et al (2013) in their research, investigated librarians' familiarity with podcasting and their attitudes about such tools as a library service. The results indicate little knowledge and experience of Iranian librarians with podcasting tools and as a result their attitudes about those technologies is also vague. Also, it is demonstrated that unlike the importance of podcasts, there is currently little use of them in public libraries in Iran. Well designed instructions of the librarians can improve the current state of podcasts as a media in libraries.

Baro, Idiodi, and Godfrey (2013) investigated the level of awareness and use of Web2.0 tools by librarians in university libraries in Nigeria. It emerged that the librarians were more familiar with social networking sites, instant messaging, media sharing sites, blogs and wikis. The popularity of these Web2.0 tools made them the most frequently used by the librarians. Web2.0 tools like Flickr, RSS feeds, podcasts, social bookmarking, were among the least used. The study revealed that librarians use Web2.0 tools mostly for reference services online, library news/events, training resources, and image and video sharing.

Swapna and Francis (2013) in their paper reveals that though the websites provide lot of useful information to the users, further improvement both in contents and management of it is needed in most of the library websites

Gill, Gulati and Saini (2014) states that Podcasts are an effective way of disseminating information in diverse fields and alternative method to present the content into audio format.

Boateng and Liu, (2014) explored Web2.0 technologies usage and trends in the top 100 US academic libraries as exemplified through the academic library websites. Findings indicated that All 100 academic libraries had a social media presence on Facebook and Twitter. The vodcast and podcast had 47 percent and 46 percent participation rates respectively, while social bookmarking/tagging were also used by 39 percent of the academic libraries.

The experience of Shahid Beheshti University

Since 2012, Library of Psychology and Education Faculty in Shahid Beheshti University decides to present new services to its users. We designed a single portal for this library. In this portal, after description of library, users can access to library weblog, library software, list of dissertations, research plans, free e-journals, free e-books, references resources and other databases. In figures 1, Portal of Psychology and Education Faculty Library, Shahid Beheshti University can be seen. The Faculty of Education and

Psychology at the Shahid Beheshti University in Tehran has four courses that include: psychology, counseling, education and information science. In this faculty scientific lectures are hold weekly. Students and faculty members who are not able to attend these meetings can access to the podcasts. Audio files are available and make use of its contents. Since fall 2013 these files accessible for users. In the future, screencasts for the production of learning contents will be used. Users can access to the podcasts the through the library Webpage. Users can simply access these files by clicking on each subject. Users will be able to download or use audio and video files simultaneously. In Figure 2, webpage of library podcast can be seen.



Figure 1: Portal of Psychology and Education Faculty Library, Shahid Beheshti Univeristy

RESULTS

There are always new roles to define for academic libraries that complete the previous ones and develop library's goals and sights. Librarians have understood that they can make their users satisfied by getting familiar with new technologies and applying them. It is necessary for librarians to prepare different kinds of references and deliver qualified data in various formats in order to meet all users' expectations. This is also the same in gathering data from various net resources which have to be suitable and qualified enough. Libraries are usually involving in designing websites and portals in order to prepare wide access to data resources for the users and prevent data overload which is a key role for libraries. Their goal should be made in a way that users can access all resources from their home or offices along with preventing time-consuming searches for audio and visual data. In addition, it is necessary for librarians to benefit from means of e-communication such as emails to make it easier for users to contact website's

managers and ask for audio or visual files to be loaded as podcasts or videocasts in the website.

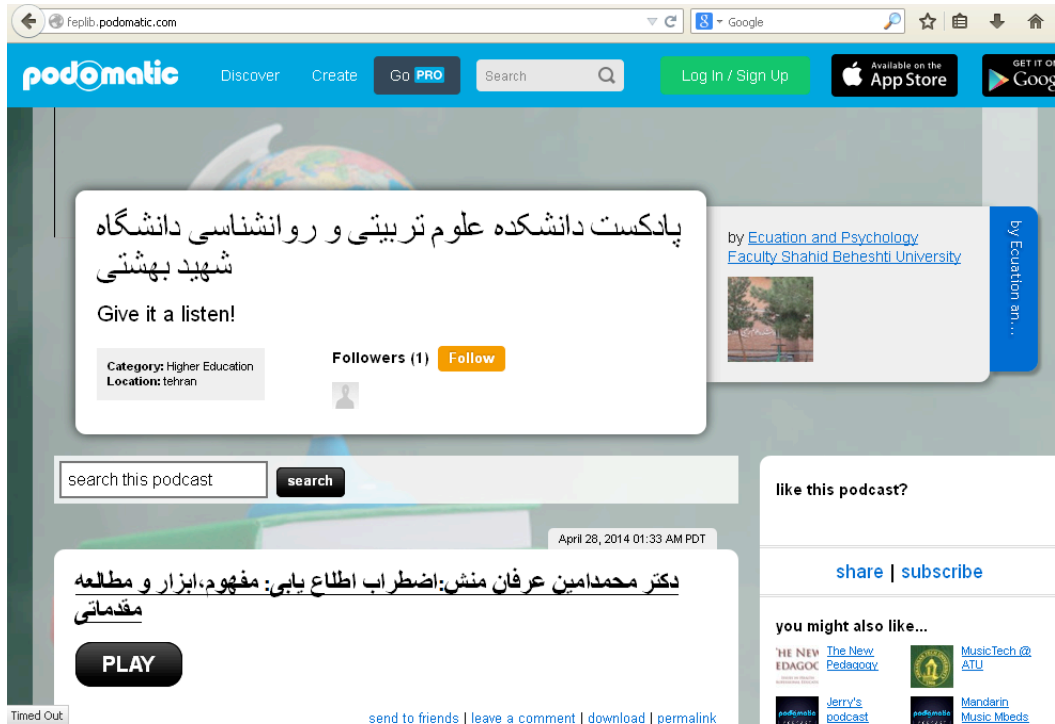


Figure 2: Library podcasts of Education and Psychology Faculty

Academic libraries at different organizations take advantage of using social networks, electronically and technical RSS teams for informing as low-cost and beneficial methods for introducing and publishing new library references at different organizations. Podcasts and videocasts are gifts of social Web which can be improved with the help of potential feature of social cooperation and teamwork. Proficiency increase in creating cooperative communications, preparing means of web-based identification of important data, digital loaning, are among other suggested functions which can take advantage of of podcasts and videocasts. Different kinds of academic libraries can support their user's especially technical experts of their master organization by using podcasting and videocasting technologies because it's a facilitating means of decision making for managers in administrative issues.

Library of Education and Psychology Faculty, Shahid Beheshti University, has a new missions. It want's to go over the traditional services to its users. In new era and changes of communication world, it should presents user friendly services. Providing podcasts of lectures as electronic resources is one of the main services that this library offers to its clients. It seems that it can be useful for all students and faculty members, especially for distance learning. This library is the pioneer for presenting new services such as: QR, Podcasting. All students and faculty members of Education and Psychology Faculty in Shahid Beheshti University, even from other Iranian universities can access to scientific podcast using the library webpage. S.R.Ranganathan in 1931 proposed 5 laws for libraries. His fifth law states that *The library is a growing organism*. So, libraries should

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offer new and innovative services to their users. The library of Education and Psychology Faculty in Shahid Beheshti University tries to act on the basis of fifth law of Ranganathan. This is a pioneer for presenting of new services like: QR, Podcasting and so on in Shahid Beheshti University and this is a pattern for other libraries in this university.

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Use of electronic resources in Indian academic libraries

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ABSTRACT

Libraries function as an essential integral component in higher education system. Academic libraries in India are facing a lot of problems due to so many legal, procedural, financial, bureaucratic system and working patterns. A lot of efforts have been taken in past few years to overcome these drawbacks. Electronic resources are playing a vital role in this regards by sharing through consortia for university libraries UGC-INFONET and INDEST-AICTE consortium is two major initiatives for university library users. The paper studies the trends in acquisition of e-resources and its impact on their print counterpart. The study also compiles all e-resources accessible at IITs (Indian institute of Technology), NITs (National Institute of Technology) technical university libraries.

Keywords: E-resources (electronic resources); Consortia; IITs (Indian Institute of Technology); NITs (National Institute of Technology); University Libraries in India, E-Journals

INTRODUCTION

Today is the age of electronic resources and developed information technology. From the sunrise to entire period of moon light every one's life depends and route with the application of electronic resources. One cannot do anything in his /her personal and professional acts and deeds without using e-resources, even leisure hours cannot be spent in absence of these resources. The internet and the web are constantly influencing the developments of new modes of scholarly communication. Libraries have witnessed a great metamorphosis in recent years both in their collection development and in their services structure.

In the last several years, many research studies have focused on use of electronic and print resources in library. Both faculty and students use electronic resources and readily adopt the e-resources if the sources are perceived as convenient, relevant and time saving to their natural work flow.

Libraries of all sizes and types are embracing digital collections along with the print collections for many years to come Printing technology was the only via media to store the required readable literature and hand written material for a very longer period, but after coming up the digital technology it has been considered as the best substitute of print counterpart, as it is very economical and time saving device. The reading material is available at very low cost of financial expenditure. Because print collection is heavily

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weighted and is bearing more expensive maintenance cost for keeping those intact and safe while digital collections are easy to keep safe, at low maintenance cost. Keeping this view in mind libraries prefer digital collections. In this way the usages of electronic resources the total processing and space costs are taken into account. Electronic collections may also result in some over all reductions in library costs. This conclusion came out after many research surveys and research techniques. Now librarians using electronic resources in performing their duties and implementing library functions smoothly and transparently, Hear it is worthwhile to clear that some research studies and conclusions seem contradict and it becomes very difficult to judge which valid & reliable findings is, But it is fact that librarians can use to make important decisions about collections, services and product design. As the matter of fact electronic resources are documents in electronic forms or can be accessed via electronic transmission through e-books, journals, newspapers, research reports, scripts and monographs etc., these resources have become critical part of the learning environment, particularly in the higher education, and bring tremendous benefits to organization and individuals to perform their work more effectively and efficiently. The benefits of e-resources have been well documented.

OBJECTIVES

The Specific objectives of the study are to:

1. Understand the concept of E-resource in Indian Libraries.
2. To identify the various sources of E-resource, consortia services and collection of libraries.
- 3 Discuss the e-resources problem faced by Indian library managers.
4. Review the quality resources in Indian institute of Technology and National Institute of Technology.
5. Examine the utility of e-resource and consortia services in Indian Libraries.

Delimitation of the study

The present study is confined to the e-resources facility and consortia services in Indian institute of Technology and National Institute of Technology.

It is delimited to Indian institute of technology and national institute of technology libraries are technical education only.

It is delimited to university libraries of general, technical and vocational education only.

Sampling

Seven IIT's(Indian Institute of Technology), five NIT's(National Institute of Technology) eight universities in India are taken for the purpose of this study.

Scope of the Study

The study is focused on the scholars, researchers and library managers (technical I.T. experts, and library professionals skilled, semi-skilled and non-skilled) of few named Indian IITs, NITs, and private engineering Colleges and Universities around the country. The survey was conducted at 5 IITs, 54 Technical Universities 9 NITs around the country.

METHODOLOGY

To complete this research project over the usages of electronic resources in Indian libraries some methods like survey, interview of users, observing the attitude of users as an experiment etc.; were adopted. Survey of users is typically done by sending a questionnaire to a randomly selected percentage of university faculties, members of professional organizations and library managers. In this process 832 questionnaires were sent to 7 IITs to 20 NITs and 149 technical University libraries out of which 585 had responded. Apart from these personal visits had also been undertaken. During this mode of survey 5 IITs, 9 NITs, and 54 technical Universities were visited and held interaction with 351 library managers, 114 technical experts and 120 library users including faculty members, researchers and students. Some information also gathered from the supporting staff of libraries. In this way data were collected and analysis as per result shown in the following analysis.

Survey Analysis

A survey was conducted to collect the data regarding use of electronic resources at Indian institute of technology, National Institute of Technology and Technical University libraries. During survey information and data collected through questionnaire, personal visits and having personal interviews with faculties, students, visitors, scholars and library users. The response received from 585 user members. The result of that survey can be viewed in the following tables having number 1 to 9.

Table 1: Distribution of researchers by rank

	Library Managers	Technical Experts	Library Users	Percentage
IITs	175.5	57	60	50%
NITs	105.3	34.2	36	30%
Tech. University	70.2	22.8	24	20%
TOTAL	351	114	120	
	585			100%

Table 2: Regular visitor of the library

Time spend	No. of Users	Percentage
Over 30 Hours/week	29.25	5%
20-30 Hour/week	35.1	6%
10-20 Hours/week	40.95	7%
5-10 Hours/week	46.8	8%
Less than 5 Hours/week	58.5	10%

Table 2 shows most of the users visit library and the utilized the library for a maximum of 5-10 hours in a week. Some of them use 20-30 hours in a week as well.

Table: 3 Information Services Offered by the Library

Library Services Offered by library staff	Excellent	Good	Satisfactory	No
Abstracting Indexing Services		4		
Circulation	10		4	
E-Journal/Journal services	24	10		
Database/OPAC search Browsing		14	4	
Display Board Service				
Inter library Loan				24
Reference Services Reprographic				
Technical Enquiry Services				26

Table: 3 Shows the rating of information services provided by the library. It reveals that most of the users members have used e-journal, some of them found it excellent & some of them it is good for some faculty OPAC is good, very few members says that circulation service is excellent and some of them it is satisfactory. Display board service inter library loan reprographic, reference service and technical inquiry service are not provide or there is rack of awareness.

Table 4: Purpose of seeking Information

Purpose	No. of Users
For updating knowledge	29
For doing research work	29
For doing PhD	21
For guiding researchers	19
For discussions	7
For Entertainment	15

Table: 4 Shows that most of the user members seeking information for updating their knowledge for during the research work. Only few of them are using for discussion and entertainment.

Table 5: Sources of Information used by user members

Sources of Information	No. of Users/members
Discussion with colleagues	17
Consult a knowledgeable person in the field	25
Consult library managers	20
Discussion with librarian or references staff of your library	6
Discussion with librarian or references staff of other library	3
Review articles/Thesis	30
Abstracting Journals	5
Indexing journals	11
Library catalogue	3

Table: 5 Shows that user members are searching information from various sources some of the users are taking help of knowledgably person in the field discussing with colleagues. Most of the user’s members are reviewing of the articles or thesis for the some. Other source search as indexing / abstracting journals/ library catalogues, discussion with librarian/ library staff of the library and other libraries are other sources of searching the information.

Table 6: Formal Sources of Information

Formal Sources of Information	No. of Users
Book/Monographs	21
Scientific technical journals/ periodicals	20
Patents/Reports/Standard/Specifications	9
Conferences/workshop/Seminar Proceedings	19
Online-Journals/Database/Archive	21
Internet/Intranet sources as Audio/video CD-ROM/DVD	21
Review articles/Thesis	9

Table: 6 Shows the various formal sources of information consultant by the user members. Most of the facilities are dependent on the books and journals and gradually they also come to depend upon journals and Conference/Seminars proceedings and internet/intranet etc.

Table 7: Sources of Having Knowledge of Current Development In the field

Sources of Information	No. of Users
Scanning of current issues or Print/online journals	38
Scanning recent issues of abstracting tools	8
Attending conferences	28
Internet/E-mail alert	3
Through services from library as CAS & SDI	29
Personal Communication	14

Table: 7 Shows that for the purpose of updating their knowledge they highly depends on print and online journals. Some of them also gain knowledge through services from library as CAS & SDI and also from attending conference.

Table 8: Sources of obtaining Journal In the field

Sources of Information	No. of Users
Personal subscription to print journals	33
Person subscription to online version	9
Library's Online/electronic version	45
Library's print subscription	27
Inter library loan	6

Table: 8 Shows that most of the users members use library electronic resources. Some of them also depend on personal print journal subscriptions. Just a few of them personally subscribe online version or through inter-library loan.

Table 9: Problems faced while Information Seeking

Problems	No. of Users
Material is not available	32
Library Staff are unwilling for services	3
Incomplete Information Materials	23
Information sources are so far located	3
Lack of coordination among IT experts and library managers & staff	12
Do not know how to use the catalogue	23
Lack of knowledge in using the library	12
Information scattered in too many sources	9
Information is too vast	3

Table: 9 Shows the problem encountered in information seeking by the user members. It is clearly shown that users want more material related to their discipline. Some of them

do not know how to use catalogue. There is also some incomplete information. In this table problems faced by library managers technical professionals and library users during library function & working, have been included. The main problem so faced by the library users and managers are related to coordination among staff and managers, administrative procedure and bureaucratic system. In this regard there is a common feeling noticed during personal visits of the IITs, NITs & technical University libraries.

Uses of electronic resources at Indian Institute of Technology libraries

India has large advantages in the information race. It has a large higher education sector-in the third largest in the world in student number after china and the United States. Most of the world's leading publishers have electronic Journal (e- Journal) access services at present.

IIT(Indian Institute of Technology) Bombay:- IIT Bombay subscribes to the full text versions of 222 e-journals covering a large number of publisher such as Elsevier, AIP ,ACS, ASCE ,SIAM ,LOP, RSC ,OUP , Wiley, etc. list of 158 free electronic Journals and Magazines are also accessible through their site.

IIT (Indian Institute of Technology) Madras (www.iitm.ac.in/) provides full text access to their clientele to the Science Direct service of Elsevier and the ACM Journals, in addition to more than a dozen titles online.

IIT(Indian Institute of Technology) Delhi:-IIT Delhi Library (www.iitd.ernet.in/) has a much wider coverage of full text e-Journal. These include Science Direct from Elsevier, IEEE/IEE Electronic library, American physical Society. AIP. ASCE, Chemweb etc. Their subscription to a group of eleven bibliographic databases called "Materials Science Collection" from Cambridge Science Abstracts (CSA) is another noteworthy service . TIFR(www.tifr.res.in/) has the full text facility of all the springer Journals through the LINK service. Some of the CSIR Labs with their individual efforts have already established excellent facilities in e- library operations.

Science Directory is already operational in four CSIR Labs i.e. National Chemical Laboratory Pune (www.net-india.org/) National Institute of Oceanography Goa (<http://www.nio.org/>) Central Drug Research Laboratory Trivandrum(www.cdriindia.org/) IITs known for their 'culture of excellence" impart world class training in engineering and technology, and conduct research in the relevant fields for advancement of learning and dissemination of knowledge. There are seventeen IITs around the country out of which seven are well known and noted IITs, Each of the IITs has a large well equipped, well maintained rich computerized and large central library with good collection of e-resource. All these libraries have been using web based e-resources since late 1990s. These libraries provide access to over 15,000 e-journals, e-books and databases in all major disciplines to their users and spend large sum of money to acquire these resources.²

The following table No.1 shows total use of all 14 e- resources at IITs from 2004 to 2012.

Table: 10 Usage of e-resources at IITs Indian institute of Technology

Institute	2004	2005	2006	2007	2008	2009	2010	2011	2012	Total
IIT Bombay	688,419	1,031,467	921,334	1,111,908	1,188,166	1,366,786	1,413,060	1,449,922	12,511,870	10,422,932
IIT Delhi	873,850	943,997	955,766	851,770	973,434	1,170,458	959,507	1,031,799	1,167,691	8,928,272
IIT Guwahati	75,100	160,138	228,400	350,717	443,786	476,694	451,884	482,879	501,982	3,171,580
IIT Kanpur	296,511	675,325	766,395	913,749	1,008,828	1,003,190	990,734	989,732	871,192	7,515,656
IIT Kharagpur	516,579	692,419	843,680	1,046,741	1,312,923	1,740,544	1,556,504	1,495,662	1,525,925	10,730,977
IIT Madras	524,635	1,312,718	1,205,759	1,381,990	1,409,103	1,444,460	1,390,752	1,334,907	1,250,838	11,255,162
IIT Roorkee	258,724	465,785	502,883	605,286	729,560	815,687	858,419	832,790	953,873	6,023,007
Total	3,233,818	5,281,849	5,424,217	6,262,161	7,065,800	8,017,819	7,620,860	7,617,691	7,523,371	58,047,586

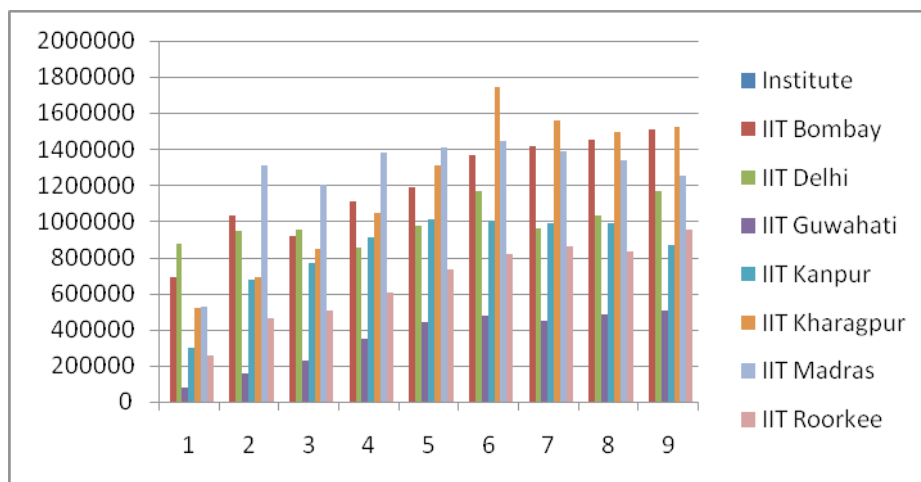


Figure 1: Trends in Usage of E-Resources at IITs

Table show that during the period of nine years from 2004 to 2012 the down loads have increased from 32, 33,818 to 76, 17,691 C.C. an increase of 135% which is remarkable. It is only due to the rising inclination of the library managers and users. This is in consideration with the fast development of information & communication technology which made the library management & function very easy, fast and updated as well. More over it was felt that through this use of E- Resources one can get latest & updated information at any time and anywhere around the globe at very low cost of investment. Through this system one can easily acquire and keep the required study & research material infect for very longtime. Due to these advantages the figure of E-Resources

users raised up to 135% or more. IITs libraries spend a significantly large proportion of their budget to acquire e-resource. E- Resources in all IITs have been very well obtained and are being used heavily. The IITs have been fortunate enough to receive the financial support from ministry of Human Resource Development (MHRD) government of India in carrying out their web based digitization activities. All the IITs have automated their libraries using proprietary Library Automation Software. All IITs have copy right agreement with the publishers.

Uses of electronic resources at National Institute of Technology (NITs)

The NITs are a group of public engineering institutes of India to offer degree course at bachelors, masters and doctorate levels in various branches of engineering and technology. All NITs are autonomous, which enables them to set up their own curriculum. There are 30 NITs around the country. NITs have a central library equipped with technical books, literature, fiction, scientific journals and other electronics material. All most all the NITs have digitalized their libraries, with the facility of high speed connectivity of internet. Users can access on line journal and other periodicals through AICTE-INDEST consortium. Video conferencing facilities are also available at some NITs, and others are upgrading under the World Bank funded TEQJP scheme.

Uses of Electronic Research at University Libraries in India

According to the free encyclopedia, Wikipedia, there are 573 university level institutions including 129 deemed universities and 115 Privet Universities in India as per table. it is really a great challenge to ensure effective coordination and communication. All universities are functioning under various education and R & D systems like all India council for technical Education (AICTE) and university grants commission (UGC) All universities are having central library, which are the hub for information storage and dissemination with the setup of six consortia such as UGC-INFONET,INDEST,IUC, DAEF, HELINET, FORSA & CSIR. UGC-INFONETE-Journals consortium initiative was undertaken by the UGC to facilitate free access scholars in all fields and disciplines by the research and academic community through joint partnership of INFLIBNET and ERNET. These efforts had a noticeable impact on research and academic community. The access is based on IP range the effort of UGC-INFONET and INDEST-AICTE Consortia are appreciable and considered as a boon in education system in India. In future consortia approach will be much more popular in user community and that day is not so far behind when consortia approach will expend the country's information base. The research output will increase multifold. It is pragmatic solution to many problems, like shrinking / static budgets, facing by Indian Academic libraries.

Table: 11 List of technical universities in India area wise

State	Central Universities	State Universities	Deemed Universities	Private Universities	Total
Andhra Pradesh	3	33	7	0	43
Arunachal Pradesh	1	0	1	1	3
Assam	2	4	0	2	8
Bihar	1	15	2	0	18
Chandigarh	0	1	1	0	2
Chhattisgarh	1	10	0	4	15
Delhi	4	5	11	0	20
Goa	0	1	0	0	1
Gujarat	1	18	2	11	32
Haryana	1	10	5	6	22
Himachal Pradesh	1	4	0	12	17
Jammu & Kashmir	2	6	0	0	8
Jharkhand	1	7	2	1	11
Karnataka	1	22	15	2	40
Kerala	1	11	2	0	14
Madhya Pradesh	2	15	3	7	27
Maharashtra	1	19	21	0	41
Manipur	2	0	0	0	2
Meghalaya	1	0	1	8	10
Mizoram	1	0	0	1	2
Nagaland	1	0	0	2	3
Odisha	1	13	2	3	19
Pondicherry	1	0	1	0	2
Punjab	1	7	2	3	13
Rajasthan	1	14	8	25	48
Sikkim	1	0	0	4	5
Tamil Nadu	2	24	29	0	55
Tripura	1	0	0	1	2
Uttar Pradesh	4	23	10	16	53
Uttarakhand	1	9	4	10	24
West Bengal	1	20	1	1	23
Total	42	287	129	115	573

E –Consortia :- Library consortia is a group of two or more libraries which have agreed to cope rats with one another in order to fulfill certain similar need usually resource sharing .Consortia are basically evolving a form of cooperation among the libraries which come together to share resource electronically.¹¹The explosion of Information and inadequate information centers urged the libraries to adopt new means and ways for collection development and to reduce the cost of journals subscription, the new device consortia came in to existence. Consortium came as a boon with following more advantages:

- Provides ability to share resources without sacrificing the individuality of each member library.
- Collections enable each member library to support scholarly research.
- Consortia-based subscription provides to wider knowledge at lower cost.
- Cooperative research and development in application of information technology enhances service and realizes cost efficiencies.
- Consortium negotiates a purchase price, so that users can reap the benefits of more resources than would be available through on library.
- Uncertainties in legal issues are handled with more confidence.
- Consortium has bargained better terms of licenses for use, archival access and preservation of subscribed electronic resources. Which would not have been passable for any single institution?
- Consortia based subscription is helpful to provide better library services to their users, likewise current awareness service, , select dissemination services.
- Unlimited subscription can be done, because e-Journals demand neither library space nor maintenance costs nor can they be stolen from the library.
- No time bound while providing better services to the users, as available 24 hours a day, 7 days a week.

Consortia in India

Besides of these world consortia Indian academic institutions had also done great efforts for formation of library network mainly due to the radical changes in the functioning of the libraries. The fact that financial crunch in these libraries forced them to find out some sort of cooperation and search this kind of solution. As a result formal library network came in to existence. Such as CALIBNET, DELNET, INFLIBNET, MANLIBNET, PUNNET, MALIBNET, gave a real boost to library automation activities in the country. Many libraries in India came together voluntarily for resource sharing and cooperation.⁹ Following are the major consortia in India:

- FORSA Consortia:-This is a cooperative venture for providing access to select number of Journals in the field of Astronomy and astrophysics.
- CSIR :-Counsel of Scientific and Industrial research consortium,
- The Council of scientific and industrial research India has 40 scientific laboratories engaged in basic as well as applied research in various disciplines.
- IGCAR:- Indira Gandhi center for Atomic Research Consortium In this consortia, the institution associated with atomic energy and space, have established IGCAR to cater the needs of the scientist working in BARC, ISRO etc. on reasonable prices.
- IIM:- Indian Institute of Management Consortium All six IIM's developed a consortium to subscribe e-Journals centrally.

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- URLC:- Urdu research library consortium This consortium has been established by Urdu research library to cater the need of researchers in this field.
- INDEST :-Indian National Digital Library in Science and Technology This Consortium is a major initiative under the department of Secondary and higher education, Ministry of Human Resource and Development in 2002 to set up a consortia based subscription to electronic resource for technical education system in India.⁸
- UGC-INFONET CONSORTIUM:-In terms of users, the UGC- INFONET Consortium is the largest consortium in India with a vision and plan to reach out to all universities and colleges affiliated to these universities,¹⁰
- UGC-INFONET E-Journal Consortium is a Joint initiative of UGC and ERNET India, new delhi under Ministry of Information Technology, for networking of Indian Universities.

Finding of the study

The finding of the study can be summarized as below:

- All the students, research scholars of academic libraries are aware of e-resources and they all feel comfort in using them.
- More than 88% of them use it daily for research work.
- 78% prefer electronic format while 20% both print and electronic.
- Low internet connectivity is the major obstacle while accessing e-resources.
- Procedural delay due to administrative polices are the main hurdle in using e-resources.
- Lack of coordination between technical experts and library professional.

SUGGESTIONS

In India all consortia are working in their own way for their organizations. There are many technical problems which most of the consortia in India are facing. There is no standard pricing models for consortia like a print version for libraries. All consortia may come together to resolve these issues in a manner to avoid financial and audit problems. For this purpose there must be uniform models for consortia and all related institutions must have coordination among them after having meeting at common plate form.

All IIT's Need to focus on designing and delivering products and services to meet the Identified needs of their Users.

There is strong need to have a well –defined e-reference policy in an organization for effective and efficient building of e-reference sources and also to deliver comprehensive and dynamic e- reference services.

Electronic resource system requires staff interface that enables library staff to efficiently carry out the work.

The library should create awareness among the users by conducting programmers, such as orientation program, demonstrations, conference, and seminars and through notices.

CONCLUSION

Changes in earthly life is a regular phenomenon at every step of moving wheel of time changes appear moment to moment, resultant that after every interval of time apparent changes appear in the regular system of life. It can also be seen in the function and set up of libraries systems. All academic libraries in India specially IITs(Indian Institute of Technology) NITs(National Institute Of Technology) and university libraries have been transformed from their conventional set up and working to digital form by using electronic resources all type of libraries are embracing digital collections. E-resources in all academic libraries have been very well used by spending a significantly large proportion of budget. Academic libraries have really understood that consortia based subscriptions is cost effective. Through there are some contradictions in the findings even then some clear messages emerge. In term of information seeking it is clear that library users and library managers seem to be comfortable with using electronic resources having wide variety of ranges and sources. It is also evident that where ever high quality electronic resources are made available people use them.

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Exploring undergraduates' acceptance of electronic information resources (EIR) using technology acceptance model: A case study in Sri Lanka

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ABSTRACT

Under-utilization of Electronic Information Resources (EIR) and the importance of promoting them have been recognized in the preceding research. The study investigated the determinants behind the acceptance of EIR use by social science undergraduates in Sri Lanka using the Technology Acceptance Model. The research employed a survey design and sample of 119 social science undergraduates who are engaging in final year research. The research model performed in explaining user acceptance of EIR use. The effects of the cognitive beliefs of perceived usefulness and perceived ease of use on the behavioral intention of EIR use were examined. Perceived usefulness was identified as the major determinant on the behavior intention to use EIR. Social influence and facilitating conditions were found as significant factors which influence to the undergraduates behavior intention towards the EIR via perceived ease of use and perceived usefulness. The study suggests that both key variables and external variables that have been found to affect users' behavioral intention to use should be considered as important factors in the process of implementing and promoting EIR for social science undergraduates.

Keywords: Electronic Information Resources, Technology Acceptance Model, Perceived Usefulness, Perceived Ease of Use, Sri Lanka

INTRODUCTION

Introduction of electronic information resources (EIR) has changed the various aspects of information seekers behavior. It has changed the way information has been distributed, searched and accessed. Due to the easiness, efficiency and cost effectiveness, EIR are becoming a most important commodity among the academic community. As EIR are more important and most of University libraries have spent large

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amount money to purchase online data bases, e- journals, e-books and various internet based e- resources to provide better service to their users.

Initiating of EIR into university libraries in Sri Lanka goes back to the period of two decades. At the beginning, most of the university libraries used CDS/ISIS software which was developed by the UNESCO and distributed free-of-charge to the libraries. Many university libraries created the electronic databases for their libraries to input bibliographic data using CDS/ISIS as an initial project of university library automation in Sri Lanka. In late 1990s, with the collaboration of SIDA/SAREC and INASP, Sri Lankan libraries were able to introduce several EIR such as country wide access to peer-reviewed full-text journal databases, abstracting and indexing services, establishment of a web-based facility with a view to provide wider exposure to the contents in research journals and other current research published in Sri Lanka (Kodikara 2004). After year 2000, INASP negotiated countrywide licenses for full text e-information with access to over 5000 full text online journals in science, technology, medicine, social sciences and humanities. The beneficiaries from this endeavor are for all university academics in Sri Lanka and also other higher educational, research and non-profit making institutions (Belcher n.d.). At present, many university libraries in Sri Lanka provide services of e-information resources such as, e-journals, e-books, databases, abstract databases, open access resources, digital repositories, CD ROMs and other internet based e-services to fulfill the users' information needs. The Sri Lankan University libraries are making every effort to allocate more funds to create and to make use and to upgrade the electronic scholarly information access within the library system.

Although the university libraries have done their best to provide EIR for undergraduates to satisfy their information requirements, still a majority of the students do not utilize these facilities in a productive way. Previous research found that usage of EIR of university undergraduates who are from Social Sciences and Humanities was not in satisfactory level (Hewagamage 2009; Dharmarathna 2008; Damayanthi and Senevirathne 2008). Although millions of money spent to introduce EIR in university libraries, there is a doubt whether these valuable resources are utilizing by undergraduates effectively and efficiently. In addition to that, sufficient research on EIR adoption and research on individual level factors that influence users' acceptance of these new systems has been rarely conducted. Further, most of prior research were focused on usage, usage patterns of EIRs by users in University sector in Sri Lanka (Punchihewa 2012; Millavitanachchi 2012; Dharmaratne 2008; Damayanthi and Senevirathne 2008). Therefore, the use of EIR has become an important research agenda, because it is needed for explaining user acceptance and it will help to understand the evaluation and planning process of how the new system can be popular among the user categories (Kim 2006). Hence it is important to identify how EIR are used and what factors affect the intention to use them.

The forgoing literature on the use of EIR findings inferred that there is still a dearth of research on identifying the factors that affect the intention to use EIR for undergraduates' learning and research process in Sri Lankan context. Therefore, the main purpose of this study is to explore the determinants that give the basis for accepting EIR use by undergraduates from Social Science in Sri Lanka. Further, the study examines the factors that most influentially affect the users' behavior. In order to

increase the use of EIR effectively, it is crucial to understand the most influential factors above said.

This study focuses on testing factors affecting user acceptance of EIR by applying the technology acceptance model (TAM) as a theoretical framework. It is important to have a theoretical understanding of user acceptance; it will provide benefits by helping to identify the factors that can influence of EIR use in implementation process.

LITERATURE REVIEW

(a) Theoretical Background

TAM, is one of widely used models in user acceptance research domain. It provides a necessary theoretical basis to explain an individual's motives of using an information system (Kim 2006). Although, TAM has received substantially to conduct research on information system acceptance, so far there has been little research on user acceptance of EIR. Applying TAM in the context of EIR use can be advantage, because it allows to experiment on the basis of a well established theoretical foundation. A better understanding of the determinants of EIR use will have meaningful managerial implications and it can provide insights to library practitioners that facilitate the use of the EIR effectively and efficiently.

Many empirical studies have developed theoretical frameworks to understand user acceptance and usage process (Davis, Bagozzi and Warshaw 1989; Mathieson 1991; Thompson, Higgins and Howell 1991). Among that, TAM is one of the most influential and frequently tested models that have been developed to explain and predict users' information system usage behavior.

TAM attempts to identify the user acceptance of information systems. TAM has been evolved the theory of reasoned action which is a model developed to explain the determinants of conscious behavior. TAM describes theoretical basis for specifying casual linkages between the constructs in the model (Kim 2006). TAM theorizes that an individual's behavioral intention to use a system is determined by two beliefs: perceived usefulness (PU), defined as the extent to which a person believes that using the system will enhance his or job performance, and perceived ease of use (PEOU), defined as the extent to which a person believes that using the system will be free of effort. TAM explains that the effects of external variables on intention to use are mediated by perceived usefulness and perceived ease of use (Venkatesh and Davis 2000). User beliefs are considered important in system adoption, because of their influence on usage behavior. Various theoretical perspectives such as expecting theory, self- efficacy theory, behavioral decision theory, diffusion of innovations, marketing and human computer interaction analyzed the theoretical importance of PU and PEOU (Davis, 1989). External variables are postulated to influence user beliefs. External variables provide the bridge between the internal beliefs, attitudes and intentions represented in TAM. The various individual differences, situational constraints and managerially controllable interventions implementation process, by manipulating these external factors practitioners can influence users' beliefs about the system and consequently their behavioral intention and system use (Hong, et al. 2002).

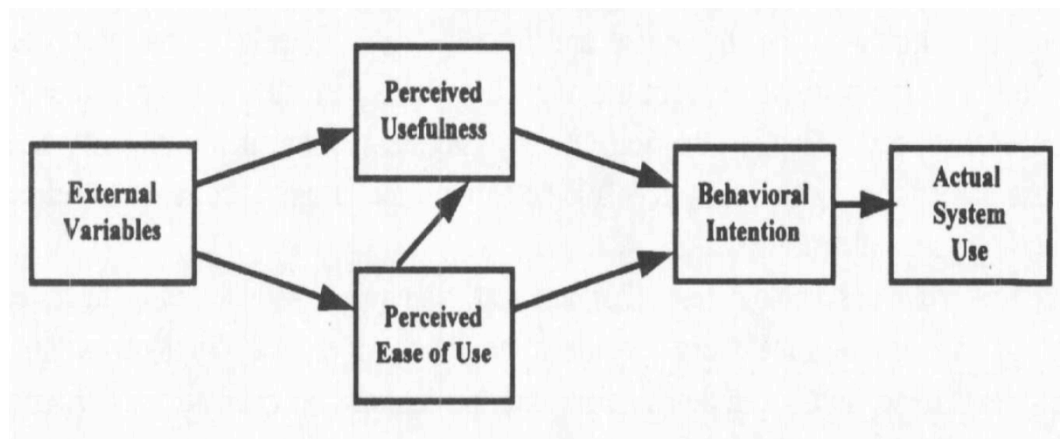


Figure 1: Technology Acceptance Model (Davis, Bagozzi and Warshaw, 1989)

(b) TAM Related Empirical Studies

TAM has been applied to numerous areas in information science. Many replication studies have supported to test validity and reliability of TAM (Adam, Nelson and Todd 1992; Hendrickson, Massey and Cranan 1993; Szajana 1994). Some researchers have attempted to integrate existing models and theories to gain a stronger model that provides more explanatory power than a model that stands alone. (Chau 1996; Dishaw and Strong 1999; Thompson et al. 1991). In addition, a number of TAM research studies done by incorporating external variables in order to improve understanding of factors that affect of new system use or acceptance(Igbaria, Livari and Maragah 1995; Venkatesh and Davis 1996; Venkatesh 2000; Venkatesh and Davis, 2000; Kim 2006; Park, et al. 2009). Researchers have incorporated various constructs such as subjective norms, system interface characteristics & system characteristics, individual differences in TAM (Jackson, Chow and Leitch 1997; Lucas and Spitler 1999; Taylor and Todd 1995; Venkatesh 1999; Masrom 2007; Park et al 2009; Jeong 2011; Hong et al. 2011). In the context of library and information science, TAM has been used to examine perceptions and behavioral intentions towards the e- library use (Jeong, 2011; Ayele and Sreenivasarao 2013). Hong et al (2002) studied the determinants of user acceptance of digital libraries and the effects of the intrinsic and extrinsic motivation factors on user acceptance by using TAM. Both perceived usefulness and perceived ease of use had a significant positive effect on behavior intention. About 52% of the variance in behavior intention with perceived usefulness ($\beta = 0.51$) contributing to intention and 37% of variance in behavior intention to use the digital library with perceived ease of use (Hong

et al 2002). Study found that perceived usefulness has stronger power to explain the intention to use the digital library (Hong et al, 2002). Jeong (2011) incorporated individual differences, interface characteristics, and system characteristics in TAM as external variables in the e- library use. Those three external variables explained 40.8% of variance in the perceived ease of use. System quality had the strongest effect on the perceived ease of use. Similarly, model explained 36.9 % of the variance in the perceived ease of use and perceived usefulness. Perceived ease of use was found as the major determinant ($\beta = 0.443$) on behavior intention to use e-library system (Jeong 2011). Park et al (2009) incorporated external variables into TAM to understand the factors affect to digital library system in developing counties. Study found that 64% of variance explained by perceived usefulness on behavior intention to use of digital library system. Relevance

reported 56% of direct effect on perceived usefulness as well as 38% of indirect on behavior intention to use digital library. Study confirmed that both key variables and external variables that have been affect users' behavior intention to use digital library (Park et al 2009).

RESEARCH MODEL

The proposed research model of this study is demonstrated in figure 02, which described TAM in the context of electronic information resource usage. This model hypothesizes that users intention to use EIR is jointly determined by perceived usefulness (PU) and perceived ease of use (PEOU) and external variables. The model demonstrates that the two belief variables of PU and PEOU mediate the effects of the antecedents of beliefs on intended use. Further model incorporates external factors that have been found consistently to impact user beliefs in past research.

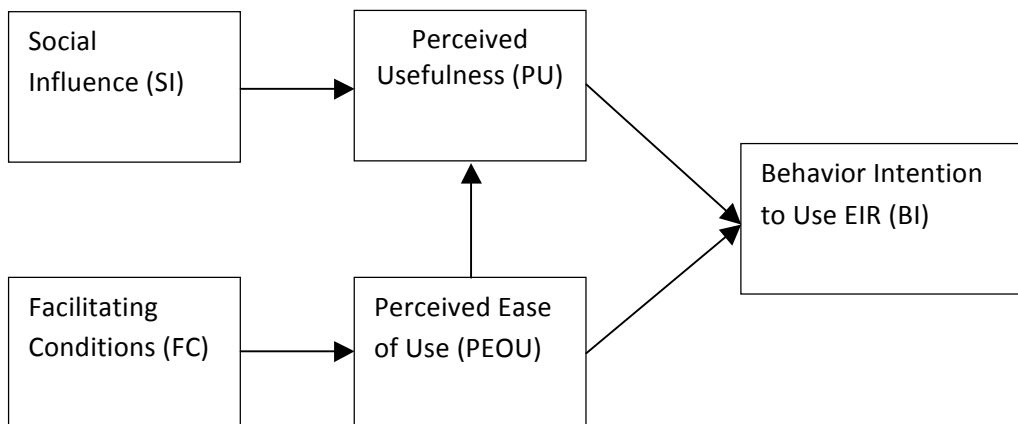


Figure 2: Proposed Research Model

In the research model, “intention to use” is applied as an indicator of user acceptance. Examining behavioral intention as an indicator of user acceptance is consistent with previous studies using TAM (Agrawal and Karahanna 2000; Kim 2006; Park et al. 2009 ; Lee 2010; Adwan, Adwan and Smedley 2013) In accordance with TAM, user beliefs about PU and PEOU are hypothesized to be positively associated with intention to use of electronic information resources. Further, PEOU is also hypothesized to have an influence on PU in that increased PEOU can contribute to improved performance.

Hypothesis 1: Perceived usefulness will have positive effect on behavioral intention to use of EIR.

Hypothesis 2: Perceived ease of use will have a positive effect on behavioral intention to use of EIR.

Hypothesis 3: Perceived ease of use will have positive effect on perceived usefulness of the use of EIR.

External Variables

This study incorporates external variables for better understanding of the factors influencing user acceptance. TAM 2 discussed the usefulness perceptions and usage intentions in terms of social influences and cognitive instrumental process. It explains that social influences affect the usefulness perceptions and usage. Social influence could be defined as “the degree to which members in a society or with educational setting influence others behavior to perform a particular behavior” (Venkatesh et al.2003). Previous research found strong support for the relationship between social influence and behavioral intention (Venkatesh et al. 2003; Chau and Hu 2001; Kripanont 2007). Based on the reviewed literature the following hypotheses are formulated.

Hypothesis 4: Social influence will have a positive effect with perceived usefulness of EIR.

Venkatesh et al. (2003) have defined that facilitating conditions are “the degree to which an individual believes that an organizational and technical infrastructure exists to support use of them.” Venkatesh and Bala (2008) demonstrate that when users hold a strong believe with regard to the availability of organization resources, technical and managerial support, then, that will facilitate the adoption of technology in question(Venkatesh and Bala 2008). Previous research has also demonstrated that facilitating conditions have major role in end user behavior intentions of e-library services and internet based teaching (Kripanont 2007; Tibenderana 2010). Accordingly, it is expected that the current study assumes that in the context of EIR use, the facilitating conditions would be very important because there are facilities provided by university or library the user behavior or behavior intention would not be possible. Therefore, study theorized that facilitating conditions would directly determine and perceived ease of use.

Hypothesis 5: Facilitating conditions will have a positive effect on perceived ease of use on EIR.

Research Design

The study was a case study and adopted quantitative methods of data collection to explore the factors that impact the acceptance of EIR use. Survey method applied and purposive sampling method used to select the sample. Subjects of this research were fourth year undergraduates who are engaging final year research project. The sample consisted of 150 undergraduate students majoring in social science subjects of Faculty of Arts, University of Peradeniya, Sri Lanka. The questioners were distributed to collect data during the one month period in March 2014.

This study measured five constructs such as perceived usefulness, perceived ease of use, social influence, facilitating conditions, and behavior intention to use EIR. All measurement items used in this study were developed according to the aforementioned literature. The measurement items of perceived usefulness, perceived ease of use and behavioral intention were adopted from measurements that were originally defined by (Davis 1989) and Venkatesh and Davis (1996, 2000). The measurement items for social influence were adapted from the originally described by Kim (2006) and Kripanont (2007). The measurement items for facilitating conditions were adapted from the

Krimpanot (2007) and Tibenderana (2010). Construct validity and reliability have been tested to ensure that the results are reliable and consistent. While reliability analysis measured, the internal validity and consistency of items used for each construct. Calculating Cronbach`s alpha coefficient tested the factor reliability. The research model consists 23 items with each construct being measures by 7 Likert scale options. A seven part Likert scale was used to gather responses response ranges from “strongly disagree (=1)” to” strongly agree (=7)”.

RESULTS

Questionnaire was administrated 150 undergraduates and 119 of undergraduates dully completed and returned. Response rate is 79% of the 119 participating students 24% were male and 76% were female. The data were analyzed by using SPSS (20) and model estimation was performed by using OLS (Ordinary Leased Square) method. Factor scores were estimated by using principle component method and multiple regression analysis conducted for structural model analysis.

The study measured the construct validity and reliability to ensure that the results are reliable and consistent. The reliability analysis measured the internal validity and consistency of items used for each construct. Cronbach`s Alpha coefficient test run for the factor reliability. Factor reliability indicates the how set of items are closely related as a group. Cronbach`s alpha values for all factors are above 0.7 indicating that all measures employed in this study demonstrate a satisfactory internal consistency.

Table 1: Scale: Cronbach`s Alpha

Scale	Cronbach`s alpha
Perceived usefulness(PU)	0.818
Perceived Ease of Use(PEOU)	0.810
Social Influence (SI)	0.738
Facilitating Conditions (FC)	0.794
Behavior Intention to Use (BI)	0.868

Factor analysis performed in order to measure the convergent validity of the 23 items of the questionnaire. The convergent validity evaluates whether the items of a variable are converging together on a single construct or not (Adwan, Adwan and Smedley 2013). Table 02 displays the factor loadings of each items of questionnaire for the sample 119 social science undergraduates.

The KMO and Bartlett`s test was run for identify the correlations among the factors and to test whether the correlation matrix is an identity matrix. The KMO statistic varies between 0 and 1.The study indicates KMO value is 0.739 and Bartlett`s test shows that $p \leq .000$.therefore factor analysis is appropriate.

(a) Estimation of Structural Model

Standard multiple regression analysis was conducted to examine the relationships between constructs in the research model. Table 04 shows that casual paths, including path coefficients and p value explained for each equation in the hypothesized model. As

expected, hypotheses H₁ and H₂ were supported in that both perceived usefulness and perceived ease of use have a significant positive effect on behavior intention to use. Perceived usefulness ($\beta=0.424$, $P<0.05$) contributing more to intention than perceived ease of use ($\beta=0.389$, $p<0.05$). Perceived ease of use (H₃) also had a positive effect on perceived usefulness ($\beta=0.613$, $P<0.05$).

Table 2: Factor loadings

Scale Item	1	2	3	4	5	6
PU4	.701					
PU3	.773					
PU2	.701					
PEOU2	.676					
PU1	.643					
PEOU3	.629					
PEOU1	.615					
PEOU4	.610					
BI3		.863				
BI2		.860				
BI4		.798				
BI1		.758				
FC1			.759			
FC3			.750			
FC4			.730			
FC2			.677			
FC6				.917		
FC5				.763		
FC7				.722		
SI2					.657	
SI4					.653	
SI3						.839
SI1						.610

Table 3: KMO and Bartlett's Test

Kaiser – Meyer –Olkin Measure of sampling Adequacy		0.739
Bartlett's Test of Sphericity	Approx. Chi-Square	971.290
	df	171
	Sig	.000

Therefore, the total effect of perceived ease of use on behavior intention was ($\beta=0.636$). As for the paths from the external variables to the TAM constructs, the effect of Social Influence towards the perceived usefulness (H₄) was supported. Social Influence had a positive significant effect on perceived usefulness ($\beta=0.249$, $P<0.05$). The indirect effect of social influence towards behavior intention to use EIR via perceived usefulness was ($\beta=0.540$, $P<0.05$). Facilitating conditions (H₅) had positive effect on perceived ease of use ($\beta=0.238$, $P<0.05$). Indirect effect of facilitating conditions toward behavior intention to use EIR was ($\beta=0.120$). The direct effect of facilitating conditions on the behavior intention was not significant ($\beta= -0.028$, $P>0.05$). The effect of perceived usefulness

explained 28% of the variance of usage behavior intentions by undergraduates as well as the effect of perceived ease of use explained 18% of the variance. The effect of social influence explained 6.3% of the variance on perceived usefulness and the effect of facilitating conditions explained the 5.6% of the variance on perceived ease of use. The perceived ease of use had significant influence on perceived ease of use. It explained the 37% of the variance on perceived usefulness.

Table 4: Hypotheses testing results

Hypotheses	Path	Standardized Coefficient (β)	t- value	Results
H ₁	PU → BI	0.424	5.02	Accepted P<0.05
H ₂	PEOU → BI	0.389	4.51	Accepted P< 0.05
H ₃	PEOU → PU	0.613	8.40	Accepted P< 0.05
H ₄	SI → PU	0.249	2.79	Accepted P< 0.05
H ₅	FC → PEOU	0.238	2.62	Accepted P< 0.05

The findings of this study support the appropriateness of using TAM to understanding the intention of social science undergraduates that use electronic information resources. The significant effects of both perceived usefulness and perceived ease of use on behavior intention were examined; with perceived usefulness exerting stronger influence than perceived ease of use. Some previous studies have empirically shown that perceived usefulness has stronger effect on user acceptance of an e- library or e-library systems. It is implied that the users positive beliefs about usefulness are key to their acceptance of an information system (Park et al. 2009; Lee 2010; Adwan, Adwan and Smedley 2013). This indicates that undergraduates aware of the usefulness of EIR and the benefits of using EIR for their learning and research activities.

Perceived ease of use also has significantly influenced behavioral intention to use EIR (p<0.05). Perceived ease of use has significantly influenced on perceived usefulness of EIR (p<0.05) which indicates use of EIR is less useful if they find them difficult to use. According to TAM, the direct effect of perceived ease of use on usefulness involves that increased ease of use can help improve performance by reducing the effort needed to do the same task (Kim, 2006).

Results indicate that Social Influence (SI) had positive effect on perceived usefulness. Several studies found that social influence has significant effect on usage behavior indirectly through PU (Venkatesh and Davis 2000). Karahanna and Straub (1999) also indicated that social influence affects usage indirectly via the process of internalization by reinforcing one's belief in the usefulness of the system (Karahanna and Straub 1999). Not only indirect effect, the results showed that the social influence had direct effect on behavior intention of EIR ($\beta = .441$, p<0.05). The pressure from the university teachers and necessity of finding information might positively influence to the undergraduates.

In the present study, facilitating conditions was found to have a positive influence on user perceptions of ease of use ($\beta = .238$, P<0.05). It is an important determinant of

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users' beliefs about ease of use. But the direct effect of facilitating conditions toward the behavior intention not significant ($\beta = -.028, P > 0.05$). As Krimpanot(2007) pointed out that providing good facilitating conditions are independent of perceived ease of use of information system, factors such as network facilities, computer facilities and organizational support for use information system can influence perceived behavior intention of use of new information system (Krimpanot 2007). Hence, library management must pay more attention to providing good facilitating conditions to users in order to access EIR. In addition, to improving facilitating conditions for the access of EIR, adequate support to help the users' effective use, needed information will enhanced the users' behavior intentions to use EIR in future.

CONCLUSION

This study examined how user beliefs are related to user acceptance of EIR use and what are the most influential factors that can affect the user behavior. Perceived usefulness, Perceived ease of use and social influence are the most influential factors for Undergraduates behavior intention of EIR use. However, the study suggests that both key variables and external variables that have been found to affect users' behavioral intention should be considered as important factors in the process of implementing and promoting EIR for social science undergraduates. The findings of this study have implications for enhance the use of EIR. In order to improve the usage of EIR, library management must take procedures to provide good facilities to undergraduates to access EIR more efficiently. At the same time library management can also organizes user awareness and training programs for future effectiveness. However, this research has limitation because it employed social science undergraduates in one university. Therefore to generalize the results, further research is needed to investigate using other universities in Sri Lanka.

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Content analysis of reference desk enquiries leading to reform: A case study at University of Malaya Library

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ABSTRACT

This study was about the analysis of 1313 reference enquiries at Central Library, University of Malaya over three (3) years period since 2011 until 2013. The aim of the study was to transform simple traditional enquiries into digital reference mode. The enquiries were asked at the reference desk face to face as well as via telephone and recorded in a simple database. Findings indicated that there are equal numbers of enquiries between procedural / directional enquiries and in-depth enquiries / information resources related enquiries. Most of procedural/directional enquiries can be transformed into digital mode such as mobile application or using social media as a platform to interact with users. However, it was realized that in-depth enquiries still require librarians to physically mend the reference desk.

Keywords: Reference Desk, User enquiries, Mobile applications, Reference Service.

INTRODUCTION

Reference service is considered as a core library service. Each of university libraries provides reference services. Reference services offered a variety of formats such as emails, face to face, phone calls and chats. Reference services need skills and knowledgeable librarians or information providers to provide efficient and effective services to users. It is a known service for users to seek for help with anything or everything to find resources from complex to simple enquiries.

According to Ohio Reference Excellence (2008), reference service is valuable to the community because libraries have a variety of information for everyone in the community. Libraries strive to provide equal, objective service for all patrons and promote the value information for problem-solving in everyday life for entertainment and enlightenment.

In this digital era, there are changing trends in accessing library resources and library information. Users access the resources through the net using mobile technologies. They can also access online databases and digital collections remotely outside of library building boundaries. According to Luo (2007), the evolution of library reference work had been greatly influence by the advent of new technologies, such as computing,

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electronic mass storage and networking technologies. Directional enquiries such as search for library materials, find a book using floor maps, renew books, library opening hours and also search for a book using library catalog are accessible on mobile phones. Hong Kong University of Technology mobile site, m.HKUST enable their users to access these information via mobile phone (Yee, 2012).

Reference desk enquiries are part of reference services. It provides in-person service whereby users can directly consult the librarians. There are many types of questions asked by user including direct question or in-depth questions. The types of questions asked can be classified as procedural/directional enquiries, information resource related enquiries (in-depth enquiries), IT related enquiries, circulation enquiries and other universities enquiries (Table 1).

Table 1: Study variable and definition is use as a guidance for librarians to classified the types of questions asked by users. [Source: SCONUL (2010)]

Types of enquiries	Explanation
Procedural / directional enquiries	These are enquiries relating to the Library's rules and regulations and operations plus those requesting direction to a specific item of stock, resource or area of the Library/building. This includes enquiries about the location of a specific book or classification number
Information resource related enquiries	These are enquiries which require the use of information resources owned or accessed by the Library, or a detailed knowledge of the Library's stock. This includes enquiries about the content of databases and help finding material on a specific subject area
IT related enquiries	These cover matters such as printers, passwords and general software packages. This includes enquiries about how to access electronic resources but not the content of those resources, which should be included in (b)
Circulation enquiries	These are enquiries relating to circulation matters transaction of library materials (renew, reserve and loan, lost of library materials) and also related to library membership (internal and external membership)
Other University enquiries	These are enquiries about any other university services, e.g student services, careers, counselling services and also interlibrary loan & document delivery services

Miles (2013) mentioned that an increasing numbers of librarians claim that the reference desk is outmoded and that there are better ways to provide reference service. The traditional concept of reference desk enquiries are where the librarian is sitting at the desk and waiting for the users to approach them. This concept of reference services force the librarian to stay at one point of station or place. Merely indicates a symbol of the service and not the reference service itself.

Magi & Mardeusz (2013) found that in academic libraries, although students can access web, thousands of subscribed databases, books or interlibrary loan, they are frustrated in doing their research. They need human touch and consultation to teach and guide them how to find information, select good information, evaluate the information and

apply the information. However, this reference service is not just tied at reference desk. Librarians are trying to develop a variety of modes of reference models to face the technology development.

Another issue is about staffing model of reference desk. Morgan (2009) mentioned that one of the models that widely used is to utilize paraprofessional to assist with reference service, freeing professional librarians for other duties because professional librarian involved in a number of duties such as collection development, liaison work, outreach program, research and publication, supervision and management and etc. The University of Malaya library also applies the same practice if librarian on duty involved with other task. The question is whether this paraprofessional could help in solving complex reference enquiries. Paraprofessionals refer to employees who do not have a Master of Library Science or any certificate related to library science but being trained to work alongside a professional librarian such as senior support staff.

Thus, there are questions lingering around us whether physical reference desk is still a need in this digital era or it is a must for a librarian scheduled to duty at the physical reference desk or reference desk can be eliminated. Data collected at reference desk at the University of Malaya Central Library and analyzed to find out types of enquiries that have been acquired.

LITERATURE REVIEW

Miles (2013) in his study examines the prevalence offering reference services from the reference desk. The results show that 58.82 percent of the libraries surveyed which serves smaller student body size use nearly all their professional librarians in reference work. 66.4 percent of the respondent currently provides reference services from traditional reference desk. The findings also shows that many librarians still have strong feeling about service they can offer from the traditional reference desk where they are trained to assist user and be visible to library users. 77.46 percent of the responding libraries where reference questions are not declining at the reference desk. They are some reason from some of the library where the questions are declining. This is due to the unapproachable librarians, student do not know who the librarians are, student embarrassed to ask for help, student think they can do their research independently and they can look for answers in the internet.

Human touch or human interaction is still an important factor in providing reference service eventhough it is a digital reference or face to face reference. According to Magi and Mardeusz (2013), many students at University of Vermont wrote about the value of face to face individual consultations with librarian. In-person interaction is more valuable where they can visual or see how librarians go about searching and finding materials. They can ask librarians directly and get immediate response. Collaboration with the expert librarians can help them choose the materials and evaluate the materials.

Ramos and Abrigo (2012) wrote in their studies that RUSA published the *Guidelines for Implementing and Maintaining Virtual Reference Services* and *Guidelines for Behavioural Performance of Reference and Information Services Providers* to improve user –librarian

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interaction in traditional concept of reference and also digital reference. The findings of the study shows that users prefer to access library via internet and seek help from reference librarian in a digital environment. Most of the users prefer to communicate with librarians such as chatting through Instant Messenger (IM). Email reference is only used when it requires more time to respond the enquiries. Online tutorial is the less preference by users because they cannot interact with the librarians.

Shepherd and Korber (2014) wrote about knowledge based system, LibAnswers which used by Meriam Library California. LibAnswers is a reference tool where the ability of the system is to create a knowledge based of library questions and answers. It is a combination of knowledge based, chat and SMS question. It provides centralized access for all virtual reference questions. Librarians on duty at the reference desk are responsible to answer all questions from LibAnswers, chat, email, SMS and also face to face with users. LibAnswers is a tool that supplements and complements traditional reference services.

Luo (2007) in her study present a historical view of library reference evolution under the influence of new information technologies. There are two primary changes, increase of the availability and accessibility of electronic resources such as from printed materials to electronic materials such as online, CD-ROM and internet. The other changes are the expansion of the media through which reference services are provided from face to face to remote reference such as telephone then change to digital form such as email, web form and chat.

DATA COLLECTION

The purpose of this study was to conduct content analysis of reference desk enquiries at the Central Library; University of Malaya Library. The aim was to transform simple enquiries into digital reference mode. The types of enquiries analyzed include:

- i. Procedural and directional enquiries asked at the reference desk.
- ii. In-depth enquiries or information resources related enquiries.
- iii. Identify mode of enquiries.

The findings will be used to identify the point of user needs and simplify the information for user satisfaction. Frequently asked question such as procedural and directional can be tabulated and reform to other mode for the ease of users. Librarians expertise in handling the enquiries are also become an issue to answer in-depth enquiries because paraprofessionals are also involve serving users at the reference desk. Findings of the analysis will help to tabulate the in-depth enquiries to set a module of training for professional librarian and paraprofessionals in handling reference enquiries at the reference desk.

Data for this study was collected from the month of February 2011 until December 2013. These 1313 transaction of enquiries asked by users at the Reference Desk, Central Library keyed in by the librarians on duty. A simple database was designed for librarians to record the enquiries from users after they have completed. After reference interview session with users and complete all the process, librarians have to input the data and identify the types of enquiries from the drop down menu. Figure 1 below shows the

Content analysis of reference desk enquiries

attributes and field involves in this database. There are 5 tables to record the information.

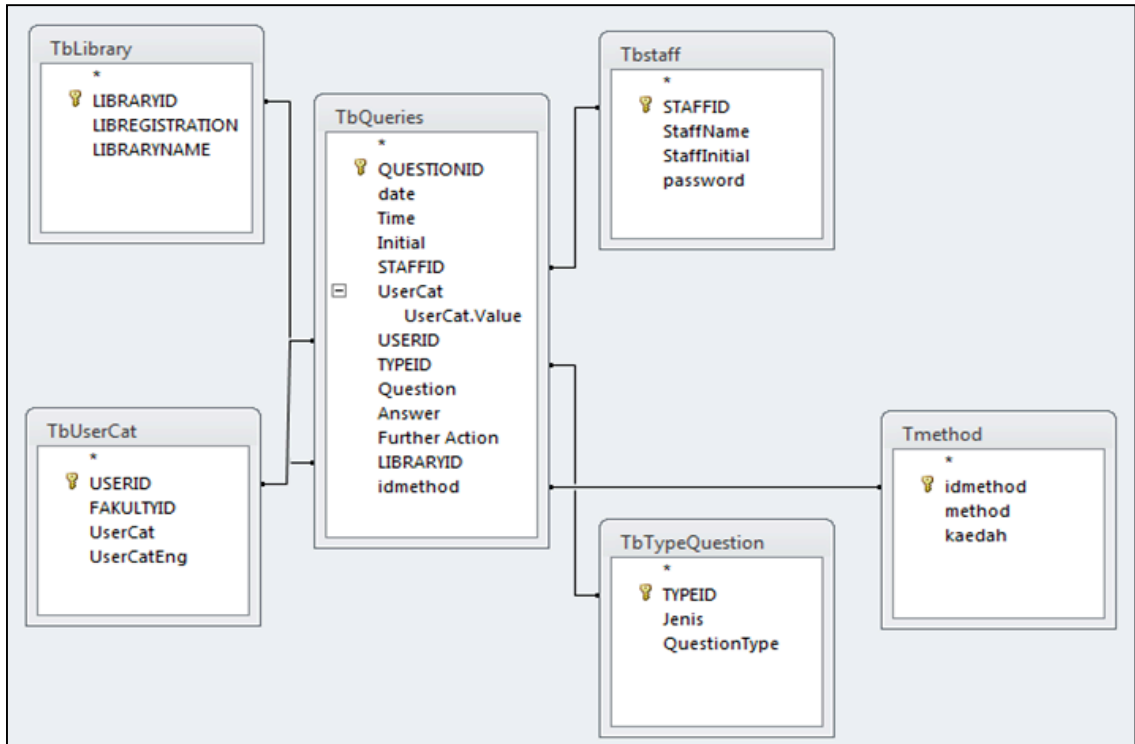


Figure 1: Database designed to collect Reference Desk Enquiries

Details about database design:

- i. TbLibrary: Details about location of the reference desk: Example: Central Library. Law Library. Medical Library
- ii. TbUserCat : Details about category of user such as Academician, Non Academic, Undergraduates student, Postgraduates student, Visitors and External members.
- iii. TbStaff : Details about librarian attending the enquiries such as Name, Initial.
- iv. Tbmethode : Details about enquiries mode such as one to one or phone call.
- v. TbTypeQuestion : Details about question types.

Figure 2 shows the user interface for librarian to record all the enquiries by user's categories, date, time and library. Librarians need to input all the details and take action as guidance to other librarian in handling similar enquiries.

Figure 3 shows main menu for librarian to look at a report by date, librarian, question type, queries by user's category and also question type.

There are several steps taken before data analyzed. 1313 of reference enquiries are selected as a sample of data. Empty field or incomplete data will be removed because it is not usable as a data to be analyzed.

The screenshot shows a web application interface titled "REFERENCE SERVICES". At the top, there are input fields for "Question No." (1375), "Date" (09-Apr-13), "Time" (13:26), and "Library" (P01UTAMA). Below this, there are dropdown menus for "Question Type" (Theses and Dissertations) and "User Category" (Postgraduate), along with a "View Type Details" button and a "Method" dropdown (Ref Desk). The main content area has three sections: "Question" (how to search thesis?), "Answer/ Action Taken" (show how to access UDL and Pendeta webpac for hardcopy--advanced search -- subject-- polypyrrole), and "Note". At the bottom, there is a "Librarian / Officer on duty" dropdown (NAB) and a row of buttons: "Close Form", "Main Menu", "Print", "Computer Lab B (scan User's Library Barcode)", and "Delete Record". On the right side, there is a vertical toolbar with icons and labels for "Save Record", "Undo Record", "New Record", and "Refresh Record".

Figure 2: User interface to record user enquiries and action taken

The screenshot shows a web application interface titled "MAIN MENU REFERENCE SERVICES". At the top, there are buttons for "QUERIES FORM", "Open Queries Form", "User Request Password Form", and "Close Form". Below this, there is a "PREVIEW REPORT" section. It contains three rows of report options: "REPORT BY DATE", "REPORT BY LIBRARIAN", and "REPORT BY QUESTION TYPE", each with a "Preview Report" button. Below these, there is a "STATISTICS" section with three rows of report options: "QUERIES COUNT BY USER CATEGORY", "QUERIES COUNT BY QUESTION TYPE", and "TOTAL QUERIES COUNT BY DATE", each with a "Preview Report" button.

Figure 3: User interface to view report

FINDINGS

The data collected was analyzed by:

- i. User categories
- ii. Types of enquiries
- iii. Enquiries by Reference mode

Content analysis of reference desk enquiries

i. User categories

All enquiries are from University of Malaya population such as Academician, Non-Academic staff, Postgraduates students, Undergraduates students and also visitors/public.

Table 2 : User categories

Categories	Quantity
External members	16
Academicians	79
Non Academic	12
Undergraduates	250
Postgraduates	800
Visitors	156
TOTAL	1313

ii. Types of enquiries

Table 3: Enquiries by user at the Reference Desk

Types of enquiries	Enquiries	Quantity
DIRECTIONAL ENQUIRIES	Direction to resources area of library building /staff	84
	Direction to specific item	31
Procedural / directional enquiries	Locating library materials (Green card, BKOM,kad biru)	54
	Location of a specific book or classification number	75
	Past year exam papers	3
	Phone directory	16
	Library facilities	16
	Library rules and regulation	54
	Requisition of library materials	4
	TOTAL	337
IN-DEPTH ENQUIRIES	Interlibrary loan / Document delivery	71
	ISI	41
Information resource related enquiries	Library Website	5
	Online databases / Interaktif Portal	98
	OPAC / My Account	124

Types of enquiries	Enquiries	Quantity
	Internet / other resources	10
	Theses and Dissertations	40
TOTAL		389
IT RELATED ENQUIRIES	General software packages	59
	How to access electronic resources (not content)	46
	Information skills session registration	34
	Password	25
	Printers	11
	Problem related to PC's at Digital Corner/ Lab	13
	Wifi Access	12
TOTAL		200
CIRCULATION ENQUIRIES	Library Account (Workflows)	23
	Loan	37
	Lost of Library materials	25
	Overdue fines	34
	Renew loan	16
	Renew membership	92
	Reserve book	4
Internal membership / External membership	81	
TOTAL		312
Others		71
TOTAL		71
Other Universities services		4
TOTAL		4
GRAND TOTAL		1313

Table 3 and Figure 4 above show total enquiries by question types asked by users at the reference desk, Central Library. Information resources related enquiries scores the highest number of enquiries, 389 (30%) enquiries followed by Procedural / directional enquiries, 337 (26%) enquiries. The lowest number of enquiries scores by other universities enquiries is 4 (0.3%). 312 (24%) enquiries are about circulation and 200 (15%) enquiries are about IT related.

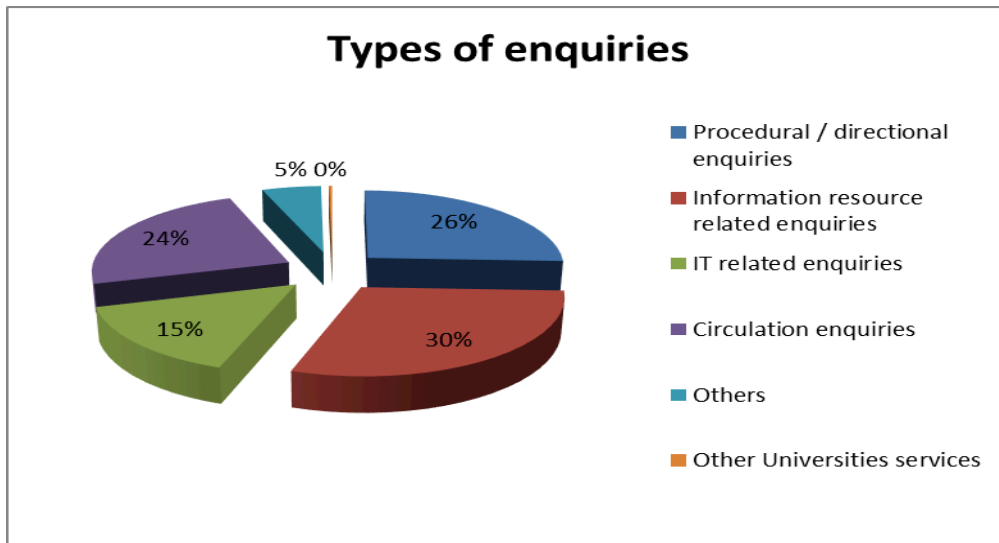


Figure 4: Type of enquiries

Figure 5 shows the details of enquiries by users. Enquiries about online databases scores the highest which is 98 while the lowest is 4 which is about other universities.

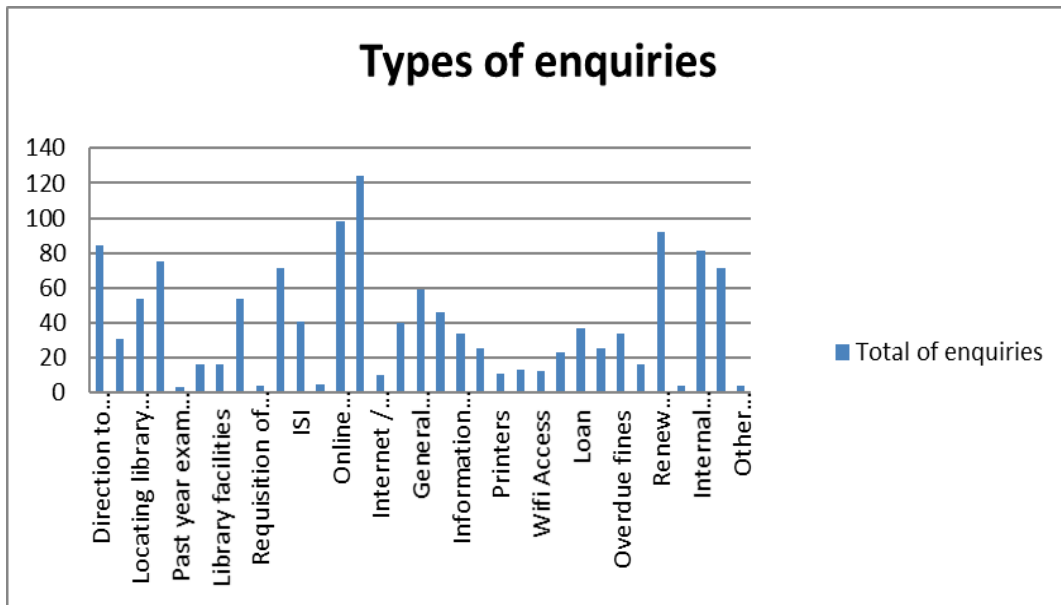


Figure 5: Details of enquiries by users at the reference desk

iii. Enquiries by reference mode

There are two types of reference mode at the reference desk. Librarian will consult users in person or answer phone calls at the reference desk. The finding shows that majority of users prefer to get help from librarians at the reference desk through phone calls, (1134 enquiries, 86.37%) compared to consultation in person at the reference desk, (179 enquiries, 13.63%).

Table 4: Number of questions by reference mode

Reference Mode	Types of enquiries	Total	Percentage
Reference Desk	Circulation enquiries	62	13.63 %
	Information resources related enquiries	41	
	IT related enquiries	25	
	Others	12	
	Procedural / directional enquiries	39	
	Total	179	
Phone	Circulation enquiries	250	86.37 %
	Information resources related enquiries	348	
	IT related enquiries	177	
	Other Universities services	4	
	Others	59	
	Procedural / directional enquiries	296	
	Total	1134	

DISCUSSION

The purpose of this study was to identify types of enquiries at the reference desk in order to identify the point of user needs and simplify the information for user satisfaction. The aim was to transform simple enquiries into digital reference mode. Frequently asked questions such as procedural and directional can be tabulated and reformed to other mode for the ease of users. Findings of the analysis will help to tabulate the in-depth enquiries to set a training module for professional librarians and paraprofessionals in handling reference enquiries at the reference desk.

Finding showed that there were equal numbers of enquiries between procedural / directional enquiries and in-depth enquiries / information resources related enquiries. While it was possible to transform procedural/directional enquiries into digital mode, it was realized that in-depth enquiries still require librarians to physically mend the reference desk. It shows that users still need personal consultation of professional librarians to help them accessing information resources, select the relevant information, evaluate the information and also apply the information.

a) Procedural / Directional enquiries

Findings showed that procedural and directional enquiries, IT related enquiries and circulation enquiries were frequently asked by users. Therefore, some enquiries were transferred to digital reference mode. Some of the reference services being implemented in digital mode by University of Malaya Library are as below:

i. Online Help Desk

Online Help Desk is a menu for users to enquire any problem related to IT. The person in charge is a person dealing with technical problems in the library. The University of Malaya Library started using Online Helpdesk since year 2010.



Figure 6: UM Help Desk

ii. **BookMyne**

UM Library has started using BookMyne application since 2013. It is a free application compatible with Android, iPhone and iPod Touch devices for on-the-go library users

Main features include:

- a. Finding local library locations, contact information, web site, and getting directions to the library.
- b. Catalog searching
- c. Review and renewal of checked out items
- d. Review of overdue fines
- e. Suggested readings

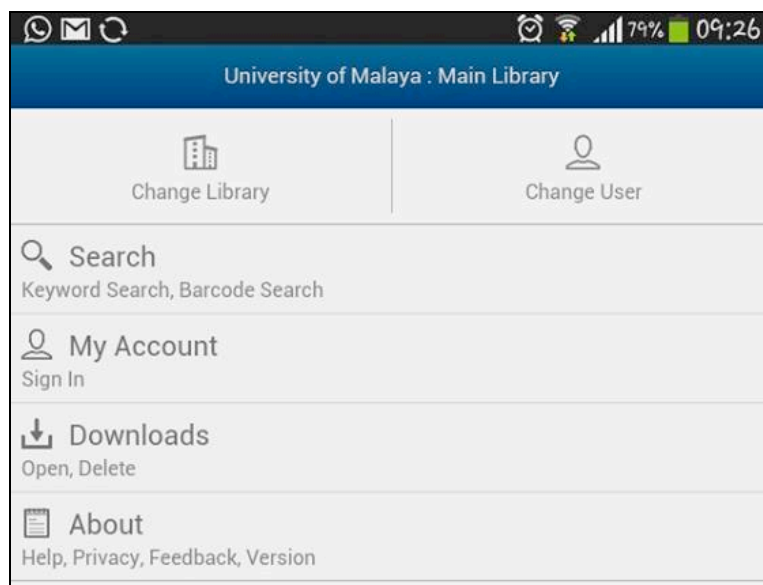


Figure 6 : BookMyne: University Of Malaya Library

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iii. Facebook

Facebook is a platform for University of Malaya students to communicate with library. It is also a platform for library to promote services or announce any event, library opening hours and etc. University of Malaya library has started using Facebook as a social media to reach users since year 2008 with total 17,609 likes and 4,016 visits till date.



Figure 7: The University Of Malaya Library Fan Page

iv. Twitter

Twitter is online social networking platform for the user to follow or keep track library activities. It was created in year 2010 with 518 current followers

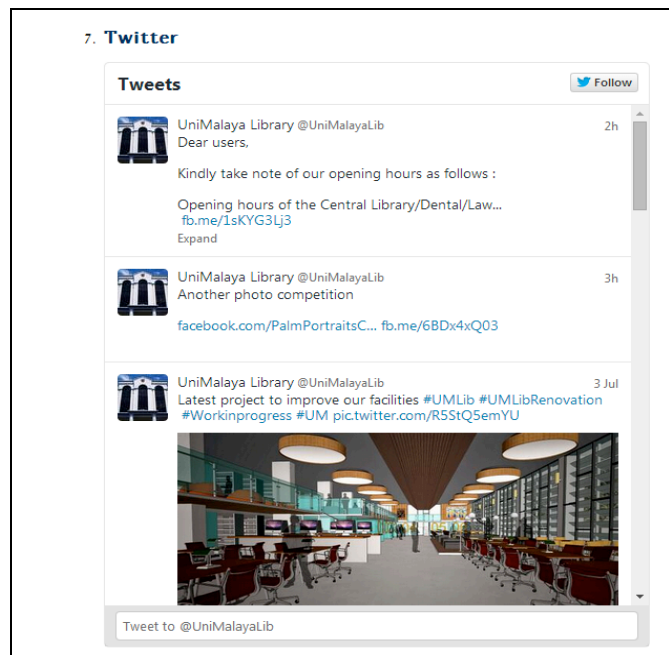


Figure 8 : UniMalaya Library @UniMalayaLib

Content analysis of reference desk enquiries

Other platforms such as Instagram, Flickers, Blog, You Tube, Google Plus and Wikis. Other plans in the pipeline are as shown in Table 5

Besides using mobile technology to provide information about procedural and directional enquiries, interactive application such as WhatsApp also can be applied to provide text messaging service between users and librarians. According to Ramos and Abrigo (2012), library users prefer to seek help from librarian in a digital environment and access library via internet.

Yee (2012), in her study evaluating mobile services offered by academic libraries in USA, Australia, Singapore and Hong Kong. She found that demanded services on mobile devices include catalogue searching, SMS/text a librarian, locating spaces, booking computers and rooms. She also found that international students would prefer to text the librarian rather than to ask the reference librarian because of the language difficulties or inability to understand the librarian. On the other hand, texting is easy and fast while they are at their home country.

Physical reference desk is still a need but we can use other alternative or solution to provide reference service to user. The value of human interaction is critically needed especially for those who involve in research.

Table 5: Procedural / directional enquiries

Types of enquiries	Enquiries	Suggestion	Status
Procedural / directional enquiries	Direction to resources area of library building /staff	Design floor map for mobile services	In process
	Direction to specific item	QR codes / mobile service	In process
	Location of a specific book or classification number	Mobile service	In process
	Past year exam papers	Mobile service	Implemented
	Phone directory	Mobile service	Implemented
	Library facilities	Mobile service	Implemented
	Library rules and regulation	Mobile service	Implemented
	Requisition of library materials	Mobile service	Implemented
	How to access electronic resources (not content)	Mobile service	In process
	Information skills session registration	Mobile service	Implemented
	Printers	Text messaging	In process
	Problem related to PC's at Digital Corner/ Lab	Text messaging	In process
Wifi Access	Text messaging	In process	
Circulation enquiries	Library Account (Workflows)	Mobile service	Implemented
	Loan	Text messaging	In process

Types of enquiries	Enquiries	Suggestion	Status
	Lost of Library materials	Text messaging	In process
	Overdue fines	Mobile service	Implemented
	Renew loan	Mobile service	Implemented
	Renew membership	Text messaging	In process
	Reserve book	Mobile service	Implemented
	Internal membership / External membership	Text messaging	In process

b) In-depth enquiries

Most of the users using this service are postgraduate’s student who involved actively in research. Based on data, it shows that online databases are the major questions queried by users. The question was about how to find the relevant articles journals or other e-resources provided by library. This e-resource is accessible remotely from anywhere. Thus, we could notice from the findings that the highest numbers of enquiries were from phone call mode instead of visiting reference desk or face to face interaction.

This finding is quite similar with study done by Magi & Mardeusz (2013). They conducted a study to get students perspective about what they get from the consultation with librarian. They discovered that professional librarian has skills, knowledge, and experience in eight categories as below:

- i. Knowledge about reference sources and their effective use.
- ii. Knowledge about library procedures and resources.
- iii. Deep and broad knowledge of subjects and terminology.
- iv. Experience in topic development.
- v. Experience in doing research projects.
- vi. Knowledge about people on campus
- vii. Skill in active listening and providing affective support.
- viii. Ability to use synthesis to arrive at an answer.

Librarian expertise in handling the enquiries also becomes an issue when answering in-depth enquiries because paraprofessionals are also involved to serve users at the reference desk. According to Morgan (2009) there are some arguments that paraprofessional do not realize when it is necessary to make a referral to professional librarian is they cannot answer the enquiries. In this case, training is needed for them to handle reference interview. Professional librarians also need to watch every transaction at the reference desk. Besides paraprofessional, new appointed librarian also face difficulties in handling reference interview and answering the enquiries.

Thus, based on the findings, we noticed what is the most frequently questioned enquired by users. Reference interview skills training can help and guide professional librarian and also paraprofessional to identify what are needed by user. Monthly courses can be organized to analyze all the enquiries and the action taken by librarians. The senior librarian or the expertise may guide, suggest or provide good solutions or answers for each enquiry.

CONCLUSION

In conclusion, the data shows that reference desk enquiries are needed even though reference service is under the influence of new information technology. The combination of traditional concept and modern concept of reference desk are implemented at the University of Malaya Library. The transformation of reference desk service keeps library reference abreast with the rapidly changing information horizon to fulfill users needs in information seeking. Interaction face to face with patron is the most important reason why library still need a physical reference desk. What are the implication of this study? Reference desk with professional librarian and also trained staff is the foundation of the reference service. Reference desk is not going to disappear.

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Investigating continuance intention of using e-book among higher education students

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ABSTRACT

This paper investigates determinant of continuance intention to use e-book among higher education students. The determinants used in this paper are adopted from Technology Acceptance Model (TAM) and Expectancy Disconfirmation Theory (EDT). The study employed a random sampling method where email invitation which contained a hypertext link of the survey page, enables the participants to access to the survey hosted in Google Drive. Out of 760 sample size, a total of 650 responses were gathered with 509 valid responses. Structural Equation Modeling (SEM) analysis is used for data analysis to test the relationship between determinants in the model. The finding demonstrates that determinant of continuance intention to use e-book are based on Satisfaction, while Satisfaction is strongly determined by Perceived Ease of Use and Confirmation of using e-book. Internet self-efficacy is reported to have strong effect on Satisfaction through Perceived Ease of Use, while Perceived Quality affects Satisfaction of using e-book through Confirmation. In general, findings from this study are beneficial for libraries as determinants of continuance intention of using e-books could also be used in selecting and evaluating features of e-books before subscription. Additionally, e-book vendors could use these findings to improve and enhance features of their e-books services.

Keywords: e-book; electronic books; higher education; academic library; continuance intention

Introduction

E-book has become a prominent service in libraries as it provides users with convenient means of accessing resources in the digital era. Nowadays, most of the libraries including academic libraries have included e-book in their collections. This has motivated researcher to further understand user acceptance and perception towards e-book for their reading or referring, as well as to examine usage pattern of e-books. Awareness level of e-book collection has been reported in several studies such as Borchert (2009) and Noorhidawati and Gibb (2008). Awareness in fact motivates people's intension to use, which eventually leads to e-book usage and preference among the user. Oliveira (2012) investigates student's perceptions, behaviour and attitudes towards e-book in academic library. His finding corroborates with previous studies where users preferred to use printed book rather than e-book although he indicates that e-book users are satisfied with the feature of e-book. In addition, Nicholas (2008) reported 61.8% of their respondents use e-book for various purposes. Another report on a large-scale survey

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that was carried out to assess academic awareness, perceptions and usage levels of e-books in a university in UK, found significant number of reading media preference (Rowlands, 2007). The result indicated 48% of the respondents prefer to read e-book on screen, only 13% prefer to read on paper, while 39% vary in using screen, paper or other media to read. This probably is because the choice of using either e-book or printed book depends on the availability of information needed by user. A very recent survey study in India on the other hand, concluded that users are not significantly concerned by the choice of e-book or printed book, but on the availability of information sources regardless of whether it is in digital or printed format (Ramaiah, 2012).

In variation of e-book usage such as reading or referring, Ismail and Zainab(2005) reported that e-books were mainly used for completing students' research projects and assignments. This result is supported by another study where it was reported that e-books are used as reference materials rather than for reading (Noorhidawati & Gibb, 2008). This could possibly be due to available features offered by e-book such as search tools that provides ease of use for referring task. Clark (2006) also reported students appreciate and value the convenience of e-book features such as portability (non-physical), mobility (easy access) and searching features. Moreover, Foote and Rupp-Serrano (2010) found that students desire e-books features particularly in relation to searching, highlighting, and taking notes which are common functions when using books as reference materials.

E-book services in academic libraries have been in place for years and were being accepted by users. The e-book service offered by library is likely to have contented users where the satisfaction could cause users' intention to continuously using it for various purposes. Previous research by Patterson and Spreng (2007) indicated that satisfaction has a positive effect on future intention, while Bhattacharjee (2001) reported an essential link between satisfaction and continuance intention to use e-book. Recently, Richardson and Mahmood (2012) conducted a study to investigate user satisfaction when using different e-readers (iPad, Barnes and Noble's Nook, Border's Kobo Reader and Sony Digital Reader) for reading e-book. They found that portability, ease of use and collections provided are the most desirable features. Another study related to continuance use of e-reader found that user intention to use is solely determined by attitude, which refers to the perception of content enrichment and device personalization (Chou, Stu, & Lin, 2010). These two studies were conducted mainly to investigate factors that influence people to continue to use specific e-book reader, which in turn would help the practitioners, researcher or stakeholder in understanding what are the desirable design, method and features to generally satisfy the users. To date, there is no study in the literature that specifically proposes an investigation of continuation intention to use e-book in academic libraries, particularly in relation to its usability, quality, satisfactory, subjective norms and control. This study is conducted to fill this gap in order to gather better understanding on continuance intention to use e-book among higher education students. This is important to assist libraries in considering and planning inclusion and/or increase of e-books in their collection.

LITERATURE REVIEW

Research Models to Understand E-Book Usage

Available research models have been reviewed systematically to examine elements that could develop valuable insight in understanding e-book users particularly related to continuance intention of using of e-book (Borchert et al. 2009; Letchumanan & Tarmizi, 2011; Tsai, 2012).

Shin (2011) conducted a study examining e-book users' experience by integrating Uses and Gratifications Theory (UGT), Expectation Confirmation Theory (ECT) and Diffusion Theory (DT). UGT is used as a theoretical framework to understand specific reasons why users use a specific media. ECT is a theory that suggests confirmation based on the pre and post behaviour that influences continuation intention and satisfaction as postulated originally by Oliver (1980). DT on the other hand, provides a systematic, demand-side explanation on how and when newly introduced technologies are communicated, adopted, evaluated, rejected, and re-evaluated by users (Rogers, 1995). Shin (2011) found that the moderating effect of confirmation/gratification and demographic are significant as predecessor of e-book technology acceptance.

In accordance with technology implementation, TAM is the most common model being used in understanding the acceptance of a technology being applied and accepted in a specific environment. In e-book research, TAM has been used in several studies. For example, Tsai (2012) conducted a study to understand user behaviour as a primary key in understanding the e-book market. The findings indicate brand, service, trust, and perceived usefulness as having a positive effect on the attitude towards using e-book. Attitude towards using e-book has significant effect on the continuance intention to use. Other than TAM, there is also a reliable framework proposed by Roca, Chiu and Martinez (2006). The framework consists of TAM as well as a combination model of Theory of Planned Behaviour (TPB), TAM and Expectancy Disconfirmation Theory (EDT). Although a number of studies were conducted to evaluate e-book usage, there is no study to date specifically investigate continuance intention to use e-book in academic library. Therefore a combination of continuance intention model (using TPB, TAM and EDT) as suggested by Roca, Chiu and Martínez (2006) is adopted in this study.

RESEARCH OBJECTIVES

The main purpose of this study is to investigate the factors that influence continuation use of e-book at University Malaya academic library. The following research objectives were proposed:

- i. To investigate factors affecting students' perception on e-book usability
- ii. To investigate factors that influence students' satisfaction in using e-books
- iii. To investigate factors which encourage confirmation of using e-book among students
- iv. To investigate factors that influence e-book continuance intention

RESEARCH METHODOLOGY

For the purpose of this study, the survey questionnaires approach was adopted from Roca, Chiu and Martínez (2006). Some of the survey questions were modified accordingly to fit e-book environment as well as to match them with constructs used in this study.

The Proposed Research Model and Hypotheses

A model proposed by Roca, Chiu and Martinez (2006) is adopted to understand the continuation intention of user in using e-book provided by an academic library in a higher educational setting. The model is based on the following three theoretical frameworks: i) TPB; ii) TAM; and iii) EDT. The model includes six constructs, shown in Figure 1, which are; perceived quality, perceived usability, perceived control, subjective norms, confirmation and satisfaction as.

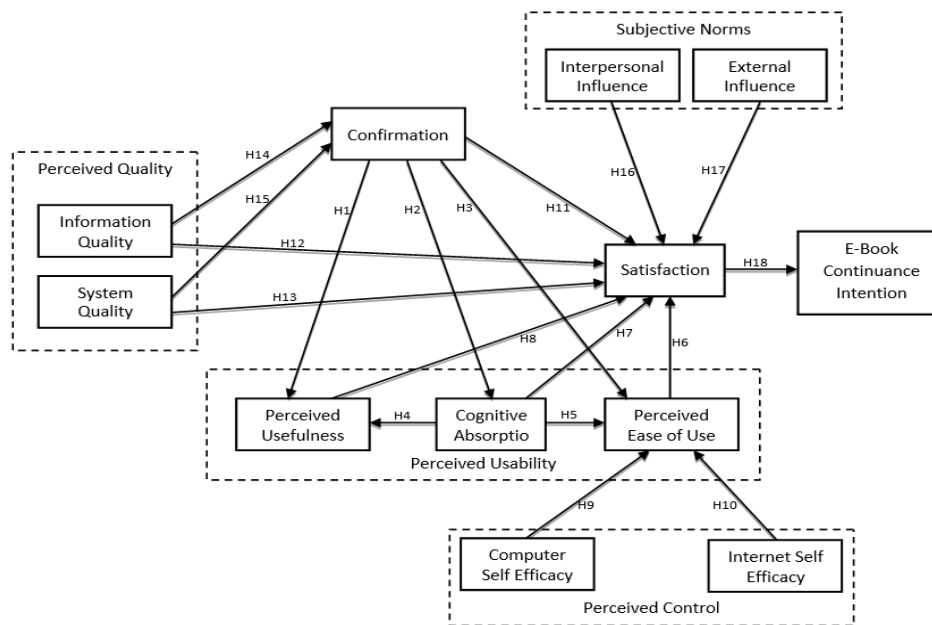


Figure 1: The proposed research model for continuance intention to use e-book

Based on Figure 1, user satisfaction is a determinant of continuation intention in using e-book where the satisfaction's predictors are the perceived quality, perceived usability, confirmation and subjective norms. This study is conducted to provide evidence to the following hypotheses:

- H1.** Confirmation while using e-book has a positive effect on perceived usefulness of e-book
- H2.** Confirmation while using e-book has a positive effect on cognitive absorption in using e-book
- H3.** Confirmation while using e-book has a positive effect on perceived ease of use of e-book

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- H4.** Cognitive absorption while using e-book has positive effect on perceived usefulness of e-book
- H5.** Cognitive absorption while using e-book has positive effect on perceived ease of use of e-book
- H6.** Perceived ease of use of e-book has positive effect on satisfaction in using e-book
- H7.** Cognitive absorption while using e-book has positive effect on satisfaction in using e-book
- H8.** Perceived usefulness of e-book has positive effect on satisfaction in using e-book
- H9.** Computer self-efficacy has positive effect on perceived ease of use of e-book
- H10.** Internet self-efficacy has positive effect on perceived ease of use of e-book
- H11.** Confirmation while using e-book has positive effect on satisfaction in using e-book
- H12.** Information quality has positive effect on satisfaction in using e-book
- H13.** System quality has positive effect on satisfaction in using e-book
- H14.** Information quality has positive effect on confirmation while using e-book
- H15.** System quality has positive effect on confirmation while using e-book
- H16.** Interpersonal influence has positive effect on satisfaction in using e-book
- H17.** External influence has positive effect on satisfaction in using e-book
- H18.** Satisfaction in using e-book has positive effect on continuance intention to use e-book

Measurement

This study used seven-point Likert-type measurement scale, decoded as 1=strongly disagree, 2=disagree, 3=somewhat disagree, 4=undecided, 5=somewhat agree, 6=agree and 7=strongly agree. All the construct items are derived from Roca, Chiu and Martínez's (2006) with few modifications. Cronbach's alpha was used to evaluate reliability and validity of the instrument. For the data analysis, Structural Equation Modeling (SEM) was employed using SPSS AMOS computer software.

Data Collection

The study employed a random sampling method via the University of Malaya (UM) students' email. The random sample size was determined based on Krejcie and Morgan (1970) population and sample table. With a population of 23,000 students, the sample size was determined as 760 (Confidence Level = 95%, Margin of Error = 3.5%). The email invitation, with a hypertext link, enabled the participants to link to the survey database hosted by Google Drive. Table 2 shows the survey response rate. After two rounds of distributions, there were 650 respondents out of which, 508 (78.15%) were complete (Table 2). The response rate is exceptionally good for online survey as Gravetter and Forzano (2008) indicated a typical response rate for online survey is only about 18%. This is probably due to the incentive given to the participants who would win a lucky draw after completing the survey.

Table 2: Survey Response Rate

Total Population	23,000
Total sample	760
Clicked on survey link	650
Incomplete survey	141
Non-completion rate	21.7%
Completed survey	509
Response rate	78.3%

Data Analysis

(a) Reliability and Validity Measurement

A total of 12 factors and 49 items were examined in this study. Factor loadings and internal reliabilities are shown in Table 3. A total of 8 items below the accepted factor loading level were left out as the value suggests that these items are not fit. The other items had a factor loading of above 0.5 and were retained.

Table 3: Cronbach's alpha, standard deviation and factor loading calculation result

Perceived Usefulness: Cronbach's $\alpha = 0.89$	Mean	S.D.	Loading
1. Using e-book can improve my study performance	5.64	1.111	0.92
2. Using e-book can increase my study effectiveness	5.49	1.169	0.92
3. I find e-book is useful to me	5.89	1.106	0.87
Perceived Cognitive Absorption: Cronbach's $\alpha = 0.81$	Mean	S.D.	Loading
4. Time flies when I am reading/referring e-book	5.17	1.32	0.46
5. Most times when I read e-book, I end up spending more time than I had planned	4.76	1.499	0.72
6. When I am accessing e-book, I am able to block out most other distractions	4.24	1.457	0.73
7. While using e-book, I am absorbed in what I am doing	4.95	1.246	0.81
8. I have fun interacting with the e-book	5.17	1.26	0.82
9. I enjoy using the e-book	5.4	1.259	0.79
Perceived Ease of Use: Cronbach's $\alpha = 0.88$	Mean	S.D.	Loading
10. Learning to use e-book is easy for me	5.65	1.163	0.87
11. It is easy for me to become skillful at using the e-book system	5.53	1.155	0.92
12. My interaction with e-book system is clear and understandable	5.51	1.092	0.89
Perceived Internet Self-efficacy: Cronbach's $\alpha = 0.85$	Mean	S.D.	Loading
13. I feel confident in navigating the e-book by following hyperlinks	5.3	1.239	0.9
14. I feel confident in the e-book system searching information	5.61	1.089	0.9
15. I feel confident in the e-book system downloading e-book	5.58	1.062	0.84
Perceived Computer Self-efficacy: Cronbach's $\alpha = 0.81$	Mean	S.D.	Loading
16. I could complete my reading/referring activities using e-book if I had never used any e-book system like it before	5.14	1.319	0.67
17. I could complete my reading/referring activities using e-book if I had only the e-book system manuals for reference	4.86	1.53	0.81

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18. I could complete my reading/referring activities using e-book if I had seen someone else using it before trying it myself	4.92	1.558	0.85
19. I could complete my reading/referring activities using e-book if I had just the built-in-help facility for assistance	5.09	1.451	0.85
Interpersonal Influence: Cronbach's $\alpha = 0.87$	Mean	S.D.	Loading
20. My family thought I should use e-book	4.16	1.429	0.82
21. My colleagues thought I should use e-book	4.68	1.417	0.94
22. My friends thought I should use e-book	4.81	1.363	0.91
External influence: Cronbach's $\alpha = 0.85$	Mean	S.D.	Loading
23. I read/saw news reports that using e-book was a good way of reading	4.9	1.505	0.87
24. Expert opinions depicted a positive sentiment for using e-book	4.94	1.266	0.91
25. Mass media reports convinced me to use e-book	4.58	1.421	0.87
Information quality: Cronbach's $\alpha = 0.70$	Mean	S.D.	Loading
26. The e-book provides relevant information for my study	5.61	1.003	0.7
27. The e-book does not provide easy-to-understand information (R)	4.63	1.552	> 0.3
28. The output e-book from the e-book system is not clear (R)	4.56	1.409	> 0.3
29. The e-book system presents the e-book in an appropriate format	5.14	1.116	0.62
30. The information content in the e-book is very good	5.4	0.983	0.77
31. The e-book from the e-book system is up-to-date enough for my purposes	5.08	1.118	0.75
32. The collection of e-book that the e-book system delivers is not sufficient for my purposes (R)	3.83	1.425	> 0.3
33. The reliability of output information from e-book system is high	5.12	1.06	0.72
34. The e-book system provides the information I need in time	5.28	1.066	0.75
System quality: Cronbach's $\alpha = 0.72$	Mean	S.D.	Loading
35. Number of steps to access an e-book in the e-book system are too many	4.46	1.485	>0.30
36. Steps to access & navigate e-book in the e-book system follow a logic sequence	5.1	0.995	0.82
37. Navigating e-book in the e-book system always leads to a predicted result	4.89	1.18	0.81
38. The organization of information on the e-book system screens is clear	5.22	1.045	0.8
39. The e-book system has natural and predictable screen changes	4.95	1.117	0.82
40. The e-book system responds quickly during the busiest hours of the day	4.5	1.418	0.64
Confirmation: Cronbach's $\alpha = 0.86$	Mean	S.D.	Loading
41. My experience with using the e-book was better than I expected	5.25	1.122	0.89
42. The services provided by e-book system was better than I expected	5.1	1.142	0.88
43. Overall, most of my expectations from using the e-book system were confirmed	5.3	1.055	0.88
Satisfaction: Cronbach's $\alpha = 0.92$	Mean	S.D.	Loading
44. I am satisfied with the performance of the e-book	5.38	1.082	0.92

45. I am pleased with the experience of using the e-book	5.47	1.081	0.93
46. My decision to use the e-book was a wise one	5.47	1.113	0.93
Continuance Intention: Cronbach's $\alpha = 0.92$	Mean	S.D.	Loading
47. I will use the e-book on a regular basis in the future	5.51	1.085	0.94
48. I will frequently use e-book in the future	5.48	1.155	0.95
49. I will strongly recommend others to use it	5.57	1.228	0.91

Notes:

- (R) Reverse Item
- Scale: 1 = Strongly Disagree; 2 = Disagree; 3 = Somewhat Disagree; 4 = Undecided; 5 = Somewhat Agree; 6 = Agree; 7 = Strongly Agree

(b) Hypotheses Testing

In order to understand which variables are significant and have positive effect on the dependent variables, each path in the research model was analysed using standardized path coefficients. This analysis was done using AMOS computer software with SEM analysis. Table 4 cross tabulates direct effect of the research model between independent and dependent variables.

Table 4: Direct effect of research model between variables

	INFQ	SYSQ	CONF	CA	ISE	CSE	EINF	IINF	PU	PEOU	SATF
CONF	.139	.254	.000	.000	.000	.000	.000	.000	.000	.000	.000
CA	.000	.000	1.096	.000	.000	.000	.000	.000	.000	.000	.000
PU	.000	.000	.343	.193	.000	.000	.000	.000	.000	.000	.000
PEOU	.000	.000	.194	.116	.276	.084	.000	.000	.000	.000	.000
SATF	.069	.050	.524	.014	.000	.000	-.001	.057	.072	.119	.000
INT	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.779

Note: PU = Perceived Usefulness; CA = Cognitive Absorption; PEOU = Perceived Ease of Use; ISE = Internet Self-Efficacy; CSE = Computer Self-Efficacy; IINF = Interpersonal Influences; EINF = External Influences; INFQ = Information Quality; SYSQ = System Quality; CONF = Confirmation; SATF = Satisfaction; INT = Continuance Intention

FINDINGS

Analysis of the data revealed that the respondents had experienced in using e-book prior to the survey. The twelve factors identified had been earlier defined and discussed.

Demographic Information

Out of 509 total responses, 349 (68.6%) were undergraduates while 160 (31.4%) were post-graduate students. 253 respondents (49.7%) were male and the other 256 (50.3%) were female.

Respondents were from 18 faculties in UM (Table 5). A high number of responses were obtained from three faculties which provided more than 49% of the overall response. Faculty of Science came top with 106 (20.8%), Faculty of Engineering with 94 responses (18.5%), and Faculty of Computer Science & Information Technology with 51 (10.0%). The number of respondents from each faculty is a reflection of its general population.

Table 5: Composition of respondents by faculty

Faculty	N	%
Faculty of Science	106	20.8
Faculty of Engineering	94	18.5
Faculty of Computer Science & Information Technology	51	10.0
Faculty of Business and Accountancy	43	8.4
Faculty of Medicine	42	8.3
Faculty of Economics & Administration	34	6.7
Faculty of Languages and Linguistics	26	5.1
Faculty of Arts and Social Sciences	24	4.7
Faculty of Law	18	3.5
Faculty of Education	17	3.3
Faculty of Built Environment	15	2.9
Faculty of Dentistry	8	1.6
6 Academic Centers/Institutes	31	6.1
Total	509	100.0

E-books Usage

In terms of e-book usage, 184 (36.1%) respondents reported that they used e-book at least once a week. 117 (23.0%) said that they read e-book at least once a month while only 95 (18.7%) people used e-book on a daily basis. 113 respondents (22.2%) rarely read e-book.

Table 6: Frequency of reading e-book

Average use of e-book	N	%
Weekly	184	36.1
Monthly	117	23.0
Less Often	113	22.2
Daily	95	18.7
	509	100.0

When comparing quantities of e-books read in the past 6 months, 305 (59.9%) of the respondents read up to 10 e-books, 132 (25.9%) read between 11 and 30 e-books, while the balance of 72 (14.2%) of them were reading more than 30 e-books during the period.

Table 7: Quantity of E-books Read

E-books read in the past 6 months	N	%
1 - 10 e-books	305	59.9
11 - 30 e-books	132	25.9
More than 30 e-books	72	14.2
	509	100.0

When asked about how they got to know about e-book, 312 (61.3%) of the respondents knew from the university library while 275 (54.0%) respondents heard about it from their close family, friends and colleagues. 172 (33.8%) of them knew of e-book from

their lecturers. 149 (29.3%) of them only knew of e-book from the news and magazines (printed media). Another 81 (15.9%) respondents provided other resources for example from online interactions, various websites and search engines.

Table 8: Information on E-books

Know of e-books from? (multiple answer)	N	%
UM Library	312	61.3
Family, Friends or Colleagues	275	54.0
Lecturers	172	33.8
News/Magazines	149	29.3
Others	81	15.9

For e-book category, 395 (77.6%) respondents usually downloaded self-managed e-books from the internet or other sources. 229 (45%) of them downloaded from other providers such as Amazon, Google Books, iBook, Kobo and Scribd. 204 (40.1%) of them read e-books from the e-book service subscribed by the university library.

Table 9: Sources of E-books

Source of E-books (multiple answer)	N	%
Self-managed e-Book downloaded from the internet or other sources	395	77.6
e-Book from other provider	229	45.0
e-Book provided by UM Library Portal	204	40.1

Regarding devices used to access e-books, 460 (90.4%) respondents used computers and laptops. 187 (36.7%) of them used smartphones to access while some 113 (22.2%) also used tablets like iPad, Samsung Galaxy, and Playbook. Only 20 (3.9%) respondents used dedicated e-book readers such as Amazon Kindle, Nook and Sony Reader.

Table 10: Devices Used for E-book

Devices used to access /open e-book (multiple answer)	N	%
Desktop Computer/Notebook/Laptop	460	90.4
Smartphone	187	36.7
Tablet	113	22.2
Dedicated e-book reader	20	3.9

Addressing the Research Objectives

Table 11 summarizes the hypotheses test results of the study in addressing the research objectives:

(a) Investigating factors that affect students' perception on e-book usability

The finding demonstrates that *Perception on e-book usability* was determined by *Perceived usefulness*, *Cognitive absorption*, and *Perceived ease of use*. In addition, factors that affect students' perception of e-book usability are signified by *Confirmation* and *Perceived Control (Computer and Internet self-efficacy)*. Furthermore, *Cognitive*

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absorption when using e-book also affected both students' *Perceived usefulness* and *ease of use* of e-books. This is indicated by accepted hypotheses of H1, H2, H3, H4, H5, H9 and H10.

(b) Investigating factors that influence satisfaction in using e-books

Student' satisfaction in using e-books is influenced by the following factors: *Perceived ease of use*; and *Perceived usefulness*, while *Confirmation* influence students' *Satisfaction* in using e-books as indicated by the accepted hypotheses of H6, H8, H11.

(c) Investigating factors that encourage confirmation of using the e-book among students

Factors that encourage *Confirmation* of using the e-book among students are *Information* and *System quality*. This is indicated by accepted hypotheses of H14 and H15.

Table 11: Summary of Hypotheses Test Result

Hypothesis	Path	Estimate	Standard Error	Hypothesis Result
H1: Confirmation while using e-book has a positive effect on perceived usefulness of e-book	CONF -> PU	.343	.043	Accepted
H2: Confirmation while using e-book has a positive effect on cognitive absorption in using e-book	CONF -> CA	1.1	.087	Accepted
H3: Confirmation while using e-book has a positive effect on perceived ease of use of e-book	CONF -> PEOU	.194	.042	Accepted
H4: Cognitive absorption while using e-book has positive effect on perceived usefulness of e-book	CA -> PU	.193	.019	Accepted
H5: Cognitive absorption while using e-book has positive effect on perceived ease of use of e-book	CA -> PEOU	.116	.019	Accepted
H6: Perceived ease of use of e-book has positive effect on satisfaction in using e-book	PEOU -> SATF	.119	.029	Accepted
H7: Cognitive absorption while using e-book has positive effect on satisfaction in using e-book	CA -> SATF	.014	.015	Rejected
H8: Perceived usefulness of e-book has positive effect on satisfaction in using e-book	PU -> SATF	.072	.031	Accepted
H9: Computer self-efficacy has positive effect on perceived ease of use of e-book	CSE -> PEOU	.084	.022	Accepted
H10: Internet self-efficacy has positive effect on perceived ease of use of e-book	ISE -> PEOU	.276	.035	Accepted
H11: Confirmation while using e-book has positive effect on satisfaction in using e-book	CONF -> SATF	.524	.037	Accepted
H12: Information quality has positive effect on satisfaction in using e-book	INFQ -> SATF	.069	.012	Rejected
H13: System quality has positive effect on satisfaction in using e-book	SYSQ -> SATF	.050	.017	Rejected
H14: Information quality has positive effect on confirmation while using e-book	INFQ -> CONF	.139	.015	Accepted
H15: System quality has positive effect on confirmation while using e-book	SYSQ -> CONF	.245	.020	Accepted
H16: Interpersonal influence has positive effect on satisfaction in using e-book	IINF -> SATF	.057	.020	Rejected
H17: External influence has positive effect on satisfaction in using e-book	EINF -> SATF	-.001	.020	Rejected
H18: Satisfaction in using e-book has positive effect on continuance intention to use e-book	SATF -> INT	.779	.035	Accepted

(d) Investigating factors that influence continuance intention for e-books usage

The finding indicates that *Satisfaction* in using e-book influences the *Continuance Intention* to use e-books, as indicated by accepted hypothesis of H18.

DISCUSSION

The research findings validated 13 out of 18 hypotheses with supported empirical data as shown in Figure 2. *Confirmation* was a strong determinant of *Perceived Usability* of e-book, which consists of *Perceived usefulness*, *Perceived ease of use* and *Cognitive absorption*. This is consistent with a previous study by Lin, Wu & Tsai, (2005) on the positive correlation between *Confirmation* and *Perceived usefulness* and *Cognitive absorption*.

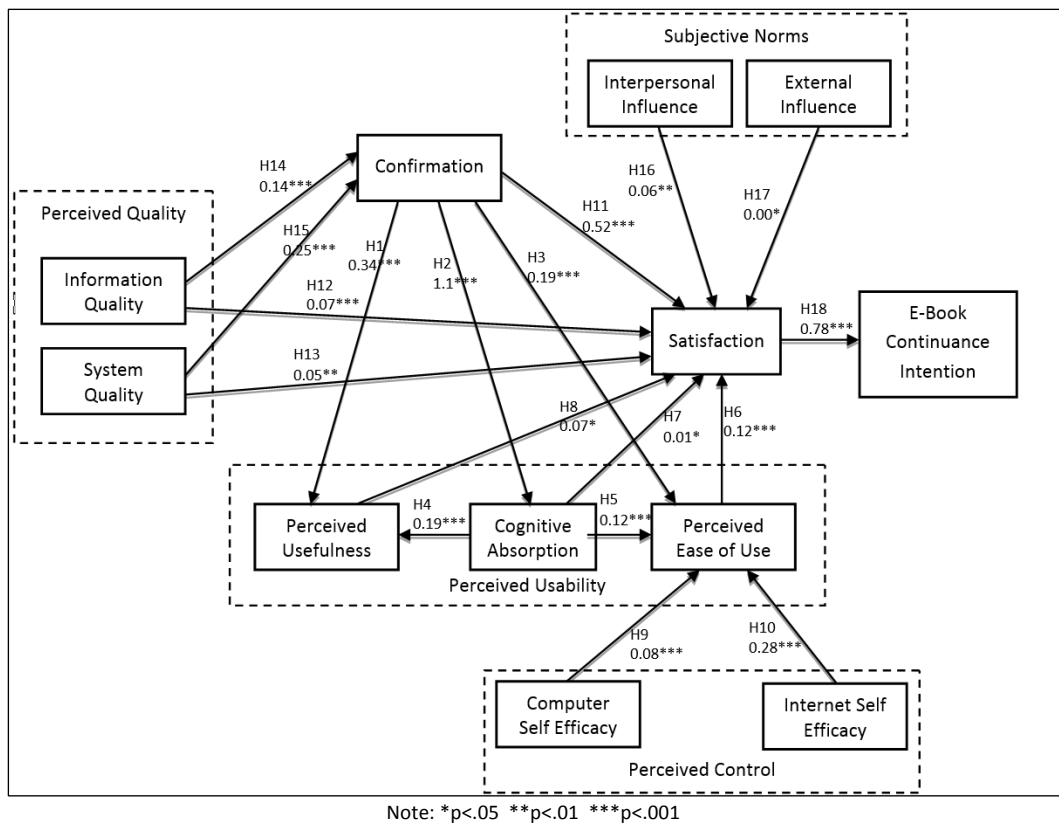


Figure 2: Final Research Model

Perceived Usability appears to have little effect on *Satisfaction*. However, *Perceived ease of use* indicates a stronger effect on *Satisfaction* when compared with *Perceived usefulness* and *Cognitive absorption*, despite their positive correlation with each other. This finding is consistent with previous studies particularly by Agarwal and Karahanna (2000), Saade and Bahli (2005), and Zhang, Li and Sun (2006). It appears that *Satisfaction* is highly influenced by the *ease of use* of e-book rather than by enjoyment in using and usefulness of e-book to the users. This seems to support the notion that a user-friendly e-book is relatively more important than other usability features of an e-book, which is

in-line with previous studies by Rai, Lang and Welker (2002) and Devaraj, Fan and Kohli (2002).

While *Ease of use* is the major determinant among other *Perceived Usability* of e-book, further analysis on the determinants of *Perceived Control* found that the *Internet self-efficacy* has much greater effect on user friendliness compared with *Computer self-efficacy*. This is also consistent with previous study done by Hsu and Chiu (2004). The large difference in *Computer self-efficacy* and *Internet self-efficacy* effect values agrees with Eastin and LaRose (2000), who suggested that *Internet self-efficacy* may distinguish itself from *Computer self-efficacy* as it can successfully perform distinct task which adds on as an additional skill in using computer.

Subjective Norms (External and Interpersonal influences) has very little effect on *Satisfaction* while *Confirmation* is the most significant antecedent. The strong influence of *Confirmation* somehow supports findings of several previous studies by Kanning and Bergmann (2009), Lin (2005), and Yen and Lu (2008).

Perceived Quality (System quality and Information quality) appears to not have substantial effect on *Satisfaction* of using e-books. This is inconsistent with previous studies by McGill, Hobbs and Klobas (2003), and Bharati and Chaudhury (2004), which suggested that *System quality* and *Information quality* are strong antecedents of user *Satisfaction*. Unlike e-learning which requires better quality of information, content and system, e-book systems are affected in different ways. On the other hand, *Perceived Quality* shows rather significant effect on *Confirmation*, which is the strong antecedent of *Satisfaction*. This gives rise to a different perspective in which perhaps, *Perceived Quality* might influence e-book's *Satisfaction* through *Confirmation*, as suggested by Roca, Chiu and Martinez (2006) in their analysis of direct effect.

Satisfaction gives great significance on *Continuance Intention*, thus affecting users' decisions on whether or not to continue with using e-books. Since *Perceived ease of use* reported significant effect on *Continuance Intention* through *Satisfaction*, it is important for e-book developers to design and develop e-book systems that are user-friendly and less complicated to operate. Simple logical steps in e-book design would lead to a good perception on systems user-friendliness. For libraries, it is important to select e-book providers that employ easy-to-use systems. *Confirmation*, another antecedent of *Satisfaction* is influenced by *Perceived Quality*.

CONCLUSION

This research investigated the factors that affect continuance intention to use e-books among students in the higher education. The findings are useful to provide information to both library and e-book service providers to improve their services. In that for students to continually use e-book, it would be determined by several factors such as *Satisfaction*, *Confirmation*, *Perceived Usability*, *Perceived Control* and *Perceived Quality*. Although findings have supported over two thirds of the hypotheses, more investigations can be conducted to focus on a particular factor or on other specific group of user. This finding would be useful and beneficial for e-books implementation in a

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higher education setting. Since the data gathered is adequate to demonstrate significance findings, these recommendations would hopefully bring some improvement in the services and on e-book provision in academic libraries. Having said that, this study does not refer to any specific e-book systems or services, as the respondents generally used several e-book types and systems/platforms. Therefore, this finding is only limited to the reflection of their experiences.

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Factors contribute to the usage of library electronic information resources (EIR) by university students in Sri Lanka

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ABSTRACT

The efficacy of student use of university library e-sources relies on computer experience, ICT self-efficacy, library support, Information Communication Technology (ICT) training, obstacles in EIR use, ICT stress, training needs, infrastructure and usage of e-journals. The present study investigates the possibility of employing the Classification and Regression Tree analysis (CART) to explore the present status of the EIR usage and to find out the factors that affect use of EIR in Sri Lankan university libraries. The objectives were to identify universities according to the levels of usage of library EIR, identify the factors of EIR use in the university libraries and possibility of predicting the status of EIR usage of libraries based on CART. The piloted, validated and structured questionnaire was administered to 840 undergraduates. The CART was developed to model the EIR usage patterns and to identify the factors of the EIR usage. Based on the variable importance of CART, ICT obstacles and training requirement were recognized as most important factors. The CART indicated that 42.5% essentially need training to improve the searching level of EIR and 56.7% had no proper training in EIR and become ineffective users. These findings suggest the university libraries must prioritized the improvement of ICT facilities and identify the new ICT trends in libraries.

Keywords: Library; EIR Usage Factors; University Students; Regression Tree Modeling; Sri Lanka

INTRODUCTION

Spectacular advancements in ICT and its inculcation into almost all spheres including all types of libraries demand advanced level computer skills among individuals. According to the main objectives of the universities, the libraries also support teaching, learning and research by providing necessary information for their users. The advancement of computers and Internet provide flexibility, speed and accuracy of retrieving information with the expansion of these ICTs in the sphere. These inspiring technological advancements have opened new perspectives for information creation, duplication, storage, access, dissemination and presentation. Without adequate computing skills and knowledge, each person would feel an alien in that particular society where the technological advancement has taken place in a great manner.

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The swiftness at which information sources are being produced and convert into electronic forms is awe-inspiring. To access these technologies the users must be competent or self-efficacious. The self-efficacy is the belief in one's capabilities to organize and execute the courses of action required to produce given attainments (Bandura 1997). Further, Bandura defines self-efficacy as; "People's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances. It is concerned not the skills one has but with judgments of what one can do with whatever skills one possesses" (Bandura 1986, p. 391).

Although the libraries have been fulfilling the information needs of users in a traditional way, last two decades have brought a revolutionary change in university library services. Modern ICTs has had a profound demand and impact on the ways in which information is stored and accessed (Tahir, Mahmood and Shafique 2010). With this technological infrastructure and the technology revolution have given a birth to access EIR.

The main objectives of this study were to:

1. classify the university libraries based on the EIR usage.
2. identify the most affecting factors to use of EIR in university libraries.
3. predict the performance of EIR usage efficacy in university libraries.

LITERATURE REVIEW

EIR, or e-resources, can be explained as resources whose content is not limited to printed resources, and they can provide access to information that might otherwise be restricted to users due to their geographical location or financial situation. EIR are defined in various ways. For example,

"EIR are information that is stored in a computer-readable format and that can only be retrieved through computer systems and other related technologies".
(Aderibidge and Ajiboye 2013, p.248)

Using this information is a key issue in the information age, and the real challenge of the academic library is not so much the acquisition of information resources, but rather getting users to access it. Thus, development and growth in electronic publishing have created a need for new users' skills in searching full-text and, in some cases, multimedia- and hypermedia-based electronic resources.

Tahir, Mahmood, and Shafique (2010) argued that humanities students are generally reluctant to conduct literature searches in EIR because they often involve intangible or vague topics, which are difficult to express in concise language or indexing terms. Further they mentioned that training on ICT, lack of time to conduct searches, lack of training to use EIR products, lack of computer hardware and software, lack of support, and language barrier were the affecting factors to use EIR in the libraries. In supporting to that Damayanthi and Seneviratne (2008) conducted a study at two university libraries, the University of Peradeniya library network and the University of Moratuwa library, and discovered that more than 50% of students at both universities agreed with the following statements: 'Do not trust information on the Internet', 'Satisfied with information needs met by printed resources only', 'Do not deal with new technology and

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have problems with the language, as English is the medium of most electronic resources'. They revealed that both universities students' poor knowledge of English affects their use of electronic resources in the library. Gunasekera (2010) studied the use of library resources at the University of Peradeniya's main library and revealed that more emphasis is needed to promote awareness and use of EIR among students due to their lack of use. Moreover, Jayasuriya (2008) found that lack of skills, lack of confidence, and lack of knowledge regarding information-seeking and evaluative skills are some barriers to effective use of ICT. In addition to these, lack of equipment, unavailability of current and relevant EIR which suit to the users information needs, limited access and no full-text for all journals, inadequate publicity and lack of awareness programme were affecting to use EIR (Peiris & Peries, 2012).

Miyanda, (2011) identified that the factors believed to be contributing towards the low usage levels of EIR were lack of encouragement and proper guidance from lecturers and librarians to students to effectively use EIRs; lack of effective internet searching skills by students to effectively exploit EIRs; fewer computers made available for the students to use ; poor internet connectivity such as internet corruption, power failure and insufficient bandwidth; and lack of awareness of the available EIRs.

However, Omekwu (2010) suggested that libraries offer undergraduate researchers information retrieval, IT competence, and Internet skills in the form of user education to enable them to make use of the library resources effectively. Alakpodia (2010) also reported that users should gain critical-thinking and technological skills that will allow them to find the appropriate information using a computer, hence the need for university libraries to incorporate computer literacy into their user education programs. Without effective and holistic user education, there will be barriers to accessing information, especially in an academic environment.

Moreover efficacy related studies mentioned that 'computer self-efficacy and Internet self-efficacy' as the main factors, computer experience, anxiety, library support are the critical factor that has been measured against self-efficacy. In addition to these factors, Ren (2000) discovered that self-efficacy in EIR searching became significantly higher after users attended a library orientation and that frequent use of databases also correlates with training. Chien (2012) suggested that a favourable learning environment and training courses enable users to become familiar with fundamental library operations.

All these researchers have mentioned many factors that were influenced to the use of EIR in the libraries However, the affecting factors and their impotency will be helpful to understand the Sri Lankan university library scenario in use of EIR.

RESEARCH DESIGN

The structured questionnaire-based survey method was used for data collection. Before collection the data, the questionnaire was piloted with the four Universities of Peradeniya (PDN), Sri Jayewardenepura (SJP), Ruhuna (RUH) and Rajarata (RJT) university of Sri Lanka. It was included the four efficacy scales of ICT self-efficacy, ICT

stress, ICT training and library support. In addition, the EIR related questions also included after an extensive literature review and all these were tested by using Likert method. To purify the scales the Cronbach's Alpha reliability (α) and the item-total correlation was tested in the pilot survey. The experts' opinion- senior librarians who are in the ICT units were also taken of these universities and then the questionnaire was administered to the main samples populations for data collection. The main survey study population consisted of 840 HSS final year undergraduates who are subject specializing of the four universities mentioned above. The main survey data collection was done during June-September 2013 and researcher conducted the data collection in the four universities. Stratified random sampling was used to collect the representative students from each department in chosen universities.

The questionnaire consists of the general information, four efficacy measures, EIR usage, facilities, obstacles, training needs and computer experience. Only 96 items which were selected from reliability and alpha were used for factor analysis. These 96 items were used to measure the nine factors of the questionnaire according to the four sources of self-efficacy. Out of 840 questionnaires 604 were calculated as useable number of copies and were duly completed and returned. These represent a response rate of 72 percent. Data gathered through the questionnaire were analyzed using the Statistical Package for Social Sciences (SPSS). The descriptive statistics; cross-tabulation and frequency analysis were performed on the data set. The RT model is used to explore the patterns if any in the dataset. The CART modeling is an exploratory technique based on uncovering structure in data.

It has long been recognize the importance of tree based regression in effective modeling of the relationships between items and constructs and many methods have been employed for this purpose. Trees partition a data set into regions so that within each region, observations are as homogeneous as possible in terms of the outcome (Brieman, Friedman, and Stone 1984; Shmueli and Mani 2013). This approach makes trees useful for predicting outcome values for individual observations as well as for selecting important predictor variables (Shmueli, Patel and Bruce 2010). The Classification and Regression Tree (CART) analysis has been widely used in the sociology (Berk, 2006) and even in education (Kitsantas, Kitsantas, Kitsantas 2012).

All partitions resulted by all variables are compared with the reduction in heterogeneity that they provide. In RTs the heterogeneity in a group is measured by computing mean squared error. According to Brieman, Friedman, and Stone (1984), relative mean squared errors ($R(d)$) is defined for a group of observed values y as,

$$R(d) = \frac{1}{N} \sum_n (y_n - \bar{y})^2$$

in which \bar{y} is the mean value across all observations y_i .

Each partition of RT generates a left

$$R(d)_k = \frac{1}{N} \sum_n (y_n - \bar{y})^2$$

and right

$$R(d)_l = \frac{1}{N} \sum_n (y_n - \bar{y})^2$$

Mean Squared Error values where subscript L and R indicates an assignment of number of samples in branches in a partition. The partition that minimizes the change in mean square error,

$$\Delta R(d) = R(d) - R(d)_L - R(d)_R$$

is the partition to be selected. The repetitive partitioning of a large database produces a tree with a very large number of terminal nodes. For such databases, there is a possibility to loose generality of the predictive ability of such large trees, because of over-fitting the data in the model. To avoid such over-fitting, a tree has to be pruned to be useful for prediction. The RT methodology has variations regarding tree pruning (Bell 1999). One common method to access treefitting is by using developed tree to predict a new set of data. In this process, deviance is replaced by sum squared prediction error, and the best subtree in the sense of minimizing prediction error can be determined. However, holding a subset of aside for validation may be wasteful, and the tree selected depends partially on the set of data selected to be held out. Following Brieman, Friedman, and Stone (1984), it is advisable to use a form of cross-validation to imitate this kind of validation process without wasting data. The data set is randomly partitioned into ten approximately equal parts and each part is held out in turn. A sub-tree T' is then re-estimated on the remaining 90% of the data, and the re-estimated tree is used to forecast the 10% of data that was held out, assuming that CV_i(T') denote the sum squared error (SSE) for the ith partition of the process. The process is repeated for all ten subsets (10-fold cross-validation) of the data, and a total cross-validation score,

$$C(T) = \sum_i CV_i(T)$$

is computed for the sub-tree. A sub-tree that minimizes the CV(T') is a satisfactory final selection for a tree that is appropriate for the data.

However, in the present study, the data were divided into two sets and one set serves as developing and training of the Regression Tree and the second was used to test the trained tree.

RESULTS

The reliability of almost all scales in questionnaire was above >0.70 (Table 1). Therefore, the scales used in the questionnaire were reliable and consistence. The Internal Consistency of the Reliability of nine scales of the study is show in Table 1. According to Compeau, Higgins, and Huff (1999) the reliability coefficient of 0.70 was considered as the significant value of the reliability of a scale.

The sample included 604 students out of which 21.7% were males and 78.3% were female. The female respondent rate was comparatively higher than the male throughout the universities. The 86.6% of the students are study in Sinhala medium, and 11.6% were studying in English medium. The Tamil medium of study represents 1.8% which was the lowest percentage in the sample (Table 2) and was available only in the University of Peradeniya.

Table 1: Reliability indices of each scale

No	Name of the Scale	Code of the Scale	Number of items retained	Reliability-Cronbach's α
1	ICT Self-efficacy Scale	ISE	23	0.963
2	ICT Stress Scale	SS	10	0.914
3	Library Support	LS	7	0.755
4	ICT Training	TR	3	0.914
	Sub-Total		43	
1	EIR Scale	EIR	23	0.910
2	Facilities and use of e-journals	FEJ	08	0.725
3	Obstacles to use ICT	OU	06	0.772
4	Training needs	TN	04	0.879
5	Computer experience	CE	02	0.772
	Sub-Total		43	
	Grand Total		96	

Table 2: Demographic details of the respondents

Demographic variable		University				
		PDN	SJP	RUH	RJT	Total
Gender	Female	168 (35.5%)	174 (36.8%)	76 (16.1%)	55 (11.6%)	473 (78.3%)
	Male	44 (33.6%)	39(29.8%)	43 (32.8%)	5 (3.8%)	131 (21.7%)
Medium of Study	Sinhala	171 (32.7%)	211(40.3%)	119 (22.8%)	22 (4.2%)	523 (86.6%)
	English	30 (42.9%)	2 (2.9%)	0 (.0%)	38 (54.3%)	70 (11.6%)
	Tamil	11 (100.0%)	0 (.0%)	0 (.0%)	0 (.0%)	11 (1.8%)

The RT models were developed to measure the EIR usage efficacy and to find out the affecting factors of the universities included in this study. The models were developed by dividing the data into 'training' and 'testing' samples. During the 'training' a model was developed and was tested by the 'testing' samples. A dendrogrammes were produced for training (Figure 1) and testing (Figure 2) for classification. According to Figure 1 the training sample was split into 7 terminal nodes. The first parental node of the tree was split by "ICT training" and forms two child nodes (1 & 2) which were further split by "EIR usage" into two child nodes and two terminal nodes (4 & 5). The terminal node 4 include most of the cases from the University of Peradeniya (59.7%) meanwhile the terminal node 5 include the higher number of percentage of cases (62.1%) from University of Sri Jayewardenepura. The left most branch of the tree further split by "Obstacles to use EIR" to produce the terminal node (7) and a child node (Node 8). The terminal node 7 includes the higher percentage of (94.1) from University of Ruhuna. The

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child node 8 further split into two terminal nodes by “Training Needs”. The terminal node 11 represented a higher portion of cases from University of Ruhuna (68%) and the terminal node 12 was represented more or less equal case percentage from University of Peradeniya (38.6%) and Sri Jayewardenepura (33.3%). Child node 6 of the right branch of the tree split by “Obstacles to use EIR” into two terminal nodes i.e. node 9 and 10. The composition of the node 9 indicate that the higher percentage of cases were from the University of Peradeniya (62.3%) meanwhile the terminal node 10 included higher percentage of (48) cases from Sri Jayewardenepura University and 32% of cases from Rajarata University of Sri Lanka. The RT developed by test sample is shown in Figure 2. Comparison of ‘training’ and ‘testing’ models clearly indicate that the trend of classifying cases into terminal nodes is more or less similar. Further, the values of estimate risk of ‘training’ and ‘testing’ models were 0.409 (S.E. 0.022) and 0.518 (S.E. 0.030) respectively.

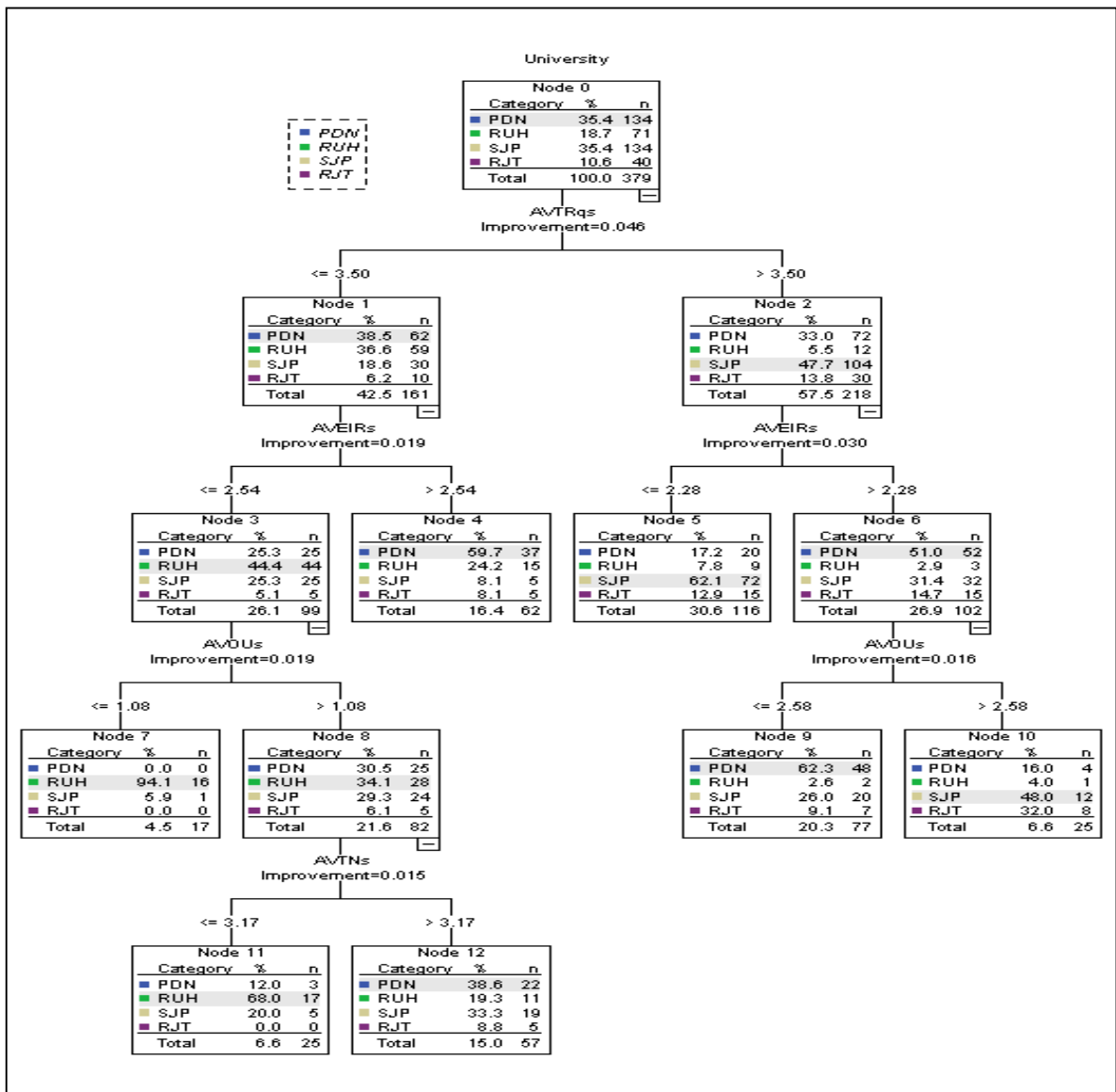


Figure 1: Regression tree developed for training set of data

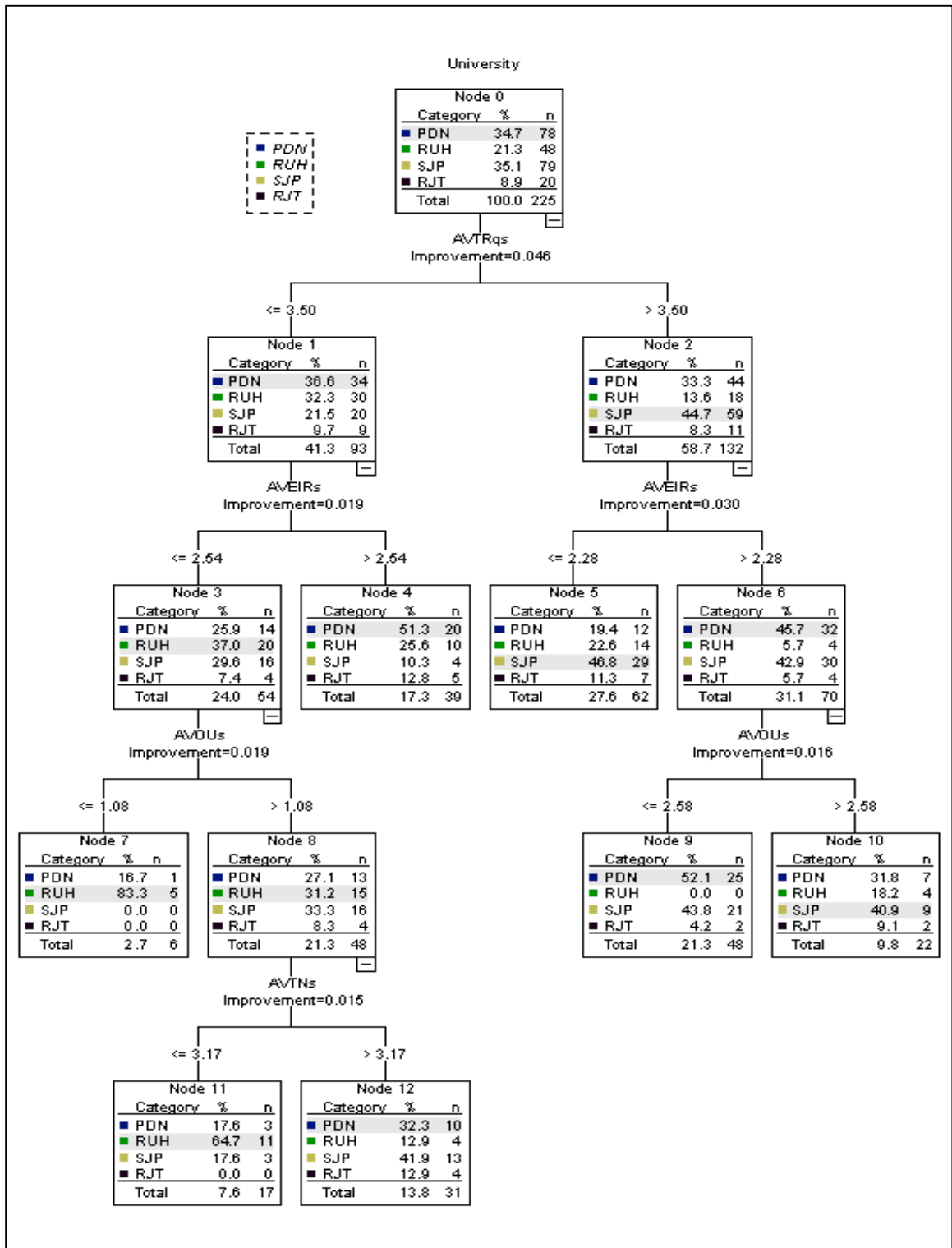


Figure 2: Regression Tree resulted from the test data

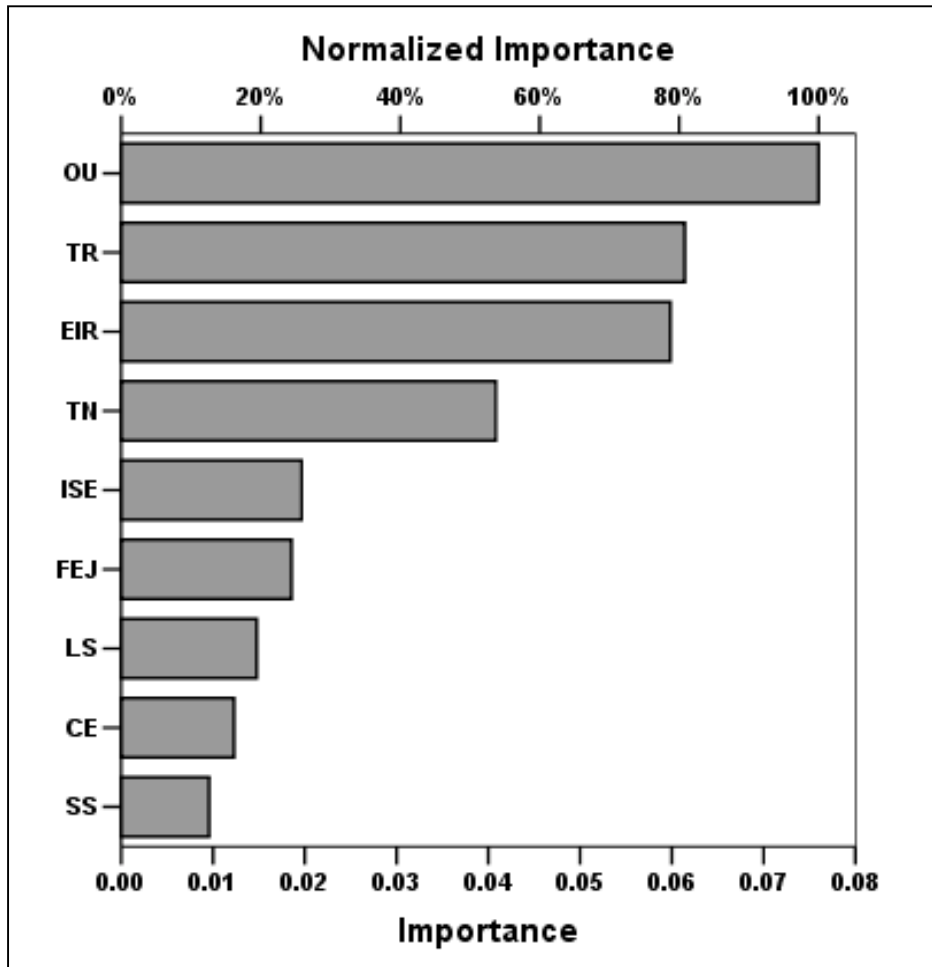


Figure 3: Factor importance of the developed Regression Tree

The most affecting factors in the RT model is shown in Figure 3. The “Obstacles to use EIR” (OU) was the most important variable that governs the efficient use of EIR and subsequently the factors “ICT Training” (TN), “Electronic Information Resources” (EIR) plays a more or less similar role in the usage of EIR (Figure 3). The contribution of the rest of the factors in the model was range 12.6% – 25.9%.

The training and testing results of CART model is given Table 00. The percentage of correctly classified for training and testing indicated that students’ usage of EIR of Universities of Peradeniya and Sri Jayewardenepura were predicted satisfactorily (80% and 63%). Meanwhile, EIR usage of other two universities was poorly predicted (47% and 0%). Similarly, the predictive performance of test sample also indicated the more or less similar classification performance for Jayewardenepura and average performance for the rest of the universities except RJT.

In summary, the following results were obtained from the RT analysis of the data: a). Reduction of the number of factors in the data set to four (09) factors of EIR usage, b). Verifying RT application in identifying the different levels of efficacy in EIR usage and

prediction of EIR efficacy across the Sri Lankan universities and c). Identifying RT as a tool for conserve the time, labor, cost, and energy by reducing larger number of factors into manageable number of factors in the data set.

Table 3: Confusion matrix of predictive performance developed CART for students' usage of EIR

Classification Table						
Sample	Observed	Predicted				Percent Correct
		PDN	RJT	RUH	SJP	
Training	PDN	107	0	3	24	79.9%
	RJT	17	0	0	23	.0%
	RUH	28	0	33	10	46.5%
	SJP	44	0	6	84	62.7%
Overall Percentage		51.7%	.0%	11.1%	37.2%	59.1%
Test	PDN	55	0	4	19	70.5%
	RJT	11	0	0	9	.0%
	RUH	14	0	16	18	33.3%
	SJP	38	0	3	38	48.1%
Overall Percentage		52.4%	.0%	10.2%	37.3%	48.4%
Growing Method: CRT						
Dependent Variable: University						

DISCUSSION

There is a rapid expansion of use of EIRs due to the recent development in the computer and communication technology. These spectacular developments in information technology (IT) may have a considerable impact on information users in Sri Lankan university libraries. Further, these advancements of IT and its inculcation into almost all spheres demand an advanced level of computing skills among individuals. This conversion required the knowledge in advance technology and associated infrastructure. Comparatively the developed countries have reached their higher status in use of EIR because they have developed their technology with associated infrastructure.

As a developing country Sri Lanka has adopted the ICT for the higher educational institutes for the purposes of students' benefits. The successful use of these facilities could be depending on the status of the available services, including infrastructure and the capacity of user to use the service. The most popular method of searching EIR is keyword followed by author and subject. But a large number of Electronic Information Service users are not satisfied with the infrastructure facility available in the library. Therefore, how to help students to help themselves in learning and retaining the basic skills is becoming one of the major challenges for academic libraries (Ren 2000) with inadequate infrastructure facilities. The availability of computers with higher

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performance and other facilities such as provision of Internet and relevant EIR should be provided to these libraries.

The result of the study indicated that CART modeling could be used for larger dataset obtained from surveys which were difficult to handle with conventional statistical analytical procedures. The models can be used to reduce the redundancy in the data set and at the same time retain the important factors for further analysis. The higher normalized importance value of ICT training factor indicated that it contributes significantly to the EIR usage. It has been suggested that an effective training program will increase the understanding of the functionality of the e-learning system. Relating to this study only three training items, OPAC training, provision of printed guides and training on how to do searches are the highly request areas and the leaning of EIR self-efficacy (Chien 2012). The use of EIR would increase if these areas of training were concerned with hands on practices. Moreover, Techatassanasoontorn and Tanvisuth (2008) mentioned that ICT skill training increases self-efficacy which in turn influences ICT acceptance. ICT Training is second influential higher factor in the study, which also positively prop ups to improve EIR usage. Therefore, ICT training is required to increase the use of EIR by the undergraduates. From the theoretical perspective training lead to successfully perform specific tasks. In the same way the undergraduates have agreed and showed that the ICT training is necessary for efficient use the EIR in the library. The RT model represents that out of the total sample (42.5%) essentially need ICT training to improve the searching level of EIR. Use of EIR and services was influenced by a number of factors as the computing skills of users, and therefore, adequate emphasis should be given to develop the basic computing skills among library users through user education programs. All the libraries practiced at least one awareness programme such as library orientation programme to popularize ICT and EIR services and resources in these libraries. Further, the above finding is supported by Jayasundara (2009) who identified that promptness of staff, supportive atmosphere, staff knowledge, help to improve supportiveness in the library and also library guides helpful to improve the service quality of the libraries.

The training needs also significant in this study the undergraduates indicated that they prefer to have brochure/ leaflets/ or guiding materials to learn about the use of EIR. Ren (2000) mentioned that properly designed library instruction is more likely to help students dispel apprehensions related to EIR searching and increase their self-efficacy.

The “Obstacles to use EIR” is the highest influencing factor. The availability of computers providing the opportunity to ensure that students are provides the opportunity to master the finding information and know-how of performing searches. However, all the universities indicated that they are highly suffering with obstacles to use EIR which indicating 100% in the Figure 3 of the RT model.

CONCLUSIONS AND RECOMMENDATIONS

The self-efficacy concerned in the present study include nine factors such as computer experience, ICT self-efficacy, Library support, ICT training, obstacles to use EIR, ICT

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stress, EIR use, Training needs, and facilities and use of e-journals as the factors which may affected the use of EIR in the university libraries.

In the present study, an approach was made to employ the Classification and Regression Tree analysis (CART) to trace the contributive factors of students' EIR usage of Sri Lankan universities. Findings of CART analysis suggest that it is more useful in studies related to students' EIR usage in university libraries specially Humanities and Social Sciences faculties. In addition, it helps academic librarians to identify the factors of effective usage of EIR by students through gathering a large dataset and use these factors to make decisions in individual universities to improve the identified factors through the study.

The university libraries must give priority to ICT facilities if they are to continue timely services to their user community. Attempts to make to identify the new ICT trends in libraries, especially accessibility to the digital library and for other databases are recommended for provision of effective and efficient library services. To overcome these circumstances, the provision of OPACs, Internet, Email services and other EIR services should at all service points and the provision of adequate equipment to access those are vitally imperative for all kinds of users and researchers in the library (Ani, Jacob, and Nkoyo, 2005 and Ramazan, 2004) as no library can function properly without an e-mail and Internet connection in this information driven society. Implementation of electronic circulation will also increase the use of EIR and bring more and accurate information through library software in the university libraries. It is vital to have mandatory hands on training course on the use of EIR for students' better academic performances. Well planned ICT focused orientation programmes are necessary for undergraduates to have awareness of the EIRs in the library and it should be a continuing programme. Further, the specific time allocation for students would be effective with the assessment of their outcomes after the following the training course. The library guides should provide in three languages to minimize the gaps of language barriers of the users. For the library staff, short term regular training courses or workshops conducted and knowledge on work skills needs to be upgraded. As the students are more concerned about the basic skills of computer training, the faculties and the relevant higher authorities of the universities offer more ICT centered information training through all academic years. Alternatively, training methods such as through brochures, discussions, small group training upon request and uploading of user guides on use of EIR to the each university web page could be recommended.

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Reviewing the e-research support environment: A case study at the Library of Open University Sri Lanka

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ABSTRACT

The purpose of this paper is to discuss a project that has been recently launched at the Open University of Sri Lanka (OUSL) Library with the intention of modernizing its research support service component. The main aim is to cater for the OUSL research community that is gradually transforming towards e-research practices. The project is designed to be carried out in three phases, viz. developing a framework on global research support environment in the university setup, assessing the research support services at the OUSL Library, and formulating an action plan to extend research support services at the OUSL Library together with a strategic plan to build a researcher-friendly environment at OUSL. This paper presents the outcomes of the first phase and the partially-completed second phase of this project. A framework on global research support environment that was developed through a multi-stepped review process and peer comments is presented with figures and descriptions. Next, an account on the assessment of research support services at the OUSL Library is presented to disclose the status of research support at the OUSL Library. This analysis, which is on par with the global status denoted by the proposed framework that comprises of seven modules, 34 elements and 210 items, has highlighted a range of aspects that could be improved at the OUSL Library.

Keywords: Research support services; E-research practices; Academic libraries; Open University of Sri Lanka

INTRODUCTION

The research support service component has always been a significant part of the service body of the Open University of Sri Lanka (OUSL) Library. The document delivery service and the interlibrary loan service are the two oldest components and both services were re-launched in 2010 with an improved virtual interface and a physical helpdesk. Currently, users are given multiple requesting options, including submitting the request via an online form. In addition, electronic delivery of documents to the users' desktops is also available. Several researchers have voiced their satisfaction on the reduced turnaround time and the enhanced fulfillment rate since the re-launching of the services. The fully-equipped 'Skills Development Unit', the open access repository for research publications, and the specialized staff research area are the other three recent developments that have been instituted at the OUSL Library with the intention of

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enhancing the research support facilities. However, the research support services at the Library are mainly focused on the initial stages of the research process (i.e. the idea discovery stage), except for a few non-streamlined services such as advising the researchers on publication strategies and patent drafting process.

The librarians at OUSL are aware that enormous changes are taking place in research support arena of libraries worldwide with the advancements of the ICT and the web technologies. The research culture of OUSL also seems to be growing towards the e-research practices and several researchers have requested support and advice on different e-research related subjects that are beyond our service boundaries. Therefore, the OUSL Library has decided to review the global research support environment at the university setup and assess the research support services component of the Library in order to develop an action plan to extend research support services as a mission to prepare for the impending future.

RESEARCH DESIGN

The project has been designed to be carried out in three phases to achieve the following objectives.

- Develop a framework on global research support environment in the university setup
- Assess the research support services provided by the OUSL Library
- Develop a strategic plan to build a researcher friendly environment at the OUSL, and an action plan to extend research support services at the OUSL Library.

Status of ongoing data collection process

The first phase of the study was designed to develop a framework on global research support environment in the university setup. In order to understand the key components and the current trends in the field, more than 30 recent scholarly articles were located through a literature survey conducted during the month of March 2014. In addition, institutional and library websites of the top ten universities in the World Universities Ranking schedule 2013-2014 (web link: <http://www.timeshighereducation.co.uk/world-university-rankings/2013-14/world-ranking>) were viewed during the first week of April 2014.

The goal of the second phase of the study is to assess the research support services provided by the OUSL library. This phase includes three components analyzing of the archival data, a user survey and a set of focus group discussion sessions. The second phase that began towards the end of April 2014, in parallel to the first phase, has now gone half-way. Compilation of the archival data generated by the Libsys (i.e. library management software system) has been completed and the user survey instrument that measures the level of usage and the user perceptions towards the research support services rendered by the OUSL Library is under construction. The sample of the survey will be selected from among members of the teaching staff and postgraduate students of OUSL using stratified random sampling techniques to represent a cross section of the OUSL community. It has been planned to launch the pilot study by mid-July 2014 and the target date for completion of the survey is October 30, 2014. The final step of the second phase (i.e. focus group discussion sessions) that aims at identifying attitudes, e-

research literacy levels, and skills training requirements of the library staff has been scheduled for the last week of August 2014.

During the third phase, an action plan to extend research support services at the OUSL Library and a strategic plan to build a researcher friendly environment at the OUSL will be formulated based on the findings of the first and the second phases of the study.

FINDINGS AND DISCUSSION

Development of framework on global research support environment in the university setup

A framework on global research support environment in the university setup that is inclusive of seven modules (i.e. Librarians, Researchers, Research Support Services, Library Collections, ICT Tools, Institutional Research Infrastructure, and Evaluation and Promotion) has been developed based on the data collected in the first phase of the study. At the initial stage, separate accounts on the modules have been compiled by listing the facts and data identified through literature and websites. Then, each account was further analyzed to identify the major categories and key factors that determine the level of impact of the particular component on the research support environment. Following this mechanism, information packs were designed in order to include an extensive-array of key dimensions to each module of the framework. Finally, the draft of the framework was refined through self-evaluation and peer comments.

(a) Librarians

At the global level, librarians have empowered themselves impressively to become equal professional partners in the research process and have secured a central place in the modern e-research landscape. The information pack “Librarians” comprises of six elements namely, ‘Revised traditional roles’; ‘New roles’; ‘Skills and knowledge’; ‘Mechanisms for acquiring skills and knowledge’; ‘Strength of the staff’ and ‘Dedicated staff positions to support research’. Figure 1 illustrates the contents of the information pack.

As pointed out by several authors (Mamtora, 2013; Borchert & Young, 2010; McBain, Culshaw & Hall, 2013), librarians need a wide-spectrum of skills and knowledge to be able to develop and deliver services to researchers from various disciplines. Twenty-seven different ‘skills and knowledge’ areas that are essential for today’s librarians were identified at the first stage and as shown in Figure 1, these areas have been categorized into 14 fields. This gives an idea on the diversity of skills and knowledge needed by today’s librarians to become smart competitors in the information business. Fortunately, opportunities for acquiring skills and knowledge are growing and librarians can select their programs from face to face or online options. ‘Revised traditional roles’ of librarians have been presented by five most critical roles identified. Similarly, ‘New roles’ of librarians have been presented by eight most critical roles identified. The remaining two elements (i.e. Strength of the staff and Dedicated staff positions to support research) determine the capacity of the library in implementing and maintaining research support services and librarians’ ability to engage in the research process. As pointed out by McBain, Culshaw and Hall (2013), if librarians are eligible for faculty

status they can stand up with researchers as equal partners and get more opportunities to gain firsthand experience on research practice that is invaluable in understanding the needs of researchers. The significance of having positions dedicated exclusively to working with researchers has been pointed out by several authors such as Parker (2012), Mamtora (2011) and Borchert & Young (2010). Appointing individuals with correct skills and experience as Research Librarians is a common practice in some developed countries.

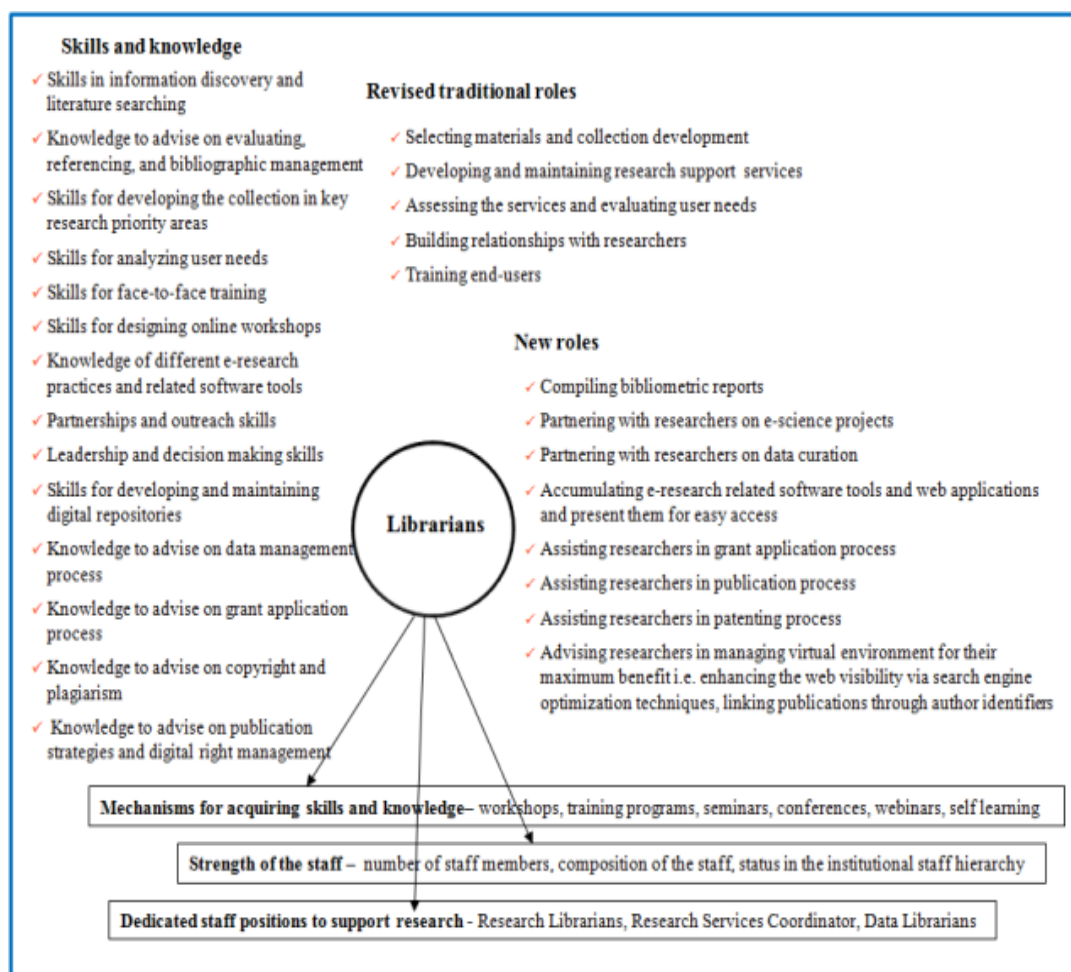


Figure 1: Information Pack for “Librarians”

(b) Researchers

Researchers are the persons who keep the knowledge world alive by producing data sets, knowledge production and patents that enrich the literature and expand the knowledge-base. ‘Nature of the researchers’, ‘Skills and knowledge’, ‘Use of library by researchers’ are the three elements that have been included in the information pack “Researchers”. The Figure 2 illustrates the contents of the information pack.

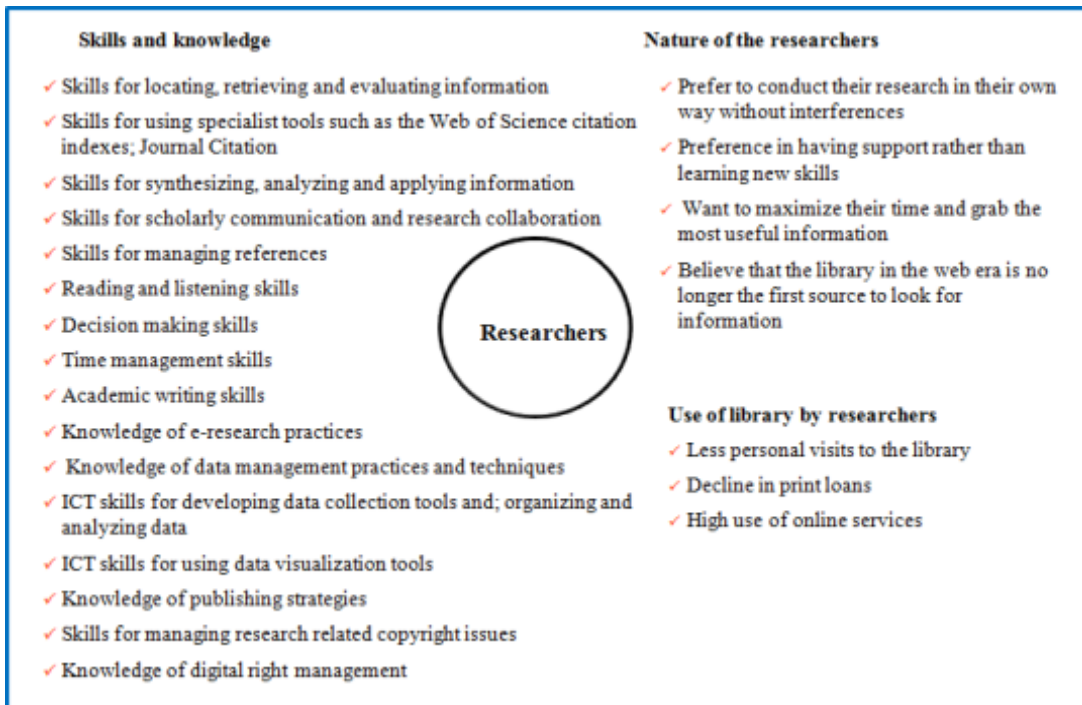


Figure 2: Information Pack for “Researchers”

As Borchert and Callan (2011) have stated, there is a growing literature about the research skills and knowledge required for using e-research or e-science techniques. At the initial stage, 30 items have been listed under the element. Of these, 16 key items were selected to be included to the information pack as shown in the Figure 2. The element ‘Nature of the researchers’ expresses the need of delivering the services in ways that they cause minimum interruptions to the researchers and allow researchers to obtain the maximum outcomes within the shortest possible time. Besides, the element ‘Use of library by researchers’ highlights the fact that librarians should work towards attracting the researchers to the libraries or at least to the virtual interfaces. Without personal or virtual interaction with researchers, it is extremely difficult to enhance the usage of resources and services that have been provided at the expense of huge amounts of money and effort.

(c) Research Support Services

The information pack “Research support services” comprises of five elements, namely, ‘Repackaged traditional library services’, ‘New research support services’, ‘Delivery modes’, ‘Delivery methods’ and ‘Formats of delivering’. In addition to the above five elements, twelve major categories of ‘training packages’ (i.e. one of the items of the element ‘Repackaged traditional library services’) have been included into the pack to illustrate the diversity of training packages that are being delivered in the libraries worldwide. Figure 3 illustrates the contents of the information pack.

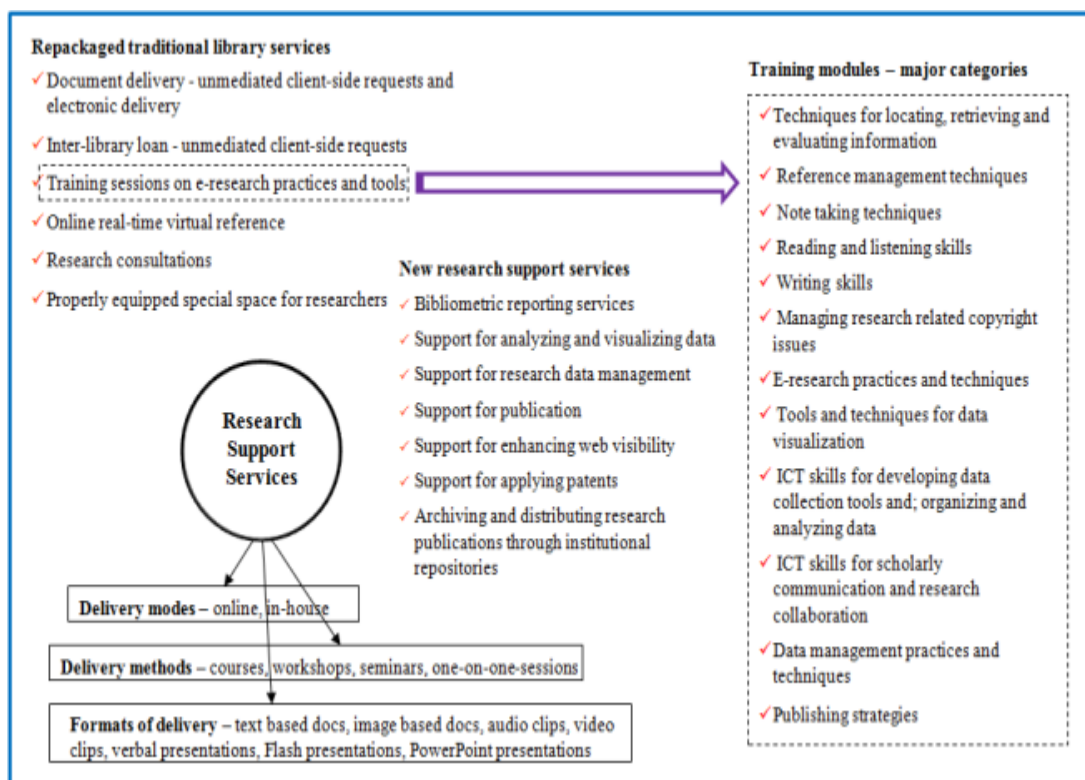


Figure 3: Information Pack for “Research support services”

The research support services in the new era have been extensively discussed in the literature by authors such as Parker (2012), Taha (2012), MacColl and Jubb (2011) and Drummond and Wartho (2009). Besides, numerous examples for e-research support services have appeared in the world-class library websites. Both elements namely, ‘Repackaged traditional library services’ and ‘New research support services’, which consist of five items and seven items respectively are developed based on much longer lists developed at the initial stage. The items have been sorted based on their ability to contribute to the present e-research environment. The effective use of ‘online’ delivery mode is very crucial to accommodate off-site researchers and to facilitate long distance research and cross-institutional research projects. In addition, as Zhao (2009) pointed out, online counterparts of services serve the needs of local researchers who prefer to work at their own pace and time.

(d) Library Collections

The collection is one of the main aspects that determine the capacity of the library in providing an effective service to its clientele. As Noh (2012) declared, there is a close relationship between library resources and academic research achievements. Collection development in the perspective of acquiring high quality research materials has been frequently discussed in the literature under several areas of concern. Out of them, six elements have been selected to compile the information pack on “Library Collection”. The six elements are ‘Material formats’, ‘Documents compiled by librarians’, ‘Materials generated on campus’, ‘Access models’, ‘Acquisition models’ and ‘Accessing tools’. Figure 4 illustrates the contents of the “Library Collection” information pack.

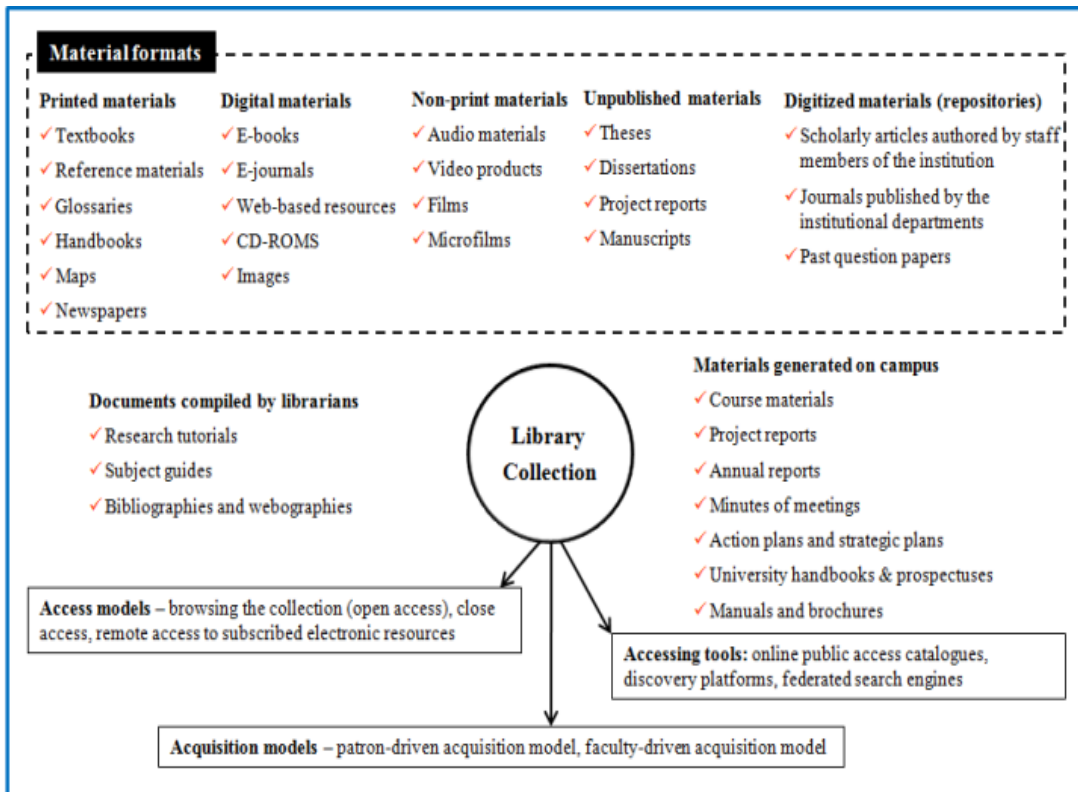


Figure 4: Information Pack “Library Collection”

Five major categories of ‘Material formats’ have been included to illustrate the comprehensiveness and the diversity of the formats of information products available in the current information era. Besides, three items under ‘Documents compiled by librarians’ and seven items under ‘Materials generated on campus’ have been included to demonstrate the diversity of the library collections. All three elements ‘Access models’, ‘Acquisition models’ and ‘Accessing tools’ have been included to the information pack considering their high impact on the usage of the collection. Multiple access models are addressing the needs of on-site and off-site researchers in accessing printed and digital collections, while patron-driven acquisition model enhances the relevancy of the collection to the current user population. New access tools (i.e. online public access catalogues, discovery platforms, federated search engines) allow users to enjoy enhanced searching facilities together with time saving functions such as online reservations and renewals of library materials.

(e) ICT Tools

E-research has come to life through the development of a variety of ICT tools that have significantly changed the face of the research and the researcher. The information pack “ICT Tools” comprises of two elements namely, ‘ICT tools – major categories’ and ‘Types of software tools and web applications’. Figure 5 illustrates the contents of the information pack.

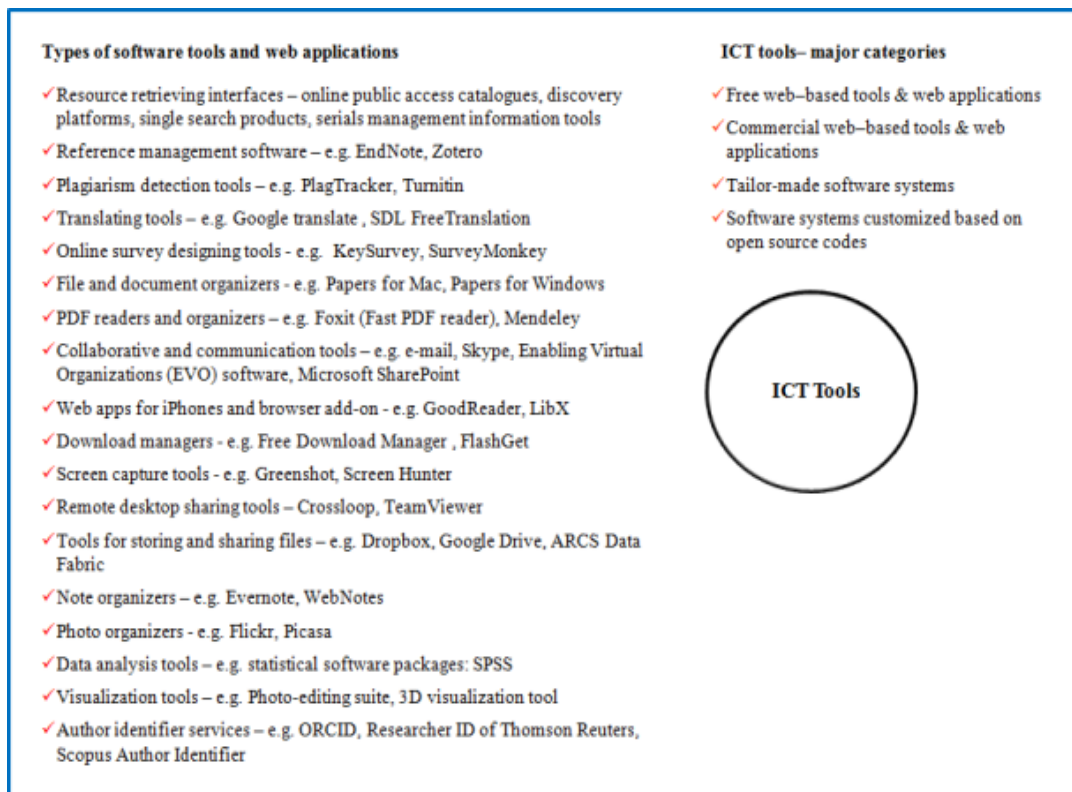


Figure 5: Information Pack for “ICT Tools”

The spectrum of ICT tools used in the e-research process is very broad. In addition to the common set of ICT tools used by the researchers in general, there are types of ICT tools used only by researchers of a particular discipline. In order to simplify the information pack “ICT Tools”, an attempt was taken to summarize the content into two above mentioned elements as shown in Figure 5. Furthermore, 2 or 3 examples have been given for each type of software tools in order to enrich the content of the information pack. These categories, types and examples were extracted from the lengthy lists that were developed at the initial stage.

(f) Institutional Research Infrastructure

Readiness and eagerness of the institution towards accommodating and facilitating research is a key determining factor on the quality and the quantity of the institution’s research output, as well as the productivity and the web visibility of the knowledge products that have been created by its research community. The information pack “Institutional Research Infrastructure” comprises of six elements namely, ‘Specialized divisions’, ‘Dedicated officers’, ‘Governing bodies’; ‘ICT infrastructure’, ‘Financial support’, ‘Policies and guidelines’. Figure 6 illustrates the content of sthe information pack.

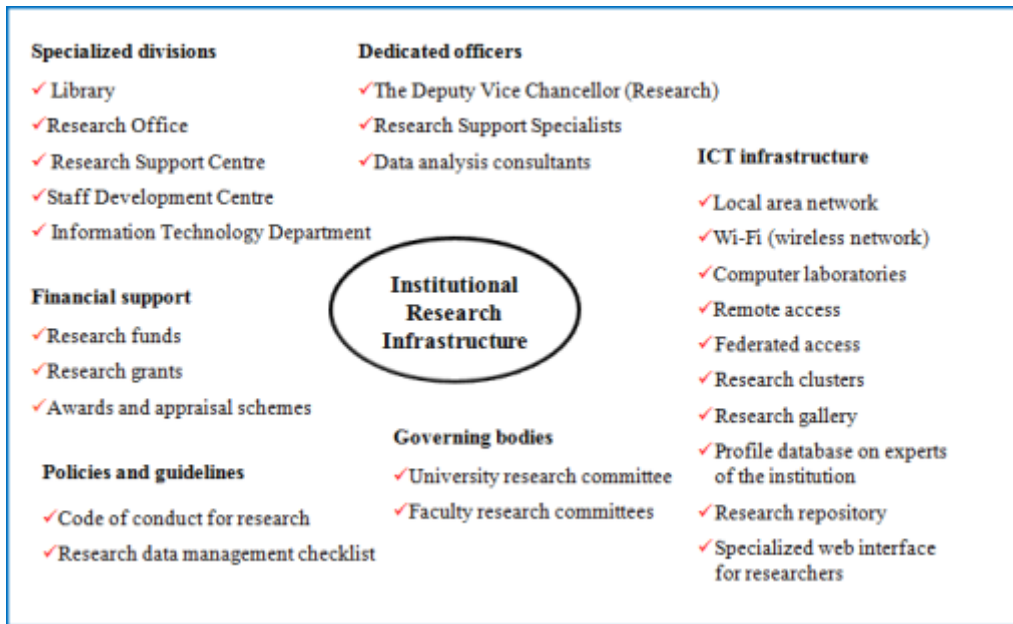


Figure 6: Information Pack for “Institutional Research Infrastructure”

As revealed by the literature and websites, the most common specialized division in the universities, other than the Library, is the ‘Research Office’ that provides training, guidance and counseling for researchers through experts and consultants. In many universities, Information Technology Division too plays a very critical role in supporting research activities in terms of expert knowledge, software and equipment. Libraries worldwide often work collaboratively with these divisions in providing research support services. The 10 items that have been listed under the element ‘ICT infrastructure’ are the key factors that determine the level of richness of the virtual experience provided by the institution to its researchers. ‘Financial support’ motivates the researchers while ‘Policies and guidelines’ guide them to a targeted destination. University authorities should pay a special attention to these two elements if they wish to carry their institution forward as a research institution.

(g) Evaluation and Promotion

The information pack “Evaluation and Promotion” comprises a total of five elements that consist of two evaluation elements (i.e. ‘Evaluation studies – major categories’ and ‘Data collection methods’) and three promotional elements (i.e. ‘Promotional aspects’, ‘Suitable locations for delivering’ and ‘Delivery methods’). Figure 7 illustrates the contents of the information pack.

Evaluation and promotion are two key aspects that are vital for the well-being of any system or process. Nine major categories of evaluation studies and three data collection methods that have been frequently used by the librarians for such evaluation studies have been listed in the information pack in order to assist librarians who need guidance in these aspects. The aim of the 11 items listed under the three promotional elements is also to give directions for librarians in conducting promotional campaigns and awareness programs.

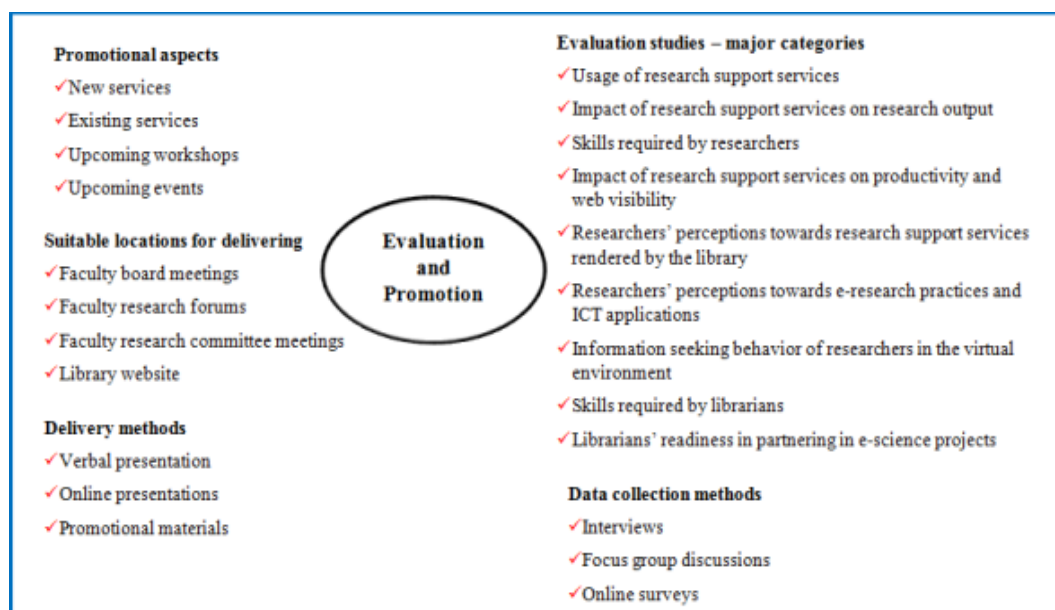


Figure 7: Information Pack for “Evaluation and Promotion”

Framework on global research support environment in the university setup

The proposed framework that illustrates the boundaries and landmarks of global research support environment in the university setup have been developed as a guiding document in assessing current research support services at the OUSL library and in formulating an action plan to extend research support services. The proposed framework that consists of seven modules, 34 elements and 210 items may also be useful for librarians, particularly for those who are not much familiar with the modern e-research environment in their e-research support endeavors. Table 1 presents the outline of the proposed framework.

Table1: Outline of the proposed framework

Modules	No. of elements	No. of items
1. Librarians	6	39
2. Researchers	3	23
3. Research Support Services	6	38
4. Library Collection	6	40
5. ICT Tools	2	22
6. Institutional Infrastructure	6	25
7. Evaluation and Promotion	5	23
Total	34	210

Research support environment at the OUSL Library

The research support environment at the OUSL Library has been assessed in parallel to the seven modules of the proposed framework to identify the areas that should be rectified, enhanced, introduced or further investigated.

(a) Librarians at the OUSL

The OUSL Library network consists of a main library and five regional libraries. A total of nine professional staff members and 20 para-professional staff members are serving in these six libraries. Professional staff members have academic status and hold postgraduate qualifications, including three PhDs. Para-professional members are also placed appropriately in the staff hierarchy and a significant percentage of them possess good educational and professional qualifications.

Librarians at the OUSL Library execute all revised traditional roles and three out of the seven new roles listed in the “Librarians” information pack. The three new roles that are being practiced are accumulating e-research related software tools and web applications and presenting them for easy access, assisting researchers in publication process, and assisting researchers in patenting process.

Professional staff members at the Library participate in seminars and continuous professional development programs, carry out research projects, and practice self-learning techniques in order to upgrade their skills and knowledge. Participating in in-house and outside workshops and following short-term study programs are the main skills and knowledge acquisition techniques popular among para-professional staff members. However, both professional staff and para-professional staff need to go through a thorough uplifting of skills and knowledge, particularly in the areas such as preparing grant applications, designing online workshops, data management and visualization, etc. A set of focus group discussion sessions has been included to this project in order to generate detailed information in this aspect.

A weak point of the OUSL Library in this aspect is the absence of dedicated staff positions for research support. The Senior Assistant Librarian who is in charge of Inquiries and Skills Development Unit manages research support services with the help of two para-professional staff members. Therefore, it is an uphill task to broaden the service component without additional staff. The aim of the Library is to convince the university authorities to generate a new cadre position to appoint a Research Librarian and to allocate more funds to establish a separate division for research support.

(b) Researchers at the OUSL

There are 260 plus academic staff members in the four academic faculties (i.e. Education, Engineering, Humanities and Social Sciences, Natural Sciences) located in the main campus at Nawala and five regional campuses scattered throughout the country. A significant percentage of them are working on research degrees while some of the lecturers are engaged in long term and short-term research projects. Almost all of the senior academic staff members and some junior staff members are supervising research students. The OUSL research community also comprises of nearly 900 postgraduate students who have major research components in their study programs. Hitherto, no study has been carried out to measure the e-research literacy level of the OUSL researchers. However, from the author’s experience with these researchers during the skills training sessions and one-to-one research consultation sessions, it is unlikely that the majority of them possess high level in e-research literacy.

Empirical evidence in the literature on the use of library by researchers suggests that personal visits and use of printed materials is poor while use of online services is high. The author believes that the same is true of OUSL researchers. The average number of books borrowed by the total population of academic staff per month is 200 (approximately) and this number by the total population of postgraduate students is 100 (approximately). Meanwhile, 70% of the requests for document delivery and interlibrary loan are submitted via the online form. Besides, over 90% of the requesters select the option of electronic delivery of documents. No statistics are available to calculate the physical or virtual library visits of researchers. The proposed user survey has a section to assess the library habits of researchers to gain more knowledge in this aspect.

(c) Research Support Services at the OUSL Library

The OUSL Library provides all the six repackaged research support services and four out of the seven new research support services. The four new services are support for publication, support for enhancing web visibility, support for applying patents, and archiving and distributing research publications through institutional repositories. However, except for the repository service, the rest of the three new services are provided only upon request. These three services are yet to be fully implemented and promoted as library services. The Library has a Skills Development Unit and provides a number of training packages for end-users on scheduled basis as well as on request basis. However, when considering the wide-array of skills training packages offered at universities worldwide, the OUSL Library needs to introduce many new training packages to complete the range. The Library offers its services in both modes online and in-house and uses only two delivery modes (i.e. workshops and one-to-one sessions) out of the four delivery modes listed in the “Research Support Services” information pack (Fig. 3). All the delivery formats, except audio clips, are used at the library in delivering these services.

(d) Collection at the OUSL Library

The collection of the OUSL Library is impressive in terms of three elements (i.e. material formats, acquisition models, materials generated on campus) out of the six elements of the “Library Collection” information pack. The OUSL Library collection consists of all the five formats of materials including seven renowned e-journal databases, over hundred thousand books and around 2000 audiovisual materials. The library holds a good collection of campus generated materials and purchases library materials following both acquisition models (i.e. patron-driven acquisition model and faculty-driven acquisition model).

Meanwhile, documents compiled by librarians are limited to a few webographies developed over the years and the library possesses only the online public access catalogue out of the three accessing tools. However, the main weak point of OUSL Library in this aspect lies in the element ‘Access models’. Out of the three access models, the most crucial one (i.e. ‘Remote access to the subscribed electronic resources’) for off-site researchers is unavailable.

(e) ICT Tools at the OUSL Library

The OUSL Library is promoting e-research related software tools and web applications including Zotero reference management software, through the skills training sessions and via the library website. The author developed a FOSS (free and open source software) toolkit for research purposes, which included a range of FOSS applications and free online web services with more than 80 examples. The latest version of the FOSS Toolkit could be downloaded from the OUSL Library website (<http://lib.ou.ac.lk>). However, the Library currently does not subscribe to any commercial applications or web services due to the limited budget allocations.

(f) Research Infrastructure at the OUSL

It is difficult to say if OUSL is in a commendable position in terms of its research infrastructure since it has major weak points in four elements out of the five mentioned in the “Institutional Research Infrastructure” information pack (see Fig. 6). The OUSL does not have remote access and federated access. There are only three divisions (i.e. Library, Information Technology Division and Staff Development Centre) at OUSL, out of the five ‘Specialized divisions’. In addition, there are no dedicated officers or established university level guidelines or policies to promote the research culture at the University. However, the University operates several funding schemes including OUSL Competitive Research Grant and the Faculty Research Grants to financially accommodate the selected research projects.

(g) Evaluation and Promotion at the OUSL Library

The OUSL Library conducts promotional campaigns from time to time on all four promotional aspects listed in the information pack “Evaluation and Promotion” (Fig. 7) using all three delivery methods. However, there is no proper plan or dedicated fund and staff to carry out the promotion on a regular basis. OUSL Library’s performance in terms of conducting evaluation studies is limited to a few ad-hoc small scale studies that were carried out once in a while. The proposed user survey on the usage and user perceptions of the research support services is going to be the most comprehensive evaluation study that will be carried out at the OUSL Library.

CONCLUDING REMARKS

Modern e-research practices have not yet been fully established at the Sri Lankan universities and the whole university system is in a transition period. Under these circumstances, it is time for Sri Lankan academic librarians to come forward to promote the e-research culture in their parent universities through modernizing the research support service component and proposing appropriate infrastructure developments to the university structure.

The objectives of this project focus on developing OUSL towards a model institution with a robust e-research environment. Once it is fully completed, the second phase of the study will produce a set of valuable data to identify the strengths and weaknesses of OUSL system in the context of the benchmarks presented by the proposed global framework. It is expected to use the two documents (i.e. action plan to extend research support services, and strategic plan to build a researcher friendly environment) that will

be developed based on the findings of the phase one and two as guiding tools in achieving the ultimate goal of attracting the attention of the university authorities, and convince them to expand the infrastructure facilities in order to promote the research culture at University level and to allocate funds to expand research support services at the Library.

It is sincerely hoped that the framework on global research support environment in the university setup, inclusive of seven modules 34 elements and 210 items, that has been presented in this paper will shed light on the path of librarians who are struggling to overcome their deficiencies to build up a dynamic e-research support environment in their respective libraries.

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What do scholarly channels and resources do authors trust to read, cite and publish in? A Malaysian study

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ABSTRACT

The paper provides the results of the first phase of the research project Trust and Authority in Scholarly Communications: The Periphery of World Scholarship in the Digital Era conducted in Malaysia. It provides for an examination of the behaviours and attitudes of academic researchers as producers and consumers of scholarly information resources in today's scholarly digital environment; with respect to how they determine authority and trustworthiness in the sources they use, cite, and publish in. This first phase utilised focus groups to obtain this information. Five focus groups were conducted in three universities in Kuala Lumpur involving a total of 48 science and social science researchers cum authors. Findings indicate that peer-reviewed journals are still the central to the authors, however they seem to have more freedom in relation to journals they read and cite, compared to publish. Overall, authors view that scholarly resources that are current, relevant, authored by credential scholars, peer-reviewed, having credible reference lists, published by reputable journals, and having online presence are fit for scholarly utilisation. The extent to which authors are prepared to believe that the scholarly information source and channel are trustworthy for publication rely on it in view of its impact, indexation status, reputation, peers' recommendation, accessibility and visibility, and authority's approval. New forms of communication channels such as social media or new journal models are not much used in formal scholarly communication or perhaps on the verge of being more used. The focus groups provided the direction for questionnaires and interviews that would follow. The paper also discusses the implication of the findings to academic librarians towards delivering the right services to meet the needs of the scholarly community.

Keywords: Trustworthiness; Authority; Citation behaviour; CIBER's Research Project; Scholarly communication

INTRODUCTION

The origins of the current research lie in *CIBER's Trust and Authority in Scholarly Communications in the Light of Digital Transition* project conducted by University of Tennessee USA and CIBER Research Ltd UK (Tenopir et al. 2013) for the Alfred P. Sloan Foundation. This research project provides for an examination of the behaviours and attitudes of academic researchers as producers and consumers of scholarly information resources in the digital era in respect to how they determine authority and trustworthiness in the sources they use, cite, and publish in. Tenopir's et al. (2013) study constitutes a major investigation into what is unquestionably the most important characteristic of scholarly communication, use and information seeking behaviour – i.e. quality and reliability. The investigation began in 2012 with two countries, USA and UK, which are at the centre of scholarly communication. It is now being conducted world-wide in recognition of the universality, connectedness and, possible, inequalities in scholarly communication.

The notion of trust in scholarly communications has been examined quite extensively, and from a significant variety of disciplinary angles. The scientific literature serves for scholars as “a tangible record of the search for truth” (Sox and Rennie 2006) as the basis to build on for the further advancement of human knowledge. Scholars, therefore, have particularly stringent requirements for high quality, reliable and reputable information sources and channels, which have traditionally been operationalised as a series of conventional indicators especially for articles submitted to journals. These indicators include (a) presence or absence of scientific reviewing processes before the publication of the information (Bornmann 2011; Harnard 1999; McKnight, and Price 1999; Rowland, 2002), (b) post-publication assessments by means of comments and review articles (Nentwich, 2005; Weller, 2000), (c) citations received a book or article (Bornmann and Daniel, 2008; Cronin, 1984), (d) Journal Impact Factor (Garfield 2006), (e) the reputation of the channel used to communicate the information (Ellis, Cox and Hall 1993; Kling, 2004), and (e) the author's professional reputation and institutional affiliation (Abrizah et al. 2014; Becher and Trower, 2001).

How scholars read and use, cite and publish their research work has been discussed by many researchers. Weller (2001) pointed out that peer-review seems to be one pivotal criterion that many scientists employ in evaluating the legitimacy of publication venues. Tenopir (2003) indicated that peer-reviewed journals are more accepted and used by scholars because they are free of cost and accessible (Tenopir 2003). Rusch-Feja and Siebeky (1999) found that physicists, biologists and biomedical scientists use electronic journals more than other resource types. Tenopir et al. (2009) found that electronic articles account for the majority of readings among scientists, though most readings are still printed on paper for final reading. Scientists reported reading a higher proportion of older articles from a wider range of journal titles, and more articles from library electronic collections. Evans (2008) and Kurtz et al. (2005) found that the availability of electronic journal articles has resulted in authors citing fewer older articles and a narrower diversity of sources. While these studies examine the behaviour of authors, readers and other stakeholders regarding peer-reviewed scholarly e-journals, Kling, Spector and McKim (2002) examined the electronic distribution of articles called working papers or technical reports that are sponsored by academic departments or research institutes. They believed that scholars would have a better chance to use

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Internet resources to improve the dissemination of their research if a wider array of publishing models is available besides electronic journals and hybrid paper-electronic journals.

Tenopir et al. (2009) pointed out that many studies had demonstrated that faculty in the sciences tend to read more in electronic journals or from e-prints than do humanists or those in the social sciences although Vakkari (2008) has shown that when normalising for availability, humanities faculty are no less inclined to use electronic journals. In another study to understand how economists cite the literature, Sharif and Mahmood (2004) used citation analysis and found that the highly-cited journals are mainly from the USA. Polonsky and Mittelstaedt (2006) who explored the publishing performance in six marketing journals, found that there is a dominance of publishing by North American academics in socially-oriented research, meanwhile Asian academics seems to be generally under-presented.

Open Access and self-archiving publishing model, whose aim is to maximise dissemination of research output, are specifically noted incentives for selection of Open Access journals due to free access and visibility. However, free public availability and increased exposure may not be strong enough incentives for authors to choose open access over more traditional and respected subscription based publications, unless the quality issue is also addressed (Warlick and Vaughan 2007). Social scientists are suspicious and confused about Open Access publications, but not if they come from a traditional publisher (Nicholas et al. 2014). Frandsen (2007) compared the open access journals usage in developing and developed countries and revealed that authors from developing countries less cite Open Access journals more than those from developed countries. Although multiple studies have reported that the impact of Open Access citations often surpasses those published in non-Open Access publications (Antelman 2004; Harnard and Brody 2004), Open Access journals are accepted by scientists only if peer-reviewed.

Other essential scholarly communication evaluation criteria accumulated throughout the years to complement to the traditional peer review is usage based metrics (Cronin, 2001). New refined metrics have increasingly been developed to analyse the performance of a journal, an author or an article (Priem and Hemminger 2010; Taylor and Kamalski 2012) such as based on page views and downloads (Thelwall and Kousha in, press), blogs (Shema, Bar-Ilan, and Thelwall 2014) and web links (Kousha and Thelwall 2014; Mas Bleda et al. 2014) as well as altmetrics (Mohammadi et al., in press). However, the use of social media and Open Access platforms to disseminate information and research was met with general skepticism due to lack of peer review, and as CIBER's studies have pointed out, these attitudes are slowly changing (Nicholas and Rowlands, 2011; Rowlands et. al 2011; Tenopir et al. 2013;).

The literature indicates that most of the world's scholarly research activity is concentrated in a few scientifically and technologically advanced countries, where spending on research and development is the highest. The scientific world is divided into centres and peripheries, a demarcation that is typically seen as corresponding to the divide between the affluent, industrialised states of the northern hemisphere and the less well-off and technologically less advanced nations of the south. Nonetheless, for a

variety of structural and cultural reasons, the 'newly industrialised' countries (NIC), such as India, Iran and China, are on the periphery of world science, too.

Clearly then peripheral countries merit investigation and we intend to make a start by investigating countries currently on the 'periphery' of the scholarly endeavour. This means we shall not only be able to determine how scholars from the periphery characteristically behave in regard to trust and authority, but also to determine whether they act differently in regard to sources and channels that originate from the core countries and the peripheral countries. To be sure, the inequalities in the discovery, usage, citation and publication of research hailing from countries on the outskirts of international scholarship are well known and have repeatedly been established. However, the move to digital scholarship, augmented as it is by the ever-increasing use of social media, on the one hand, and Open Access initiatives, on the other, may have served to break down the social and cultural barriers that prevent academics from the provinces of world scholarship taking their rightful place in the international research community. Overall, the studies on how scholars from the periphery countries establish trust in reading, citing and publishing in the current digital environment are limited and only one study (Nicholas et. al 2014) exist in this area, covering USA and the UK. The purpose of this paper is to understand what resources scholars choose for their reading, citing and publishing purpose and what their reasons are. And with the current research we shall establish whether that has come about for Malaysia, a country currently on the 'periphery' of the scholarly endeavour.

METHOD

The objective of the research is to examine the changing behaviours and attitudes of academic researchers in today's scholarly digital environment, as producers and consumers of scholarly information resources. The paper study sought to establish how they assign and calibrate authority and trustworthiness to the sources and channels they choose to use, cite, and publish in. That is, it is about academic researchers as both producers and consumers and how they deal with the trust and authority consequences of the digital transition, especially in regard to changing digital behaviours, social media and open access publishing. The key research questions are:

- a) What channels and scholarly resources do author trust to read?
- b) What channels and scholarly resources do author trust to cite?
- c) What channels and scholarly resources do author trust for publication?

This paper concentrates on the first data collection phase of the project in one element of the CIBER research project: the views and behaviours of academic science and social science. The focus group method was chosen as the approach to research into this topic. This method has been used successfully in a number of library and information science studies in recent years, most often to obtain client evaluation of library services. In comparison to face-to-face interviews, focus groups studies tend to focus on the participants' rather than the researcher's points of view, and offer the opportunity to observe a large amount of interaction in a short period of time. Moreover, the spontaneous nature of focus group attributes to the participants interacting with one another. Five groups were held during December 2013 to April 2014 at three

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universities in Kuala Lumpur, Malaysia. The participants, covering scientists and social scientists, and a mixed-subject group comprised information science academics, were established and conducted in each of the case setting. The focus group sessions were conducted by the first author and the author is not affiliated with any of the groups being studied. The groups were comprised as follows:

- a) Two focus groups at university A, comprising physical scientists, biological scientists, engineering and a handful of medical researchers. (18 participants)
- b) Two focus groups at university B, comprising mainly social and information scientists, and computer science researchers (20 participants)
- c) One focus group at university C, comprising early careers researchers from engineering, physical sciences and social scientists. (10 participants)

The participants were recruited in two ways: first, through personal requests by the authors, and second, through nomination from peers who think that the nominees would make good participants. A total of 60 participants who are familiar with the topic, known for their ability to respectfully share their opinions, and willing to volunteer about 2 hours of their time were contacted. A total of 48 researchers finally attended the focus group sessions, which were conducted in English Language. Eight to ten people were covered in the focus groups. The demographic breakdown of participants is given in Table 1. The Trust focus group questions in Tenopir et al. (2013) were used. Only notes were taken during the focus group sessions. For accuracy purposes, these notes were shared with a representative from the university hosting the focus group, who attended the group as an observer. Lunch and refreshments were provided for the focus group participants.

Table 1: Participants' Demographic based on Gender, Academic Rank, Academic Discipline and Years in Academia

Gender	Total	Academic Rank	Total	Discipline	Total	Years in academia	Total
Male	26	Professors / Associates	18	Science	21	More than 5 (Senior researcher)	34
Female	22	Senior Lecturers	30	Social Science	27	Less than 5 (Early career researcher)	14

RESULTS

This section presents the findings in responding to the project's research questions identified earlier. The participants' quotes presented are the verbatim reports of the conversation. References after each quotation include participant's academic discipline and research experience (S – Science; SS – Social Science; SR – Senior Researcher, ECR – Early Career Researcher).

RQ1: What channels and scholarly resources do author trust to read?

Authors in general identified two channels and six characteristics of scholarly resources in that they choose to read in regards to trustworthiness. Indexed-journals in global citation databases and journals subscribed by library databases are the two channels social scientists choose to find resources to read in regards to trustworthiness.

I prefer current publication indexed in Scopus and ISI (SS, ECR)
I will get journals from online databases subscribed by the university library. In addition, materials from established publishers such as Elsevier, Science Direct and Emerald would also be read and use as they mainly publish articles related to my area (SS, SR)
...referring to journals that are subscribed by the university, thus no worries much on the reliability side. (SS, ECR)
I read indexed journals, they normally select papers on current hot topics of research, although they may miss on novel innovations.(SS, SR)

The following response indicates the trust academics put on the library as the authoritative body to evaluate scholarly resources: *And Ulrich's should always be a good source of reliable information about journals, if we forget about impact factor and such. And you could always ask the library - they are usually quite well informed and willing to help. (SS, SR)*

In terms of the characteristics of scholarly resources, authors trust articles that have the following characteristics: (a) current; (b) relevant; (c) written by credible authors; (d) peer-reviewed; (e) having credible reference list; (f) published in reputable journals; and (g) having an online platform. Table 2 details the responses of the focus group.

One academics expressed her concern about having people reading journals that do not undergo a proper peer review process: *a researcher I follow in ResearchGate wrote about this paper published in Science, the results are surprising that over 50% of the Open Access journals accepted a purposely fabricated article. Is it true that all those open access journals do not conduct peer review? Is this what we want our students to read? (S, SR)*

Table 2: Respondents Verbatim Statement about what Scholarly Resources Authors Read

Characteristics of Article to Read	Example statements
Current	1) Novel information and its timely dissemination are both equally important aspects of recognition and adoption of my research work (S, ECR) 2) Reliable sources...this can be evaluated through the date [of publication] (SS, SR) 3) I prefer current publications indexed in ISI or Scopus (SS, ECR) 4) I will go for current literature, less that 5 years old (S, SR)
Relevant	1) [the article should] fit for the purpose – relevant to my need.

Credentials and authorships	<p>(S, ECR)</p> <p>2) It should be somehow like this.... valid information that is correct and can be used for the [research] purpose (SS, SR)</p> <p>3) Accuracy and relevancy of the information to my research need. (SS, ECR)</p> <p>4) The relevance of the content is very important – simply because of what they are! (S, SR)</p> <p>1) Authors who are well-known and active in producing papers. (S, ECR)</p> <p>2) Most of the time I will look for the originator of the information such as who are the author, editor, and/or contributors and what are their qualifications, experience and education. (SS, SR)</p> <p>3) Article must have proper qualified and credible authors with contact information and department or organisations they are affiliated with. I will check the authoritativeness by looking at this. (SS, ECR)</p> <p>4) I prefer to read articles from scholarly journals where the authors credential and affiliation is included in the article. (S, SR)</p>
Peer-reviewed	<p>1) The academic community identified the peer-reviewed journals as a way of determining quality, and have latched onto it with such vigor (S, ECR)</p> <p>2) I will read articles that have gone through a very stringent process of expert review because these are really qualified publications. (SS, SR)</p> <p>3) Journals that conduct peer review. (SS, ECR)</p> <p>4) ..not from those predator publishing group, the group lacks transparency in the editorial process (S, SR)</p>
Having credible reference list	<p>1) I will choose article that cite credible sources in an extensive list. (S, ECR)</p> <p>2) By browsing the references (cited articles) could be the best way to establish the reliability of a source. (SS, SR)</p> <p>3) [I trust on the] sources that are cited in literature review. (SS, ECR)</p> <p>4) I read an article that provides me with a lot of background reading, the cited references point the way to more useful resources (S, SR)</p>
Published in reputable journals	<p>1) When I decide to read, I check the indexation status, I avoid reading banned journals (S, ECR)</p> <p>2) High circulation and reputation of the journal (SS, SR)</p> <p>3) Most of the indexed-journals are excellent in content (SS, ECR)</p> <p>4) Reading a good journal is as important as writing a good article, I read articles published in prestigious journals (S, SR)</p>
Having an online platform	<p>1) There must be an online channel for it; even though the channel is totally print, there must be evidence that it exist and</p>

- mentioned on the Web. (S, ECR)
- 2) I will read articles that are available online..full-text (SS, SR)
- 3) I read pre-prints, but they must be accepted for publication..they are quickly available online (SS, ECR)
- 4) I begin my search on Google, I mainly read online journals or those with online version (S, SR)

RQ 2: What channels and scholarly resources do author trust to cite?

When talking about what authors trust to cite, the channels identified are again from indexed journals by global citation databases and journals subscribed by the library databases.

I will have to use the reliable source subscribed and purchased by the library. They have to follow certain criteria as the cost to purchase and subscribe is not cheap. It is the task of the library to determine reliability of the source. The lecturer could work closely with the librarians who are liaisons of the library. To me, I always practice by referring journals that has been subscribed by the university. (SS, SR)

It's still this way, journals are the best indicators of research quality, I read good indexed-journals, and I cite the articles...relevant articles (S, SR)

As I read I would use and cite relevant publications from the journals in Scopus (S, ECR)

I read and finally, cite journals subscribed by the library databases (SS, ECR)

In terms of the characteristics of scholarly resources, authors cite articles that have the characteristics similar to that they read: (a) current; (b) relevant; (c) written by credible authors; (d) peer-reviewed; (e) having credible reference list; and (f) published in reputable journals. Table 3 presents the findings. Unlike reading, it appears that none of the participants indicated that they were likely to cite a resource that has its web presence or the version found on the open web. This shows that they were more likely to read, not cite, by ease of access factors. When this was probed during the focus group, one participant indicated “citing the published version of the article, but reading the pre-print or the online version found on the Internet” (S, ECR)

Table 3: Respondents Verbatim Statement about what Scholarly Resources Authors Cite

Characteristics of Article to Read	Example statements
Current	<ul style="list-style-type: none"> 1) I will cite the most recent source on a topic (S, ECR) 2) Very important when producing a paper that you cite the most current sources. (SS, SR) 3) First I will choose the articles, check who the author is, his background and the date information. Will cite recent articles (SS, ECR) 4) I cite recent articles from journals. The reviewers would prefer you to cite the latest publication (S, SR)
Relevant	<ul style="list-style-type: none"> 1) I believe that reliability is so important when I decided to

	<p>read or use that source. For example if there is no expert/competent nature then I might find another source rather than to use risk sources. (S, ECR)</p> <p>2) I cite journals in the area that I publish in, so it is a matter of relevance to me. (SS, SR)</p> <p>3) I believe that relevance of the content is so important when I decide what to cite. I want to point to my readers to sources that may be useful to them (SS, ECR)</p> <p>4) When I cite, I give credit for related work, homage to my peers. (S, SR)</p>
Credentials and authorship	<p>1) When you talk about authority, the factor [which] should be critically considered is author authority. You cite credible authors' works. (S, ECR)</p> <p>2) The credibility of the author that wrote the article, that the reason as well, I prefer to refer to those articles from scholarly journal where the author's credentials are affiliation are included in the article. (SS, SR)</p> <p>3) Personally I am more concerned about citing the works, works that have quality, and they are mainly co-authored by known authors in that field (SS, ECR)</p> <p>4) In my area, I know who the main-players are, so I have the tendency to cite their works. (S, SR)</p>
Peer-reviewed	<p>1) I mainly cite journals articles, they have been reviewed by the experts. (S, ECR)</p> <p>2) I use them because the content is reliable, the articles have gone through academic-peer reviewing and come from high quality research. (SS, SR)</p> <p>3) I make it a point to cite journals to which my article is submitted for publication to increase chances of acceptance (SS, ECR)</p> <p>4) When I cite, I refer to those peer-reviewed journal articles. Citing papers mentioned by reviewers to increase chances of acceptance too! (S, SR)</p>
Having credible reference list	<p>1) When you talk about what article to cite, I will consider the number and quality of references. (S, ECR)</p> <p>2) If the paper has list of original publications in which an idea or concept was discussed, I will definitely cite the paper. (SS, SR)</p> <p>3) I will cite based on how many references the article has, an article with many references will get often my attention. (SS, ECR)</p> <p>4) I tend to cite articles with high quality references, this make you manage your references much easier as the citation information is already available. (S, SR)</p>
Published in reputable journals	<p>1) I will cite my works or any other relevant works published and cited in international citation databases (S, ECR)</p> <p>2) When you talk about authority, one factor that we should</p>

consider for citing is the journal standing. ISI and Scopus cited journals could be the most popular chosen journals for citation. (SS, SR)

3) I would look for a good journal if I were submitting, so I would cite articles in published in good journals in my topic. (SS, ECR)

4) We have this term as cited document in our field, and journals are considered as citable documents, prestigious.. as the contents are seen as accurate and reliable. (S, SR)

RQ3: What channels and scholarly resources do author trust for publication?

There is uniformity among authors, irrespective of disciplines and publishing experience, that only journal is the channel and the scholarly resource that they trust for publishing and disseminating their research works.

It seems incredible but it's still this way, journals are the best indicators of research quality according to my latest survey. Researchers believe that Google Scholar is still unreliable, and no university is looking or demanding it seriously; since appointments are often much depends on your publications in journals. (S, SR)

The characteristics of the reliable journals publications are as follows:

a) Journals that have high impact:

In case of journals by publishers I do not know, I always check from the ISI Web of Science if it has an ISI impact factor or not, and I also check from Scopus if it is listed there. You see, some predatory publishers lie, they claim their journals are indexed/listed but this is not true, if not, then I will not submit my paper there. (S, ECR)

My last paper has just been published in a Q1 Journal listed at JCR Thomson, and you? What is your methodology to select journals? (S, SR)

b) Journals that are indexed by global citation databases

It must be indexed either in ISI, Scopus or if published by open-source publisher, need to be indexed too. There must be something behind it because editors and scientists still don't rely entirely on open access journals (S, SR)

The two main international and multidisciplinary databases of academic journals are ISI and Scopus. These two are usually used in the evaluation of academic performance in many countries. I make sure the journals I submit to, are indexed in both WOS and Scopus. (SS, SR)

Priority is to send to indexed journal such as ISI and Scopus, then send to other indexed journals (SS, ECR)

c) Journals that are reputable in one's field

This is becoming important in my discipline, researchers who are highly prolific, has good research and publish in high-impact journals in medicine..they are well-known in medicine, highly cited, has a high h-index, well..isn't this denotes quality. (S, ECR)

I go for good journals in my field, and they always come from well-known publishers as a reliable channel for this matter. (S, ECR)

Now I mainly go for reputable journals in my field, and those covered in the Web of Science database are reputable. I think we're going crazy with so much pressure to publish in these journals. (SS, SR)

The reputation of a journal is important if I decide to publish my research works. To do research is not overnight, and not cheap. Hence, to ensure other researchers would cite our work we have to pay particular attention to the credibility of the journal. (SS, SR)

d) Journals that peers are publishing in

You can also check where most researchers in your field publish which can be a reliable source of future publishing. Also as Wong [another focus group participant) mentioned that you can check Web of Science, Scopus, PubMed to check publication history and impact factor (S, SR)

As long as I see my colleagues use the channel that is sufficient for me to determine the choice of a channel. (SS, SR)

e) Journals that have an online presence

As print journals take a lot of time for publishing, e-journals are more accessible. I especially like those with the online submission (S, ECR)

I will submit to journals that make my article available fast upon acceptance, Online First, that is ahead of the printed issue (SS, ECR)

f) Journals that are approved by the Ministry of Education or other governing bodies

Journals that are included in Research Management Institute sites such as IRMIS and PRISMA, and also any databases suggested by RMI like Emerald, Proquest, Scopus (S, ECR)

University requirement. So the fastest way is to check the ranking like ERA, SETARA, as well as other characteristics like ISI-indexed or not (SS, SR)

I just follow the one determined by my university. Of course my university has determined the most reliable channel based from the elements given and as a faculty member, I just follow (S, ECR)

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So my university does demand publications in journals with high IF, there is a pressing demand to publish in Tier 1 journals, this measure.. it is now becoming important to me. (S, SR)

Early career scientists also regard conferences as a reputable channel for the dissemination and publication of their research, and emphasize the indexation status of the conference proceedings:

Conferences that produce proceeding papers that are indexed in Scopus and ISI could be the attraction to researchers.

I channel my research work through conference proceedings. How I choose which conference to go will highly depend on either the conference is indexed or not.

Sending research paper to any conferences held by trustable and well known organizer will be one of my criteria. Their papers are indexed.

I will prefer to publish my research paper in conference proceeding indexed by ISI and SCOPUS. Sending research paper to the IEEE indexed conferences held by trustable and well known organizer will be one of my criteria.

Using the above-presented findings of the conditions as the basis for analysing trustworthiness in the digital scholarly environment, Figure 1 presents the dimensions of trustworthy scholarly information source and channel when they read, cite and publish in. Authors view that scholarly resources that are current, relevant, authored by credential scholars, peer-reviewed, having credible reference lists, published by reputable journals, and having online presence are fit for scholarly utilisation. The extent to which authors are prepared to believe that the scholarly information source and channel are trustworthy for publication rely on it in view of its impact, indexation status, reputation, peers' recommendation, accessibility and visibility, and authority's approval.

DISCUSSION AND IMPLICATION TO LIBRARY'S ACADEMIC SERVICES

The study has shown similar views, perception and behaviours of authors in respect to scholarly channels and resource they trust to read and to cite. Peer-reviewed journals are still the central to the authors, however they seem to have more freedom in relation to journals they read and cite, compared to publish. Library and publisher platforms are still central to discovery of these journals, and Google Scholar appears to be more influential among scientists and early career researchers. New forms of communication such as social media or new journal models are not much used in formal scholarly communication or on the verge of being more used. If they are indeed used, it is mainly for promotion of research activities and to alert peers to new publications of interest.

Formal academic websites and blogs written by prominent scholars can be regarded as trustworthy and credible, but I afraid social media like Twitter and Facebook are not a credible source of information since these tools have established their nature as purely social communication media. (S, ECR)

What do scholarly channels and resources do author trust to read, cite and publish in.

I don't make use of social media as a source of scholarly literature, yes, once I in while I communicate about my publications or what I think about my research on Facebook. (S, ECR)

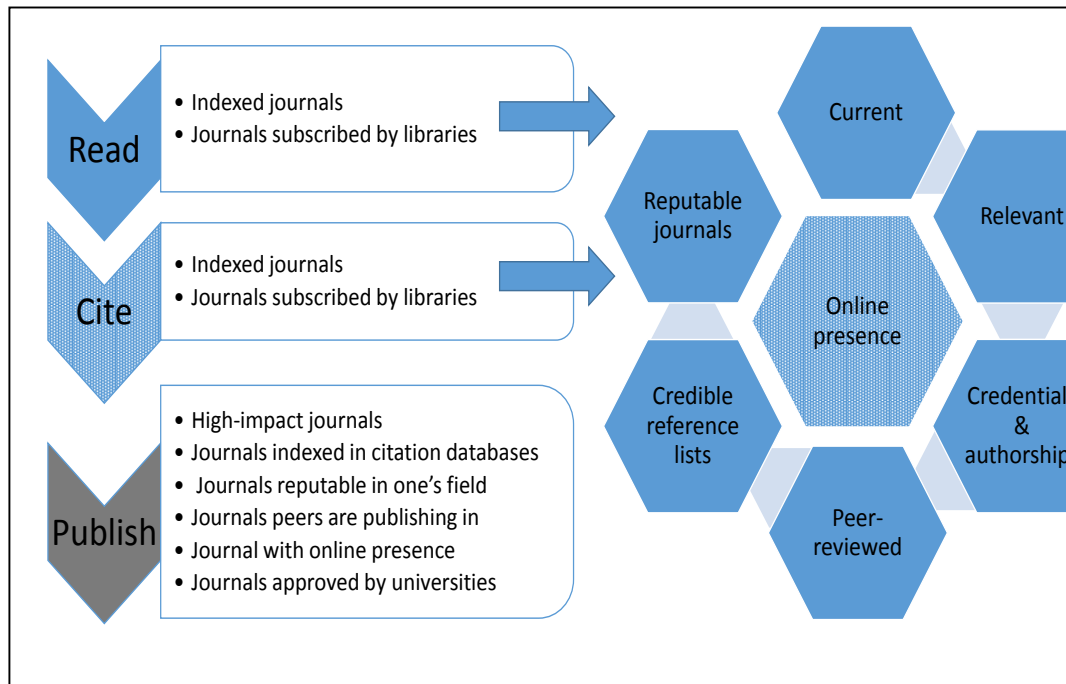


Figure 1: Scholarly channels and resources do author trust to read, cite and publish in.

This shows that there is a general lack of awareness and understanding, and therefore trust in social media platform, which researchers largely saw as popularity indicators rather than anything more substantive, although younger researchers were more likely to trust them.

Also, article level metrics like altmetric.com and download data (like on plosone.org) are positive innovations. (S, ECR)

Scholarly metrics and status of indexation count when looking for a place to publish, but not generally when looking for something to read and cite.

Nowadays people will understand you when you say you've published in a Q1 JCR (S, SR)

Previously, I didn't take ISI serious enough, but now it gives certain degree of quality weightage. I don't really know the trend of which metrics are becoming more or less important. Few years back, my only concern is the Australian ERA ranking for journals and conferences (Rank A+, A, B or C), because that were the metrics used by the university I was studying at. (SS, SR)

My knowledge on said issue is very little. As far as I know, the metrics measurement is important if individual would like to apply for higher post in my University (i.e. associate professor & above). Besides, to become internal reviewer (represent faculty/subject matter expert) for any national/university grant, this metrics measurement is a part of

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criteria for them to be chosen. As I see in the context of my University, it become more important as the university is targeted to become research university. (SS, SR)

However, there were issues regarding ascertaining journal impact indicators revealed in this study.

There are some sites I know that calculate journal IFs such as the jifactor.com and globalimpactfactor.com. These are fake impact factors, I would say. (S, SR)

Impact Factor is one of the journal quality measures, but besides arguing about this measure, it is not easy for researchers to find the correct impact factor of any journal. One may say that we should depend on the one produced by Thomson Reuters. However, there is an issue here: it is not easy to find the report! On the other hand, some journals write their impact factor on their website, but don't declare where they got this. (SS, SR)

I think the scientific community should be conscious that measures of impact are not necessarily measures of quality. Having said that, there is abundant literature on the pros and cons of H-index and impact factor. Personally I'm more concerned about the cons of using numbers from these indicators because of the consequences it may have on young researchers' careers. (SS, SR)

Senior researchers were also cautious in using Open Access platforms to publish and disseminate their scholarly works.

Open access publication and the emergence of a huge number of journals barely follow publishing ethics, no peer review, you pay and they publish. It becomes necessary that all journals must be screened by the authority based on the editorial and reviewer board, scientific content and other criteria. I have noted some online journals publishing more than 100 papers quarterly. (S, SR)

Its seems that they don't put weight on the quality of Open Access journals, the iniquity of APCs [Article Publishing Charges] [APCs], the absence of peer review but the lecturers face the pressure to publish. I personally am aware of a degree of naive of some researchers in relation to Open Access. The response I give is better education would avoid expensive mistakes which may be regretted in the future. (SS, SR)

Very important to exercise caution in open access, in where you publish because I believe that when you publish your work in a reliable channel, you can expect those who locate your research in that particular channel are those who also share a similar belief and work ethics as you... who are prone using truthful sources rather than "anything can do" attitude. (SS, SR)

However, one author remarked: *I'm in for the open access, since that's the ultimate idea behind the research to spread of knowledge. In some of the journals you can ask for the fee waiver if you do not have sufficient funds to pay. SageOpen or PNAS. (S, SR)*

Looking at the authors' trust-related views, needs and issues in scholarly communication, it is emphasised that academic librarians apply their understanding of scholarly communication towards delivering the right services to meet the needs of the academic community. The findings of this study recommend the following activities incorporated in library's academic services:

What do scholarly channels and resources

- Provide advice to the faculty with regards to ranking of journals, journal impact factor and related indicators.
- Make academics aware that most scholarly e-journals are refereed and some are highly cited
- Highlight faculties about the types of e-journals available in respective disciplines, the referee status, their impact factor and whether they are on open access
- Catalogue authoritative e-journals as a resource and searchable in the library's OPAC (e.g. <http://www.doaj.org/> with the detailed impact description.
- Advocacy and promotion of open access journals through liaison librarians, seminar on open access, leaflets, letters and e-mails.
- Respond to prevalent and misleading Open Access myths
- Evaluate journals, and educate faculty on suppressed list and predatory journals.
- Conduct bibliometric research and journal studies relevant to the organisation's needs

CONCLUSION

Understanding changes in behavior over time and the scholarly publishing environment helps provide insights into possible future patterns of scholarly article reading, citing and publishing, and how the library and publishing environment can contribute to those changes. The study has sought to establish how Malaysian-based researchers assign and calibrate authority and trustworthiness to the sources and channels they choose to use, cite, and publish in. This is achieved by conducting three focus groups with 48 Malaysian-based authors in three universities in Kuala Lumpur. The results are tentative and exploratory, as it was a product of just one data collection technique at the beginning of an 18 month project. On the basis of the data obtained from the focus groups, an interview schedule has been developed, and an online questionnaire has been built and currently administered to thousands of Malaysian-based researchers. These techniques empower the project by providing triangulation, to facilitate validation of data through cross-verification from two or more sources.

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A framework for the code of ethics for the LIS profession: a case study of Sri Lanka

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ABSTRACT

Ethical behavior and conduct have become highly significant in all professions. In the LIS field, some real life issues faced by librarians and information workers are generally not adequately covered under existing ethical guidelines. Professional ethics, a discipline dealing with what is good and bad and with moral duty and obligation of conduct governing an individual or a group, should be a governing philosophy. Some of the issues in practicing professional ethics also have different implications from one culture to another. This paper attempts to identify and summarise the main areas, practical issues and relevant sub-areas of professional ethics relating to the LIS field in Sri Lanka.

Keywords: Professional ethics; Code of Ethics; Ethical conduct; Ethical behavior; Librarianship; Information workers

INTRODUCTION

Professional ethics have become highly significant, with varying impact in different professions that function in modern society. Professional bodies are increasingly working on developing, revising and refining codes of ethics for their members. The professionals themselves require detailed codes for greater guidance and discussions to solve ethical dilemmas in their professions. The standards for professional conduct represent a sign of maturity and professional pride when a group is operating under the guidance of an established code of ethics for the profession.

Among the attributes considered in practice to be treated as a profession, Professional Ethics (PE) is a core attribute. Library educator and author, Haines described three attributes of a profession: it must have a Discipline, Ethics and a Vision (Kelly, 2014). Discipline is a subject area or system of training that it deals with; Ethics refers to the formulation of rules of conduct and moral obligations to a particular profession; and a Vision is the outcome or essence expected by that specific Code of Ethics (CoE). Professional ethics can be defined as professionally accepted standards that are to be adhered to by the members of a professional body. The code of ethics provides a set of values and guiding principles for the members of an organization, association or entity for their personal and business behavior. Codes of professional ethics are often established by professional organizations to help guide members in performing their job functions based on sound and consistent ethical principles (Business dictionary.com,

2014). The PE is an influential factor as the controlling guideline for members of an association or a profession, when the behavior or conduct of a member or group of members affects the image of the profession adversely and thereby placing a profession or an association at a critical stance.

It has become highly necessary that LIS professionals be provided with the knowledge to strengthen the application of ethics in their own field. As such, it is necessary to identify PE in the LIS discipline and instill an ethical culture and principles among the LIS professionals. LIS professionals in this context include librarians, information scientists, information officers, documentation officers, bibliographers, indexers, abstractors, etc. When dealing with ethical behavior in LIS, all these categories need to be accommodated in one Code of Ethics document. According to Sturges (2003, 2012), some professional categories cannot be distinguished from the functions of librarians, such as of information scientists' duties and those of a modern librarian. However a Code of Ethics is meant to create a path towards a truly committed profession (Sturges, 2003). The relevance of ethics is becoming more significant for modern librarians as they need to function beyond their traditional roles of resource acquisition, organization and preservation (Vaagan, 2002). With this backdrop, the present paper attempts to identify core areas of ethics that need to be addressed in a CoE document, and eventually propagated among LIS professionals in Sri Lanka.

THE ISSUE IDENTIFIED FOR THE PAPER

It has been observed at different occasions and through issues faced by the LIS professionals in handling certain situations that there is an emerging need to develop a comprehensive framework for PE for LIS profession in Sri Lanka. It is also essential to propagate PE in an effective manner among librarians of all categories and at all levels of the Sri Lankan library profession to provide professional service to the users while maintaining the professional image of the LIS workers and its Association. The inculcation and upgrading of an ethical culture among librarians is the underpinning strategy to upgrade the profession at all levels, which will eventually lead to 'good governance', 'accountability', 'transparency', 'visibility' and 'recognition' of the LIS profession (Seneviratne & Weerasinghe, 2014).

With this professional requirement, the need to revisit the existing Code of Ethics (SLLA, 1998) drafted by the Sri Lanka Library Association (SLLA) has arisen as one of the prime responsibilities of the association. A new Ethics Committee was appointed to revisit the code and to conduct a preliminary survey before organizing a country-wide survey on identifying areas of ethical conduct for the LIS community in Sri Lanka.

OBJECTIVES OF THE PAPER AND THE STUDY DESIGN

The objectives of the paper are to explore the areas of Professional Ethics specific to LIS field in Sri Lanka, and to analyse the specific issues relating to the broad PE areas identified.

A framework of code of ethics for the LIS profession

Librarianship is an ethical activity embodying a value-added approach to professional work with information. The prime functions of information workers are to acquire, organize and provide access to information, and the exchange and sharing of information has grown with paramount importance with the increasing complexity of society. This situation provides a rationale for libraries in 21st century to be strong in practicing the librarianship effectively in an ethical manner.

For the analytical design of the study, the core ethical areas identified by the International Federation of Library Associations and Institutions (IFLA) under Freedom of Access to Information and Freedom of Expression (FAIFE) were used (IFLA, 2012). Six areas were identified as critical domains for the LIS profession. The document was drafted as an international framework, which is expected to be adopted and enhanced or elaborated upon by any country as the base to develop upon for their own LIS profession. Between 2010 and 2012, a working group from FAIFE consulted extensively and drafted an international code of ethics for librarians and other information workers. Hundreds of comments from IFLA members and non-members were received for the draft and a final version was prepared for the endorsement by the IFLA Governing Board. The *IFLA Code of Ethics for Librarians and Other Information Workers* was approved in August 2012 (IFLA, 2012).

RESEARCH DESIGN

The focus of the project design is to draw a framework to develop a Code of Ethics document for Sri Lankan librarianship. The research design was implemented in a two-fold method to achieve the purpose of the project:

1. Selecting and developing core attributes for the Code of Ethics (CoE) document, and
2. Drafting minor attributes relevant to the core attributes.

Selection of Core Attributes

The IFLA website had uploaded 60 Code of Ethics documents prepared by Library Associations worldwide (<http://www.ifla.org/faife/professional-codes-of-ethics-for-librarians#nationalcodes>, 2012). Some documents contained only the main attributes e.g., Israel, Malaysia, and Malta, while other associations had more descriptions on sub-attributes.

In addition to these documents, a common framework for the LIS Code of Ethics was drafted by IFLA with the initiative of the FAIFE working group (<http://www.ifla.org/news/ifla-code-of-ethics-for-librarians-and-other-information-workers-full-version>, 2012). The set of attributes mentioned therein were selected as the base criteria for the study.

The six core areas of ethics identified by FAIFE working group were:

1. Access to information
2. Responsibilities towards individuals and society
3. Privacy, secrecy and transparency
4. Open access and intellectual property
5. Neutrality, personal integrity and professional skills
6. Colleague and employer/employee relationship

Though the above six criterion core areas cover most aspects of ethics, it was noted that there were additional core values that are suitable to be added to the framework. These attributes were identified from among Asian CoE documents, assuming that the perspective from other Asian countries is suitable in Sri Lankan context too. The Code of Ethics documents from three leading countries in Asia - Korea, Japan and Singapore - were selected based on their descriptive nature and relevancy to Sri Lanka as an Asian country.

Table 1: Matching the FAIFE core attributes with other three documents

	BASE FRAME SELECTED FROM IFLA-FAIFE	KOREAN DOCUMENT	JAPAN DOCUMENT	SINGAPORE DOCUMENT
ATTRIBUTES	<ul style="list-style-type: none"> • Access to information 	<ul style="list-style-type: none"> • Collection • Cooperation 	<ul style="list-style-type: none"> • Responsibility for library materials • Cooperation among libraries 	<ul style="list-style-type: none"> • Relationship to the library user • Relationship with other libraries
	<ul style="list-style-type: none"> • Responsibilities towards individuals and society 	<ul style="list-style-type: none"> • Social responsibility • Self growth • Service • Cooperation 	<ul style="list-style-type: none"> • Responsibility for the users • Creation of culture 	<ul style="list-style-type: none"> • Relationship to the library user • <u>Responsibility towards suppliers & publishers</u> • Relationship to the society
	<ul style="list-style-type: none"> • Privacy, secrecy and transparency 	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • Responsibility for the users 	<ul style="list-style-type: none"> • Relationship to the library user
	<ul style="list-style-type: none"> • Open access and intellectual property 	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> •
	<ul style="list-style-type: none"> • Neutrality, personal integrity and professional skills 	<ul style="list-style-type: none"> • Dignity • Self growth • Professionalism 	<ul style="list-style-type: none"> • Attitude • Responsibility in training 	<ul style="list-style-type: none"> •
	<ul style="list-style-type: none"> • Colleague and employer/employee relationship 	<ul style="list-style-type: none"> • Social responsibility 	<ul style="list-style-type: none"> • <u>Responsibility as a member of an organization</u> 	<ul style="list-style-type: none"> • Relations to the governing authority • Relationship to the staff • Relationship to his profession

Matching the Core Attributes

The IFLA FAIFE document (FAIFE, 2012) was compared with the CoE frames from Korea, Japan and Singapore for the core attributes, as shown in Table 1.

The FAIFE core attributes of CoE are given in the first column (shaded) and the CoE documents selected for the review are given in the other 3 columns. The attributes of three countries selected were placed according to the description given in relevance to the main attribute of the documents. It was noticed however that the core attributes mentioned in the documents prepared by three selected library associations did not match entirely with the attributes of FAIFE frame.

When matching with the the FAIFE base criteria, it was found difficult to select exact idea to match the FAIFE attributes; for example a main attribute of 'Cooperation' in the Korea document has a broader meaning. It discussed about cooperation among libraries, among agencies and attitude towards information exchange in a social service context (last clause of the Cooperation section. <http://archive.ifla.org/faife/ethics/klacode.htm>). Hence some attributes that are mentioned therein had to be placed in more than one value in FAIFE code.

It was also noticed that some attributes (underlined in the table) were additional to the FAIFE frame. Those aspects were placed against a 'near matching' Base Attribute. These attributes can be treated as important in the context of a profession. For example, in Japan, CoE document 'Responsibility as a member of an organization' and in Singapore document, 'Responsibility towards suppliers & publishers' can be treated as suitable to mention as a Core Attributes. Hence it was decided to add these two aspects as core values in Sri Lankan document (see Table 2).

In the FAIFE core values, the 4th attribute did not get matching values among selected three CoE documents hence was kept blank in the matching columns. According to the analysis it was observed that matching of attributes that are indicated in the above table is not 100% accurate. However in building up base frame for a Code of Ethic document for Sri Lanka was done using FAIFE base criteria and adding up few other attributes from Japan document and Singapore document, which are shown in Table 2.

DRAFTING THE MINOR ATTRIBUTES

After identifying core areas of ethics, the description or minor areas pertaining core areas need to be identified. These sub-attributes specifically deal with the issues relating to a country and in this case, the Sri Lankan context. The methodology used to draft sub-attributes was as follows.

- **Discussion 1**

Information, ideas and opinions were collected through a series of discussions carried out among the members of the Professional Ethics group of the Sri Lanka Library Association. The composition of the ethics group was 1 retired senior librarian, 2 special librarians and 3 university librarians. The group included President, Vice President and the Secretary of the Sri Lanka Library Association. The views expressed by the

discussants were taken down and reviewed by the author before compiling into sub areas into the CoE frame.

Table 2: Core attributes selected

Attribute no.	Core Attributes identified	Document Referred
1.0	Access to information	FAIFE
2.0	Responsibilities towards individuals and society	FAIFE
3.0	Privacy, secrecy and transparency	FAIFE
4.0	Open access and intellectual property	FAIFE
5.0	Neutrality, personal integrity and professional skills	FAIFE
6.0	Colleague and employer/employee relationship	FAIFE
7.0	Responsibility to the Professional organization	Japan
8.0	Responsibility towards publishers and suppliers	Singapore

• **Discussion 2**

Some informal discussions were carried out by the author in informal gathering of librarians at different occasions. This information were used to draft a preliminary framework of Ethics for the Association, the themes of which are listed in the section 4 below, under eight core areas mentioned in the Table 2.

Information service in the domains of socio-cultural, socio-technological and socio-economic well-being is the prime motive of librarianship and which indicates that the librarians have social responsibility in delivering their service. The essence of librarianship implies the recognition of information rights of the citizen as a social being. Therefore any attribute that is analysed under principles of professional ethics should be evolved around the said recognition.

Attribute 1 - Access to information

The core mission of librarians and other information workers is to ensure access to information for all for personal development, education, cultural enrichment, leisure, economic activity and informed participation in and enhancement of democracy (FAIFE, 2012).

- Librarians and other information workers use the most effective ways to make the material accessible to all. Librarians should also arrange for access to their collections and services free of charge for the user.
- The access not only implies the material processing at the acquisition or processing divisions, but also ;

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- Informing the requester the receipt of the material when received in the library
- Easy loan scheme to obtain a material as soon as it has arrived in the library
- Immediate reprography, scanning or a system providing of a particular information block to the requester
- Unbiased attitude towards users in providing knowledge materials
- Not making unnecessary comments when loaning a book/material
- The acquisition process should ensure confidentiality of the origin of recommendation of materials unless extremely essential to expose
- The requesting party of a material has a right to know whether material recommended by them are received in the library
- The donations of materials are equally important as purchased materials
- The librarians treat information resources as the wealth and worth of the library and promote its use maximally. To ensure the maximum use LIS workers promote and publicise their collection and services so that users and prospective users are aware of their existence and availability of the same to demand and access when an information need had arisen.
- Promotion and publicity shall include following strategies except making references of materials for the library catalogue;
 - The new acquisitions/subscriptions need to be captured in documentation products such as in indexes, bibliographies, abstracting services etc. and in current awareness products such as new acquisition lists, current content services, etc.
 - These information products should ensure accessibility of medium and format by user community with inclusion criteria of differently-able users
 - For this purpose, the websites of libraries should comply with international standards for accessibility and usability criteria and should ensure minimum access barriers

Attribute 2 - Responsibilities towards individuals and society

In order to promote inclusion and eradicate discrimination, librarians and other information workers should ensure that the right of accessing information is not denied and that equitable services are provided for everyone irrespective of their age, citizenship, political belief, physical or mental ability, gender identity, heritage, education, income, immigration and asylum-seeking status, marital status, origin, race, religion or sexual orientation (FAIFE, 2012). Under this main concern, the following sub-areas and points shall be taken into consideration.

Rights of citizens:

- LIS workers ensure the right of citizens to acquire information when in need by providing access to materials.
- The library service should ensure provision of information in registered languages within a political boundary of a country as much as possible, depending on the availability of those materials in such alternative languages. If

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not available in those languages, official language shall be preferred in purchasing the materials for its users.

- Librarians support users in their information searching by providing unbiased recommendation for the materials in question and ensure avoiding distortion of information at all cost.
-

Promotion of Literacy reading skills

- The LIS workers should promote basic information literacy skills including the ability to identify, locate, evaluate, organize and create, use and communicate information, and other skills such as IT skills, reading skills etc. as a social responsibility.
- The library may offer services to increase and promote reading skills using a standard criteria such as SQR3 method or other standard reading methods.
- And they promote the Ethical and Fair Use of information thereby making an ethical ground to eliminate plagiarism and other forms of misuse of information.

Conservation

- Librarians should protect the collection from human threats such as theft, damage and mutilation, and careless handling of materials.
- LIS workers should be aware of environmental conditions as threats for the preservation of the collections and train themselves on the techniques and strategies to conserve different categories of materials/resources/collections from climatic conditions, disaster management, and from the effects of aging.

Fairness towards of minors and minorities

- Librarians and other information workers respect the protection of minors while ensuring this does not impact on the information rights of adults.
- The librarians may consider and study the locality of the library and presence of minority groups and special needs to be catered for.

Attribute 3 - Privacy, secrecy and transparency

Librarians and other information workers respect personal privacy and the protection of personal data. The relationship between the library and the user is one of confidentiality and librarians and other information workers will take appropriate measures to ensure that user data is not shared beyond the original transaction. They also recognize that it is in the public interest that misconduct, corruption and crime be exposed by what constitute breaches of confidentiality by so-called 'whistleblowers' (FAIFE, 2012). According to local context following issues emerged as serious concerns.

- Personal data submitted to the library for various official purposes should not be disclosed to any other party unless otherwise required by a court order or for another official purpose within the institution.
- The Librarians protect members' data from possible unauthorized access to the membership files/databases.
- Librarians always maintain an honest attitude and self-esteem and maintain dignity as professionals in all communications and involvements with outside parties and organizations

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- All the process phases and measures taken need to be well documented (manual of procedures) for the purpose of continuing the process from any given point of the procedure.
- Librarians and other information workers define and publish their policies for selection, organisation, preservation, provision, and dissemination of information (FAIFE, 2012).
- If using the information and data for research purposes, the librarians should retain the anonymity of the data used and should not reveal personal details and should not reflect any personal bias of its members in the presentation.
- Membership data or any other personal information should not be used or provided to a third party for the purpose of manipulating another personal trait.

Attribute 4 - Open access and intellectual property

Librarians and other information workers' interest is to provide the best possible fair access for library users and support open access, open source, and open licenses.

- It is the main mandate of librarians to provide fair and effective access to information for its users.
- Librarians are obliged to advocate for exceptions and limitations to copyright restrictions for libraries.
- Librarians and other information workers are stakeholders of the publishing of knowledge hence the intellectual property right of authors and other creators need to be respected.
- Librarians negotiate the most favourable terms for access to works on behalf of their users and seek to ensure that access is not unnecessarily prevented or hindered by the mode of administration of intellectual property (IP) laws and that licenses do not override exceptions for libraries contained in national legislation (FAIFE,2012).
- It is the duty of Library Association to encourage government to establish an intellectual property regime and adjust and amend the terms mentioned therein according to the changing scenario of the information landscape.
- The IP laws need to be adjusted in such a way to ensure appropriate balance between the interests of rights of holders and the institutions.

Attribute 5 - Neutrality, personal integrity and professional skills

Librarians and other information workers are strictly committed to neutrality and an unbiased stance regarding collection, access and service. Librarians strive for excellence in the profession by maintaining and enhancing their knowledge and skills (FAIFE, 2012).

- Neutrality results in the most balanced collection and the most balanced access to information achievable.
- They distinguish between their personal convictions and professional duties. They do not advance private interests or personal beliefs at the expense of neutrality.
- Librarians strive for excellence in the profession by maintaining and enhancing their knowledge and skills by attending relevant symposia, seminars, conferences, etc.
- They aim at the highest standards of service quality and train themselves accordingly and thus promote the positive reputation of the profession.

Attribute 6 - Colleagues and employer/employee relationship:

Librarians and other information workers treat each other with fairness and respect. Librarians and other information workers oppose discrimination in any aspect of employment because of age, citizenship, political belief, physical or mental ability, gender, marital status, origin, race, religion or sexual orientation (FAIFE, 2012).

- Librarians are entitled to equal payment and benefits for holding comparable jobs, regardless of gender and other factors, and they should promote the equal existence within the profession.
- Librarians and other information workers share their professional experience with colleagues and they help and guide new professionals to enter the professional community and develop their skills.
- They contribute to the activities of their professional association and participate in research and publication on professional matters.
- They treat the professional contribution as a professional duty.
- Librarians strive to earn a reputation and status based on their professionalism and ethical behaviour.

They do not compete with colleagues by using unfair methods and do not discriminate among colleagues by their seniority of age or service, race or by any other inappropriate attributes when acknowledging the contributions they made for the profession.

Attribute 7 - Responsibility towards the Professional Organization:

- Librarians understand the necessity and significance of being a member of a professional organization and take active part in these organizations
- Librarians should demonstrate the autonomy as LIS professionals and should try to maintain appropriate social status on par with the other professionals
- In case of a standpoint where a parent organization violates or going against the norms of LIS profession, the librarians are responsible to make the situation clear to the authorities of the organization upon their professional beliefs
- Librarians always should be obligatory not only to their parent organization but also to their profession
- Any individual or group of librarians should not use the name and logo of the professional association for their personal benefits.
- Librarians who hold positions in the professional association should bear collective responsibility in professional dealings and persevere confidentiality of the dealings of the association.

Attribute 8 - Relationship to publishers and supplying agencies:

- Librarians stick to the institutional policies, government rules and regulations in dealing with publishers and supplying agencies
- Librarians should never enter into a business dealing on behalf of the library which results in personal gain, profit or personal gratuities
- Librarians should be fair and transparent in making decisions in relation to the dealings with the outside parties

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- Librarians and other information workers counter corruption directly affecting librarianship, as in the sourcing and supply of library materials, appointments to library posts and administration of library contracts and finances (FAIFE, 2012).
- Librarians and other information workers support the transparency in all procurement processes according to the procurement guidelines stipulated from the Ministry where institution belongs to, or by any other set of regulations followed by the institution.

SUMMARY AND DISCUSSION

There is an essential need identified by the Sri Lanka Library Association to revisit the Code of Ethics prepared in 1998 due to various social, professional and regulatory issues that have emerged within the profession. Librarianship in the 21st century faces numerous challenges when dealing with ever changing information landscape which needs certain set of skills and competencies and ethical control. It is observed that the librarians and information workers require knowledge and a level of training in professional ethics and related ethical behavior and conduct to sustain the profession to maintain the dignity, accountability and the recognition of the profession. The country has more than 3,800 library professionals in different categories of libraries belong to different institutional environments. It is observed that most of the librarians adhere to some level of 'self or group decided ethics' but not have been professionally trained or cultured on 'LIS Ethics' to be quality professionals to be on par with other professions in the country, e.g., medical, legal, etc. The value of the concept and the necessity to be cultured as professionals is not understood by most of the librarians and LIS schools and SLLA had taken initiative to inculcate the practice as a formal behavior in the LIS profession.

Proper awareness and inculcation of PE will place the LIS professionals in Sri Lanka in two advantageous positions: a) Correct attitude in practicing the profession ethically and b) Consciousness of moral values in practicing the profession. These two factors are treated as highly favourable for development of any profession and will affect LIS profession favourably in: a) Maintaining of the image of LIS Profession b) Library administration & Management c) Morale of the library staff and its patrons d) Procurement of assets and its control and e) Providing constructive service provision. Therefore it is expected to build up professionalism of Sri Lankan librarians in a strong manner by adopting and inculcating professional ethics among them.

The paper has attempted to summarize the ethical issues that need to be addressed for the librarianship in Sri Lanka at all levels as a preliminary framework for an appropriate Code of Ethics that has to be drafted by the SLLA. The paper adhered to six level criteria of ethics adopted by FAIFE in 2012 and endorsed by IFLA. It was observed that some of the attributes mentioned in the FAIFE document (http://_www.ifla.org/ifla-code-of-ethics-for-librarians-and-other-information-workers-full-version) has over laps among 6 criteria and the author had tried to introduce new areas that suitable to include in Asian context.

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A study of the Singapore sports council library in post-colonial and post-war Singapore, 1974-2014: Issues and challenges in the provision of information sources in sport and leisure

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ABSTRACT

There was no known record of sports libraries in Singapore during British (1819-1941; 1946-1959) and Japanese (1942-1945) colonial rule. After Singapore became a sovereign island city state in 1965, the government established the Singapore Sports Council (SSC) in 1973. The SSC's library, the first specialised sports library, was founded the following year. The research methodology consisted mainly of studying the Council's annual reports (1973-2012), seven published library survey responses (1975, 1983, 1989, 1993, 1996, 2000 and 2006) and 40 visits to the Library over a two-year period to physically look at its collection. The research findings suggest that there were three phases of development. The first phase is from 1974 to 1997 when the Library grew rapidly under the as part of the Information and Research Division. During the second phase of 1998 to 2010 the Library was under Management Services. It began to automate its library system by subscribing to CARL Information Management and Delivery System. During the years 2010 to April 2014 the Library was shifted to a temporary location after the National Stadium was demolished to build the Sports Hub. Its bounded serials collection was kept in a warehouse, including many books which were not accessible to users. The reconfigured Library branded as Singapore Sports Hub Library, with five times larger floor space, than the previous library, is expected to be opened at its new venue in June 2014. Recommendations were made to the staffing, collection development and the provision of services to the new Library.

Keywords: Special Library; Sport Library; Physical Education; Newspaper Cuttings; Library Automation System

INTRODUCTION

Prior to the establishment of the Singapore Sports Council (SSC) library in 1974 there was no known record of a sports library in Singapore (Keeth 1965; Lim 1969; Lim 1970). The SSC's sports library was the first to be set up in Singapore after its post-colonial and post-war history (Lim 1975, 107). This research attempts to study the history and development of this sports library in areas of staffing, collection development, types of

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users, provision of services, including certain attributes that makes it unique from other special libraries. It also tries to put a case for the importance of studying information sources in sport and leisure for a country that promotes mass sports participation as well as sports excellence to win Olympic gold medals. The researchers studied the annual reports of the Council (1974-2012) and survey responses published in the seven *Directories of Libraries in Singapore* from 1975 to 2006 (Lim 1975; Sng 1983; Foo and Lim 1989; Cheng 1993; Lim-Yeo 1996; Koh and Choy 2000; Lim-Yeo 2006). Moreover, the researchers physically made 40 visits to the Library from February 2012 to March 2014 to browse and study the Library's book and serial collection.

Founding of the Singapore Sports Council Library (1974-2014)

Singapore was under British colonial rule from 1819 to 1941. The Japanese occupied the island from 1942 to 1945 (Thio 1991, 95). The island became a British colony again from 1946 to 1959. From the years 1955 to 1959 the post-war Singapore constitution was written to transfer a large measure of power to local administrators. A state election was held in 1959 and the People's Action Party (PAP) won to be a fully elected government under a new constitution. The Federation of Malaysia consisting of Malaya, Singapore, Sarawak and North Borneo (renamed Sabah) came into being on September 1963 (Yeo and Lau 1991).

On 9 August 1965 Singapore left Malaysia and became an independent sovereign nation (Ministry of Culture 1965, 10-11). The National Sports Promotion Board (NSPB) was officially formed on February 1971 as a statutory board to promote sports in the Republic (NSPB 1971, 6). The Singapore Sports Council (SSC) came into being on 1 October 1973. The Singapore Sports Council Act repealed the National Sports Promotion Board Act 1970 and the National Stadium Corporation Act 1971. The main functions of the SSC were:

1. To promote recreational and competitive sport.
2. To coordinate sports activities from schools to national level.
3. To develop and maintain sports facilities (SSC 1973, 12).

In the UK, the Sports Council, was established in 1972 by Royal Charter, to develop sport and recreation in the interests of social welfare and the enjoyment of leisure, to encourage the provision of new facilities and stimulate use of existing facilities, and to encourage high standards. Its primary objective is to increase participation and performance (Torkilsen 1992, 65). There appeared to be some similarities with the objectives of the Sports Council in the UK and Singapore.

First phase of development (1974 – 1997)

The Singapore Sports Council (SSC) Library was established in 1974 with 1,180 books and 100 periodical titles (Lim 1975, 107). The Library was well used by staff and members of the Singapore Physical Education Association (SPEA), coaches, members of the National Sports Associations (NSAs), and the armed forces. Students of the Institute of Education used the library for research purposes. The SSC Library is part of the Information and Research Division that served as a focal point for the receipt, exchange and dissemination of sports and related information, both verbal and written (SSC 1977, 30 - 31).

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In 1983 the library's collection expanded with 7,700 books, 172 journals, 88 16-mm films, 34 loop films, 13 video tapes and 5 sets of slides (SSC 1983a, 39). In 1974 the library had a "qualified" library staff who was a member of the American Library Association (ALA) but do not have a library qualification (Lim 1975, 107). In 1983 SSC began to employ a library technician with City and Guilds qualification, and, another clerical staff to run the library (Sng 1983, 144). The SSC Library falls into Prytherch's (2002, 687) criteria of a special library. It is a library maintained by a statutory board with a limited field of knowledge serving the needs of a portion of the community. The limited field of knowledge refers to information relating to sports and leisure and its community of sports amateur and professionals and enthusiasts and fans. In 1982 the SSC's Information and Division had a Sports Library, Sports Museum, Sports magazine and research department to carry out the task (SSC 1983b, 69).

Contacts with international documentation centres

The library maintained regular contacts with international documentation centres like the Council of Europe Clearing House (Belgium), the Sport Information Resource Centre (Canada), the National Documentation Centre (United Kingdom) and the Australian Clearing House for Publications in Recreation, Sport and Tourism (Australia). Through the exchange of publications, the SSC was able to keep abreast with new trends and developments in sports and physical education in other countries (SSC 1984, 53).

School of PE at the Institute of Education (IoE)

The College of Physical Education was set up in 1984 as part of the Institute of Education (IoE) and admitted its first batch of student to the two-year Diploma of Physical Education (PE) in July the same year (Institute of Education 1985, 2). The College planned an annual enrolment of 100 pupils each year. The main purpose of the College was to train specialist teachers of PE for secondary schools and Junior Colleges (JCs) (Institute of Education 1986, 53). Many of the pupils and staff of the College became members of the SSC Library because of the comprehensive collection of sports books.

Shifting to new premises in 1986

In order to cope with the expansion of the library, it moved to a larger premise in May 1986 to enable to house the increasing collection of audio-visual materials (SSC 1987, 50). In 1987 the library had 11,454 books, 258 periodicals, 345 video tapes, 109 16mm films, and 200 publications about the NSAs and Constituency Sports Clubs. About 160 files on various sport subjects were created in the library for reference purposes. The main users of the libraries continued to be PE teachers and students, sports officials, coaches and athletes (SSC 1988, 52).

Integrated Library Management System

The library was closed from 1 December 1993 to 31 March 1994 for relocation to its new premises (SSC 1994, 46). The library was located to the main lobby of the SSC in February 1994 to make it more physically accessible to its users. An integrated library management system, IMAGE II, was acquired in December 1994. The system consisted

of six fully-integrated modules on cataloguing and enquiry, loan and circulation, acquisition and budgeting, item control, serial management and MARC interface. Two on-line (OPAC) terminals were available to users to access information in the library's collection. The library automation programme was completed by October 1995. The library also subscribed to the Internet via Technet (SSC 1995, 42).

Table 1: Survey results of the Singapore Sports Council library in 1974, 1982, 1989 and 1993

1974	1982	1989	1993
Library personnel			
Lim Bee Eng ALA (Library officer)	Lily Poh City & Guilds, Asst. Cert. (Library Technician I)	Lily Poh City & Guilds, Asst. Cert. (Executive Officer)	Lily Poh City & Guilds, Asst. Cert. (Library Technician I)
1 qualified librarian 1 other	1 library technician 1 other	1 library technician 1 other	1 qualified librarian 2 others
Membership			
Staff and office bearers of NSAs; Users: NA	Staff and members Users: 100	Staff and members Users: NA	Staff and members Users: NA
Opening hours			
Weekdays: 8.30 a.m.– 4.30 p.m. Saturdays: 8.30 a.m. – 1.00 p.m.	Weekdays: 8.30 a.m.– 5.00 p.m. Saturdays: 8.30 a.m. – 1.00 p.m.	Weekdays: 8.30 a.m.– 5.00 p.m. Saturdays: 8.30 a.m. – 1.00 p.m.	Weekdays: 8.30 a.m.– 5.00 p.m. Saturdays: 8.30 a.m. – 1.00 p.m.
Inter-library loan: local			
Document delivery			
Nil	Nil	local	Nil
Collection			
General, sports, physical and health	Sports, physical fitness	Sports and recreation	Sports and recreation
Books: 1,810 volumes	Books: 6,697 volumes	Books: 12,055 volumes	Books: 14,300 volumes
Periodicals: 100 titles	Periodicals: 149 titles	Periodicals: 260 titles	Periodicals: 275 titles
Non-print: Nil	88 films	Films, audio and video cassettes	Films, audio and video cassettes
Classification: Wingate Institute of Physical Education and Sport			
Catalogue			
Author/title; subject	NA	NA	Author/title; subject

*NA = Not Available

Sources: Lim 1975, 107; Sng 1983, 144; Foo and Lim 1989, 176; Cheng 1993, 14.

The period of rapid growth of the library was from the years 1974 to 1989. Its collection of books increased from 1,810 volumes in 1974 to 6,697 in 1982 as compiled in Table 1. About one thousand books were added to the Library's collection from 1982 to 1989. There was a total of 14,300 books in 1993 (Cheng 1993, 14, Table 1) The periodicals also increased more than two-fold from 100 titles in 1974 to 260 titles in 1989. To make a comparison, the British Sports Council's Information Centre in London had an extensive reference library containing approximately 20,000 documents and 350 to 400 periodicals. The centre provided services for its own staff, leisure professionals, students and the general public, by answering personal, written and telephone enquiries. The

library covers such topics as administration, finance, management facilities and economics (Torkildson 1992, 66).

The Library 2000 report: provision of sources of information in sport and leisure

In 1994 the Ministry of Information and the Arts published a report of the Library 2000 Review Committee (1994) to recommend six strategic trusts in developing a total library service. They are:

1. To develop a new three tier public library system linking with academic, school and public libraries. The three tier public library system consists of five regional libraries, 18 community libraries and 100 neighbourhood libraries.
2. To build a network of borderless libraries, linking all publicly funded libraries and leading libraries with access to information services 24 hours a day.
3. To build a co-ordinated National Collection Strategy “to avoid uneconomical duplication and to achieve greater returns to investment”.
4. To provide higher standards of quality service through market orientation and revitalizing the library’s image.
5. To build symbiotic linkages with business and the community.
6. To enable Singapore to play a prominent role in the knowledge arbitrage process.

In view of the growing interest in healthy lifestyles and sports, the Committee recommended that the National Library Board (NLB) encouraged the SSC to expand its Library to serve a wider group of enthusiasts. It should be linked to the specialised collections in the College of Physical Education and be part of the public library system. The Regional and Community Libraries should provide a more general sports collections to complement the Sports Library’s specialised collection (Review Committee 1994). Although the recommendations of the Committee did not materialise due to the lack of leadership and interest, the SSC library is recognised as the only specialised sports library as well as the leading sports library in Singapore.

In 1995 the Library’s collection amounted to 15,800 books, 305 journals and 800 video tapes. It was also reported that the Library maintained a collection of 750 newspaper clipping files on local and international events. In addition, a special collection of information files on sports development in Southeast Asia was compiled for reference (SSC 1996, 39).

Singapore Integrated Library Automation System (SILAS)

Singapore Integrated Library Automation System (SILAS), a national bibliographic utility, was launched in 1987. Its library automation system provides an integrated resource sharing system through cooperative cataloguing. SILAS utilizes the Western Library Network (WLN) software to operate its services. Since its launching, it has drawn 32 participants including the six major tertiary institution libraries. As of April 1992 the SILAS database contains a total of 6,037,816 records. (Yap 1993, 88-89). The SSC Sports Library was accepted as a provisional participant in SILAS in July 1994. Since then, its holdings had been downloaded in stages to the SILAS database (SSC 1995, 42). More than 3,500 records were added to the SILAS database during the years 1995 and 1996. The Library was contributing to the national bibliographic database (SSC 1996, 39). This

was also a testimony that the Library had unique and rare collection of books not available in other libraries in Singapore. (SSC 2000, 50).

Second phase of development, 1998 - 2009: implementation of library automation system

In 1998 the SSC was reorganised and the Library was one of the five departments under Management Services. The other departments were Information Technology (IT), Research, Sports Museum and internal audit. To provide sports researchers and sports scientists with better bibliographic access to sports related information, the library subscribed to SPORT DISCUS, a bibliographic database on CD-ROM produced by the Sports Information Resource Centre (SIRC) (SSC 1999, 52). SIRC is generally acknowledged to have a fairly comprehensive library of books, periodicals, reports, dissertations and audio-visual material, but does not attempt to collect everything that is published in sport. The main emphasis of the collection is on top-level and international sport, the Olympic Games, disabled, doping and sport sciences (Shoebridge 1992, 10).

In 2000 the Library provided free membership for the NSAs to capture a wider readership and participation from the athletes, officials and coaches. About 30 NSAs responded positively to this scheme (SSC 2001, 50). The Library began to acquire books in the areas of sports science, strength and conditioning. During 2005 it began to subscribe the CARL library automation system with two OPAC terminals. At the same time users can access its catalogue online 24 hours a day via the internet (Lim-Yeo 2006, 405-407). Table shows the development of the Library in the deployment of staff and the increase in its print and non-print collection for the years 1996, 2000 and 2006.

Table 2: Survey results of the Singapore Sports Council library in 1998, 2000 and 2006

1996	2000	2006
Staff		
Lily Poh City & Guilds, Asst. Cert. (Library Technician I)	Lily Poh, City & Guilds, Asst. Cert. (Higher Executive Officer)	Lily Poh (Manager)
1 para-professional 1 support staff	2 para-professionals 1 clerical staff	1 graduate without library qualifications 1 para-professional 1 clerical staff
Membership		
Library users: 1,500 registered users	Staff, office bearers of NSA, PE teachers, Club training instructors, SAF/Police training instructors, NIE-SPE lecturers, students, public	Members only
Opening hours		
Weekdays: 8.30 a.m.– 5.00 p.m. Saturdays: 8.30 a.m. – 1.00 p.m.	Weekdays: 8.30 a.m.– 5.00 p.m. Saturdays: 8.30 a.m. – 1.00 p.m.	Weekdays: 8.30 a.m.– 5.30 p.m. Saturdays: 8.30 a.m. – 1.00 p.m.
Inter-library loan: To local libraries		
Document delivery: To local libraries		

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Collection		
Physical fitness, Physical Education, sports & recreation	Sports and recreation, sports science, fitness programmes and sports participation reports.	Physical Education, recreation, games, sports sciences, exercises and physical fitness, strength & conditioning
Books: 15,000 volumes	17,000 volumes	19,000 volumes
10,000 titles	12,000 titles	13,000 titles
Periodicals: 300 titles	310 titles	340 titles
Serials, bound: 2,000 volumes	2,200 volumes	2,500 volumes
AV materials: 800 items	1,118 titles	1,500 titles
Special collection: SEAP/SEA Games, Asian and Olympic Games collection.		
Newspaper clipping files: 1,000 volume		
Sports related activities in Singapore, Malaysia, Indonesia, Thailand, Hong Kong/China		
Wingate classification		
Library automation system		
Image II Library Management System	Image II Library Management System	CARL solution (2 OPAC work stations)
Sources: Lim-Yeo 1996, 180; Koh and Choy 2000, 303-305; Lim-Yeo 2006, 405-407.		

Third phase of development (2010 – 2014): shifting to a temporary site

In 2010 the Library shifted to a temporary location when National Stadium demolished in 2010. Its bounded periodicals collection was kept in a warehouse and was inaccessible to users. Nevertheless most of books and current periodicals, including all its audio-visual materials were kept in the open shelves. The Library was closed in March 2014 to be relocated at the Singapore Sports Hub. It was a period when not all its information could be made available to its users.

Singapore Sports Hub Library: Discussion

In 2014 the SSC was dissolved and a new organisation Sport Singapore was established. The SSC Library was outsourced to Civica Library Solutions vendor to managed the library at the Sport Hub scheduled to open in June the same year. It will be known as the Singapore Sports Hub Library. The library consists of two levels, with a combined floor space of 1,508 square metres. It is expected to have an opening collection of 80,000 sports and recreation books (Low 2013, 50; Civica 2014). This is a three-fold increase of the current collection of about 20,000 books. The researchers are no idea of what the new library will be as very little information were made available so far. Nevertheless they are providing the findings and recommendations of their research in the areas of Staffing, collection development, types of uses and provision of services.

Library personnel

The person-in-charge of the Library Madam Lily Poh has been working for 32 years (1982-2014) starting as a Library Technician and later, became a Manager. She was supported by a para-professional and a clerk (Table 1 and Table 2). Little is known about the staffing Singapore Sports Hub Library which is four times the size of the current Library in terms of collection and five times more in terms of floor area. It is likely that the staff requirements will be more than twice from the previous library. Ideally the

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head of the library should be a professional librarian with dual qualifications in library and information studies and sports studies. The lower level staff should at least have diploma or certificate qualification in information studies to be able to perform their roles effectively.

Audio-visual collection

The SSC is the only sports library in Singapore with the largest collection of videocassettes relating to sport matches of major sports like football, tennis and badminton, sports instructional programmes, sports injuries and the multi-sports events like the SEA Games, Asian Games and the Olympic Games (SSC n.d.). However, it is faced with many copyright difficulties in the conversion into digital format. Therefore the new staff probably have to keep the old machines for the videocassettes to be viewed.

Collection development

In 1992 Foskett and Hill (1992, vi) mentioned that although there is a growing tendency to record information in electronic media and to leave it there for distribution via electronic networks of one sort or another, the traditional media are still in use. This is particularly relevant in the provision of sports information in Singapore, Southeast Asia as well as in Asia where no known research has been done the sports information industry. It is likely to be under developed because there are no information providers or publishers in this area.

Special collections

The SSC Library is the only library in Singapore that the full collection of the official publications of the South East Asian Peninsula Games (1959-1975) and the South East Asian Games (1977-2013). However, the official publications and programmes of the Asian and Olympic Games are not chronologically complete.

Bibliography on history of sports in Singapore and Malaysia

The Library did have publications and books about the history of sports clubs in Singapore and Malaysia. There are books about the history of the Singapore Cricket Club, Singapore Recreation Club, Selangor Club and Singapore Swimming Club. However, these were not complete as there were no publications or comprehensive records about the history of the Penang Cricket Club, Penang Recreation Club, Malacca Cricket Club, Malacca Recreation Club and the Perak Club. It would be useful for the Singapore Sports Hub Library to do a bibliography on the history of sports in Singapore and Malaysia because of the shared history of many of these clubs and associations during the nineteenth and early twentieth century.

Special collections for specific sports

There is no systematic collection of official programmes for specific popular sports like badminton or football. For example, as far as the researchers are aware no libraries in Singapore have collected the official programmes of the Malaya and later Malaysian

Inter-State football tournaments from the 1920s to the present period. It is also rare to find any library in Singapore to have the official publication of the badminton Thomas and Uber Cup finals from 1948 to 2012. As a consolation the SSC Library is the only library that has World Badminton, the official magazine of the International Badminton Federation published in 1983 to the late 1990s. Therefore the researchers hoped that the Singapore Sports Hub Library look into the collection development of specific sports.

Newspaper cuttings

Newspapers are an important source of topical sports information that is sometimes neglected (Shoebridge 1992, 18; Sikes 2011). In fact the nineteenth and early twentieth century newspapers of Singapore are a rich repository of Singapore sports history and records not fully utilised at the moment (Khoo 1985). In 1995 it was reported that the Library maintained a collection of 750 newspaper clipping files on local and international events. In addition, a special collection of information files on sports development in Southeast Asia was compiled for reference (SSC 1996, 39). In the following years it was reported that the press cuttings amounted to 2,000 volumes (Lim-Yeo 1996, 180). This practice continued until 2014 when it was closed for transferred to the Sports Hub. However, all the files were not displayed in the open shelves and it would be difficult for users to identify and retrieve these files when they are not indexed for easy reference. Furthermore then newspaper sources are from the local daily newspapers like the Straits Times and Today, providing mainly local news and international news published in the local newspapers. To collect sports content about other Southeast Asian countries, the SSC will have to subscribe to daily newspapers like the New Straits Times, The Star from Malaysia, BOLA, Kompas, Jakarta Post from Indonesia and the Bangkok Post from Thailand.

A library for the NSAs

At the moment, the major NSAs in Singapore, like the Basketball Association of Singapore (BAS), Singapore Badminton Association (SBA), Singapore Bowling Federation (SBF), Football Association of Singapore (FAS), Netball Singapore, Singapore Athletic Association (SAA), Singapore Swimming Association (SSA), Singapore Table-Tennis Association (STTA) and Singapore Tennis Association (STA) (SSC 2012) do not libraries and professional librarians to management their information and archival records. The Singapore Sport Hub Library can perform the same function like the SIRC in Canada, buying sports information for the NSAs, and keeping them in the Library.

Creating a network of sports information professionals

In the UK the Sport and Recreation Information Group (SPRIG) has done much to coordinate the work of sports information professionals and to improve awareness of sports information since its inception in 1984 (Shoebridge 1992, xviii). Presently, there are no similar organizations in Singapore or other Southeast Asian countries. Perhaps, the special interest groups at Library Association of Singapore (LAS) or other library associations in Southeast Asia could think about forming a network of librarians looking at sports information as an important subject and vocation.

CONCLUSION

The history and development of the SCC Library can be seen in three phases. During Phase 1 (1974-1997), the Library was under the Information and Research Division. Its book collection grew rapidly from 1,810 books in 1974 to 6,697 books in 1982. About one thousand books were added annually from 1982 to 1989 (Table 1). There were a total of 16,270 books in 1997 (SSC 1997, 47). Its journal titles increase two fold, from 100 titles in 1974 to 260 titles in 1989 (Table 1). The journal titles increased to 314 in 1997 (SSC 1997, 47). The users types of users began to expand from staff of the Council to members of the SPEA, NSAs, students of the College of Physical Education (SSC 1977, 30), teachers, coaches, sports administrators, physical educators, researchers and sportsmen and women (SSC 1981, 32).

Phase 2 (1998-2009) began in 1998 when the Library was placed under the Council's Management Services Division. This was the period when the library began to automate its system and introduced the usage of specialised electronic database like SPORT DISCUS CD-ROM to its users. During the Phase 3 (2010 – 2014) period the Library shifted to a temporary location and could not operate fully because of the limited space and many of its bounded journals were kept in a closed warehouse. The new Singapore Sports Hub Library is expected to be opened in the middle of 2014. The authors have made suggestions to the staffing and collection development needs of the Library. The Library has the potential to serve the various NSAs as well as be a place for sports information professionals to gather and network.

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Innovations in library services at Jaipuria Institute of Management (India): A case study

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ABSTRACT

The library played a pivotal role in standardizing the learning and teaching process in the institute when private B-Schools (Business and Management Institutions) are facing challenges of their existence in higher education. The present paper is a case study of Jaipuria Institute of Management, Noida (India) which brought a dynamic library system in the campus to serve information needs of end user. The Jaipuria, Noida library has been extending not only the innovative services by using state-of-the-art-technology and but also giving vital importance to basic services of a library. The library groomed with systematic planning and execution in series of events and projects. In the case study, the growth of library and various innovations brought into use are being discussed. The paper also presents that how a library was setup, converted into a good library and transformed into an active library.

Keywords: Librarianship; Best library practices; Student centric libraries

INTRODUCTION

The history of management education in India can be traced back when a Commerce School of Pichhiappa in Chennai was established by the British government. The Sydenham College was the first graduate level B-School established in Mumbai during 1913. Shri Ram College of Commerce was founded in 1920 at Delhi. Just after Independence, in the very beginning, the government also encouraged establishment of private funded institutes that paved the way to Xavier's Labour Relations Institute (XLRI) as one of the first privately funded institutes founded in 1949 at Jamshedpur. The mushrooming of B-Schools was started in the second half of twentieth century with establishment of Indian Institute of Management at Calcutta (1961), Ahmedabad (1962) and, Bangalore (1971) etc. In the year 1981 the number of B-Schools was gone to 118, although keeping proper planning and coordinated development in technical (Management and Engineering) education in view, the All India Council for Technical Education (AICTE) was setup in 1945. By the year 1991 the total number of B-Schools had gone up to 322. The next decade were not seen much growth only 100 B-Schools were established in whole decade, and by the end of 2010-11, with an exceptional rate of growth the number of B-Schools go up to 3844. For the last few years, especially 2007

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onwards whole world has been facing dire consequences because of an economic recession. The recession has significantly affected businesses throughout the world which consequently has impact on management education. In 2010-11 it was noticed that more than 200 b-schools were closed down and many of the major b-schools are finding difficult to attract quality students.

JAIPURIA INSTITUTE OF MANAGEMENT

The Jaipuria Group has been a long heritage of providing educational excellence to the society of India which started with establishment of Seth Anandram Jaipuria College in Calcutta in 1945. Mainly Jaipuria Group has been known as a Tycoon in Textile industries but soon they also realized to build an educated and cultured society and started it from primary level by establishing a primary school at Lucknow in 1992 under the egis of its charitable trust called 'Integral Education Society'. They also realized that good managers can take Indian industries way forward and also contribute a lot for the betterment of Indian economy in particular. In the year 1995, Integral Education Society established its first B-School campus under Jaipuria Institute of Management at Lucknow, the second campus was established in 2004 at Noida, third at Jaipur in 2006 and Indore campus come into existence in 2010. All campus were beautifully constructed and magnificently developed. With ever growing chain of B-Schools, Jaipuria Group has been established a standard by providing quality education that also aims to provide a successful and ambitious management career to young minds. The Noida campus of the Institute has been facing challenges from all sides by being in NCR region, producing a great challenge from other renowned institutions. The National Capital Region (NCR) is one of the largest metropolitan areas of the world. It is known as a hub of academic institutions. The region has seen most remarkable growth in management education by accommodating about 200 B-Schools. The growth of B-Schools brings a great competition among all institutes and also the ongoing economic recession place a great challenge to all B-schools for their survival. Presently, students have many options for obtaining management education. The Jaipuria Institute of Management reviewed the present situation and geared up for revamping each and every ingredient of teaching, learning process. The institute conducted a well framed survey of all its students (at all campuses) and stakeholders to find out the weak areas which may be strengthened soon. After analyzing the survey, lack of student centricity was observed across the campuses. Apart from taking immediate measures to improve teaching pedagogies, course structure and outlines, infrastructure, canteen, mess and other facilities, libraries were also given much attention. A serious concern was shown for developing student centric libraries throughout the campuses.

LIBRARY OF JAIPURIA INSTITUTE OF MANAGEMENT AT NOIDA

Historically, library was established in 2004 as a hub for the library and information services in the Institute. It serves as a creative and innovative player in supporting the teaching, learning, scholarship and research activities of the Institute. The library building spread over two floors and is an exceptional example of modular construction. The library is entirely devoted to the academic needs of the students and faculty. It

offers a wide range of management, business and economic subject areas through its fast growing core collection of over 15000. It is a hybrid library accommodating vast range of print and electronic resources of information. It has extended on and off campus library services to its users. Time to time, to enhance its services library conducts user surveys and interviews. The library chalked out a plan by keeping student centricity as an aim, to convert good library to an active library. The transformation started from the very beginning like improving the ambiance of the library. The pots accommodating natural flowers and plants were placed in the library which improved the natural look of the library. The walls of the library are covered with few thoughtful and well framed art designs bought from the National Art Gallery of India. The reading space was also enhanced with comfortable chairs and tables. The other following key areas were taken up for whole transformation of the library system.

1. Assessment of library collection
2. Collection Development
3. Students in library committee
4. Librarian in Faculty Council
5. Footfalls in the library
6. Use of electronic gadget
7. Recognition to frequent users
8. Identification of groups as per students' activities
9. Digital library and institutional repository
10. Extra co-curricular activities
11. Other value added services

ASSESSMENT OF LIBRARY COLLECTION (BOOKS)

Assessment of library collection was done on yearly basis. For this, reports and statistics from Library Management Software were generated and evaluated under following categories:

1. Titles never have been in use: Library staff generates the list of titles (books) which are never issued even once since accessioning.
2. Books issued below 10 times: The statistics of titles used atleast once or above (but not more than 10 times) are also compiled.
3. Books recovered the cost: As per the basic criteria, title issued one time recovers the 10% of its actual cost and title issued two times recovered 20% of the actual cost. Therefore, list of all titles were compiled and analysed which were issued 10 or above times.
4. Books on profit mode: Only books recovered the procurement cost can be included in this category. The title must have 10 checkouts multiply by number of years of existence in the library collection, e.g. Titles procured during 2004-05 (10 Years ago) – we tried to know that how many titles accessioned during 2004-05, have been issued 100 (10x11) or more times. Similarly, books procured during 2005-06 (9 Years ago) must get issued more than 90 (10x9) or more times to become on profit mode.

Table 1: Books on profit mode

Particulars	Status in 2012	Status in 2014
Titles Never have been in Use	46%	26%
Issued below 10 times	45%	57%
Books Recovered the cost	9%	17%
Books on profit mode as per usage	3%	9%

The above is a quite interesting mechanism which reflects how an active library can evaluate its sources and also it shows the quality of collection. The titles never have been in use should be at the minimum level, however, Jaipuria, Noida library is trying its best efforts to improve the quality of books being procured. The display of procured books is also being organized so that the hidden books may come into the notice of library users.

COLLECTION DEVELOPMENT

Collection is the main strength of any library and users feel attached with the library when they frequently get the books which they wanted to read. In an internal library survey conducted during 2010 about 54 per cent of the students were not satisfied with the library collection. They asked for more varieties of contents in reading. Keeping a serious concern, the library team comes up with an interesting mechanism of procuring books as per the need of students. In 2012, 15% students were not satisfied with library collection and by end of March 2014 the number of unsatisfied students is reached to 0 (Zero).

Recommendations from users: Faculty and staff can recommend titles directly from the library, whereas students also recommend titles which they wanted to read and they were also requested to comment on why they require recommended book or books in the library.

Book Exhibitions: Apart from these general recommendations from users, every month a three days book exhibition to display newly published books in key areas of the institute has been started. This monthly book display received overwhelmingly by the library users.

Annual Jaipuria Book Fair: For the last three years an Annual Jaipuria Book Fair has been organized in the campus every year. Over 50 international reputed publishers have been taking part in this annual fair. This annual fair is high in demand by library users. The faculty and students in huge number have been enjoying this book fair and recommending quality books for the library. Visitors from nearby institutes were also visit in the book fair. The books recommended by students in the exhibitions or displays are being sent to the concerned subject area faculty for confirming worth of the book in library collection and to avoid procurement of any book containing ill or cheap information.

Project to procure management classics: This was an ambitious project, the library team had identified top 50 management experts (thinkers) and compiled a list of their publications. In the process about 80% of published books were procured in the library whereas some of them were out of stock or out of print.

Book Reviews: Book reviews which are appearing in newspapers, journals and magazines are being compiled and circulated to library users, so that they may recommend useful or needed books for the library.

STUDENTS IN LIBRARY COMMITTEE

Since beginning library has an active library committee which plays an important role in all activities and services of the library. To understand information requirements of students in more effective manner they were brought into the library committee to keep student centric environment in the campus. The main objective of bringing students in the committee is to have direct opinion or perspective of students on various services. One representative from each course has been nominated by the Programme Directors as member of the library committee. After few brainstorming meetings a logo was also formed to give a unique identity to the library and marketing campaign by students to highlight library services and activities brought users closer to the library services.

LIBRARIAN IN FACULTY COUNCIL

For developing a proactive library system, the librarian is included in the Faculty Council meeting as members and observer. Various discussions over need of newly emerged subject areas in course outlines (syllabus) abreast librarians with the latest happening in new subjects and requirement of teachers to adopt new pedagogies. This helps the system to develop collection in newly emerged areas as well as information which are high in use.

FOOTFALLS IN THE LIBRARY

Today, libraries (big or small) across the world have been coping with low footfalls of readers. The library of Jaipuria Institute of Management had come up with various initiatives for improving footfalls in the library. Some of the initiatives taken up for improving footfalls in the libraries are listed below:

- Students are being treated with welcoming gesture in the library.
- More reading space was allotted (in this process whole ground floor was converted as reading hall).
- Students are allowed to have academic discussions in the library.
- Library staff is responsive on each and every query of the student.
- Started 'Special Library User' award for the students using library extensively and more constructive manner.
- Initiated informative activities and games to offer other ways of learning.

After initiating above listed services and activities, a sea change has been observed on footfalls in the library. More depicted in the Figure 1, in which per day library visits have gone tremendously up than previous years. In the year 2011-12 average number of students' visits per day was 44 which reached to 118 visits per day in the year 2012-13 and in end of 2013-14 per day visits of students gone up to 242.

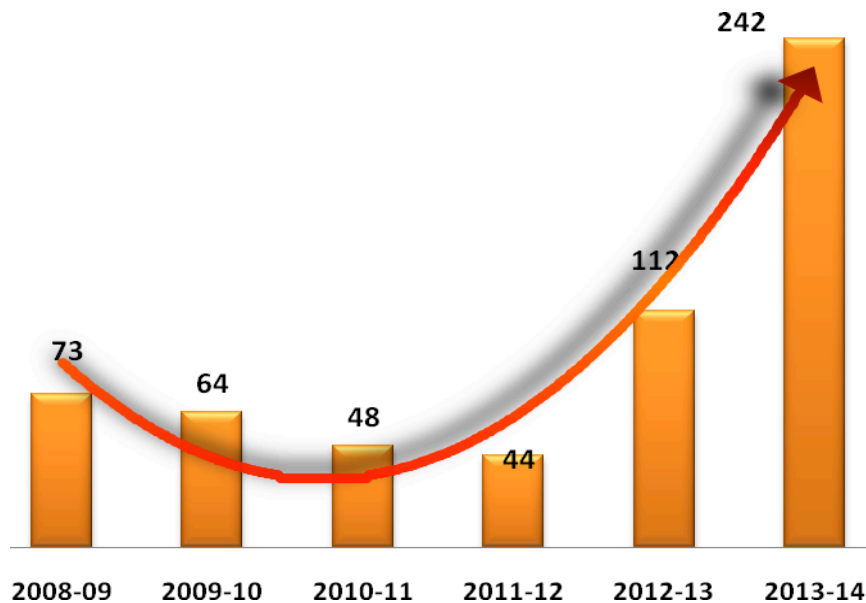


Figure 1: Average Number of Students visited library everyday

USE OF ELECTRONIC GADGET

An electronic gadget was installed in the entrance of library to record In/Out times of students. The recording of in/out timings of each individual visitor has brought new dimensions and challenges to strengthen library system. It helps in to understand following key factors about the visitors:

1. Now library team got to know who the frequent visitors of the library are. They have been requested to give valuable suggestions to make library more active and attractive in terms of services and collection of the library.
2. With the help of electronic gadget, library also got the list of students who have never stepped in the library. Library staff started meeting and interacting with students who are not visiting library to find out the obstacles or hurdles they might have been facing. It is the process to convert non-library users into library users.
3. Library also getting the list of students who are not visiting library frequently.

The whole idea for installing a gadget was to identify the frequent, moderate and non library visitors. This is again imposing a great challenge to library staff and administration to convert 'moderate library visitors' into 'frequent library users' and 'non-library visitors' to 'moderate library visitors'.

SPECIAL LIBRARY USER AWARDS

To encourage students who are using library on frequent basis a 'Special Library User Award' is constituted. Any student, who is achieving set criteria with respect to following parameters, will be awarded as 'Special Library User'. The evaluation is being done on every three months and students fulfilling minimum criterion points may be consider for final awards and two students with top points are being awarded with:

- Code of conduct in the library
- Number of visits in the library
- Number of duration spent in the library
- Usage of library resources
- Academic consideration (academic performance)

IDENTIFICATION OF GROUPS AS PER STUDENTS' ACTIVITIES

It has been a general opinion that human behavior reflects through participation in activities. Within couple of weeks a teacher also knows learning capacity or level of his/her students. In the same way, library team tried to identify and put students in different groups such as some like sports, hence they were kept in group of Sportspersons, some students are activists they kept in group of activists, some are scholar and the further kept in group of scholars. The library team then offered different privileges to different groups, e.g. Scholars are being offered 5 books for the loan period of 5 days, whereas sportsperson are being offered 3 books for 15 days.

DIGITAL LIBRARY AND INSTITUTIONAL REPOSITORY

Library maintaining a Digital Library which comprises collections of case studies, research articles and company profiles by using Greenstone Digital Library Software. It is also maintaining its website and blog.

EXTRA CO-CURRICULAR ACTIVITIES

Library started arranging various extracurricular activities, especially keeping library resources as base for the students. The activities such as collage making competition, mind games, treasure hunt, and quizzes etc. are being organized on regular basis. These are offering new methods of learning and understanding various important aspects of management and also keeping them up to date with latest happening in their respect domains.

OTHER VALUE ADDED SERVICES

Library has recently launched various value added services to keep students up to date with the latest happenings around the world in their respective areas and also about new additions in the library collection.

New arrival list: Circulating new arrivals list to faculty as well as students (Monthly basis). Library informs concerned student immediately on arrival of his/her and all others recommended documents in the library.

Book reviews: Circulating book reviews, compiled from various newspapers and magazines, to library users.

Book displays: Displaying books for 5-7 days on various topics which have been lying unused on the library stacks.

Company profiles: Preparing company profiles whenever requested by student or faculty members and circulating the same to all students.

Information Searching: Helping students and faculty in their academic and research pursuits by searching online information from available resources.

News updates: On regular basis library circulates latest happenings in the areas of management and business to all students every day.

Documentation Service: On regular basis library team compiles bibliographies of various resources available in our library and circulating the same to our all users.

News Digest: This is a fortnightly service. The library compile a booklet of important news appeared in newspapers and circulate it to all students and faculty members.

Training and Awareness Programmes: Library subscribes to few electronic resources. In the beginning of every session an orientation programme is being conducted for new students. On demand library orientation is also being given to users. The product-wise tutorials for all subscribed e-resources were created and time to time being circulated among students. The trainers of e-resources have also been called to provide useful tips and hands on practice to students as well as faculty members.

In 2012, 72% of students acknowledged the support extended by library staff in searching their needed information and the percentage has reached to 100 (100%) in the year 2014. About 39% of students were stated that they found their needed information from the library and by 2014 about 54% of students stated that they found their needed information from the library.

CONCLUSION

Library staff needs to establish a trust among its users for creating a student centric library. The Post Graduate students are not kids, the library staff is treating them as growing professional and support their on campus as well as off campus learning. Since perception about all libraries are changing and it is the responsibility of library staff to sense signal of change and modify the services accordingly. Technology is playing an important role hence all efforts are also being made to give state-of-the-art library to users. The library team has been extending information support in more personal manner which is well acknowledged by the users. The Jaipuria library at Noida campus is determinant to provide one of the best libraries of the region especially to motivate students by developing reading habits for lifelong learning. From new session, library is planning to extend its services to campus alumni as well. Now library team is working on counting 'Return On Investment' (ROI) so that weak areas and shortcomings may be found and proper measures can be taken well on time. Satisfying information needs of end user is the objective of any library, hence assessing level of satisfaction by traditional tools (surveys or counting of numbers) may not be sufficient. The library staff will use effective tools such as 'SERVQUAL' and 'LibQual' for measuring quality of library services, 'Balance Scorecard' or 'ISO 11620' for measuring performance of the library, etc. will be used to measure effectiveness of the library system and areas which require continual improvement efforts.

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The history and development of the institute of Southeast Asia studies library, 1967-2012: Future issues and challenges

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ABSTRACT

The history and development of the Institute of Southeast Asian Studies (ISEAS) Library in Singapore can be seen in the annual reports of the Institute from 1970 to 2012. The researcher also visited the library about 20 times over a two-year period and referred to secondary information like journal articles to study the Library. The first phase of the Library covers the years 1969 to 1987 when the founder Librarian and her team developed the Library under the first four Directors of the Institute. This study looks at the issues and challenges relating to acquisition and collection development of the Library's materials. The second phase of the Library is the period when the second chief librarian succeeded the founder librarian from the years 1988 to 2012. The second phase marks the beginning of the introduction of Information and Communication Technology (ICT) in the Library, including multi-media materials. Finally, this study tries to identify the future policies and practices of the Library in areas of management, collection development and the provision of services for the different types of users. This study suggests that the ISEAS Library has developed to be a special for Southeast Asian Studies in Singapore when it contributed 65 per cent of original cataloguing records of its unique materials in the Singapore Integrated Library Automation System (SILAS) database in 1996. Recommendations were made to the like issues and challenges the Library will face in the future.

Keywords: Southeast Asian Studies, Singapore, library automation system, photographs, archives, slides, digitalization

INTRODUCTION

This research looks at the history and of development of the Institute of Southeast Asian Studies (ISEAS) Library in Singapore from 1967 to 2012 under the leadership of two librarians. The first phase of development under the founder librarian covers the years 1967 to 1987. The second phase of development covers the years 1988 to 2012 when the Library was headed by a second chief librarian. The main research method depended on the study of the annual reports of the Institute from 1967 to 2013. Recommendations were made on the possible future plans and directions of the Library.

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THE INSTITUTE OF SOUTHEAST ASIAN STUDIES, SINGAPORE

The origins of the Institute of Southeast Asian Studies (ISEAS) after Singapore achieved independence in 1965. There was concern among the Singapore authorities that, though it possessed limited knowledge of its Southeast Asian neighbours. After visiting a number of centres for Southeast Asian research in the United States, Britain and elsewhere, the Government decided to set up the ISEAS (Sandhu 1989, 1).

ISEAS was established in May, 1968, as an autonomous corporation by an act of Parliament. It is a research centre for scholars and other specialists concerned with the many faceted problems of modernization and social change in modern Southeast Asia. The Institute is governed by a 24-member Board of Trustees on which represented the University of Singapore and Nanyang University, as well as professional and civic organizations. A ten-man Executive Committee oversees day-to-day operations. The Committee is chaired by the Director, the Institute's chief academic and administrative officer (Silverstein 1971). The Institute is unique in some ways it is a solely research body, without students or teaching functions. It is independent of any university, and does not form part of any other organization or institution (Sandhu 1982, 3).

The first four Directors of the Institute, 1968-1992

The first Director of the Institute was Professor Harry J. Benda (Silverstein 1972, 2). The second Director of the Institute was Professor John D. Legge, formerly from the Department of History, Monash University. In August 1970, Professor John Silverstein from the Department of Political Science, Rutgers University, replaced Professor Legge, to be the third Director. He was a specialist in Burmese politics and modern history (Silverstein 1971, 3). In 1972 Professor Kernial Singh Sandhu, from Malaysia, became the fourth Director of the Institute. He previously studied and taught at the University of Singapore. His last held position was Associate Professor in the Department of Geography, University of British Columbia, Canada (Sandhu 1973, 1). Professor Sandhu was the Institute's chief academic and administrative officer until his death on 2 December 1992 (Chan 1993, 5).

The ISEAS Library under Patricia Lim Pui Huen, 1969 – 1987

The ISEAS Library was set up in June 1967, one year before ISEAS was set up as a statutory board (Kesapavany 2008, 52). The first head librarian of the ISEAS library was Mrs Patricia Lim. She joined the Institute in April 1969. Through prudent, professional acquisitions, purchases, and exchanges she built the Library into a major collection. She retired on December 1987 and took a new career with the Institute as Research Fellow, and Co-ordinator of South East Asia Cultural Programme (SEACUP) (Sandhu 1988, 39-40). Thus Mrs Lim worked under the first four Directors of the Institute.

In 1975 the Library had three qualified librarians and seven other officers (Lim 1975, 43). It was initially located at the Bukit Timah Campus of the former University of Singapore for 13 years. In January 1980 the Institute and its Library moved to new premises at Heng Mui Keng Terrace, Pasir Panjang (Sandhu 1980, 20-21). The new building was

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shared with the Civil Service Institute and ISEAS, with the Library located at the third floor of the building (Sandhu 1981, 23).

Acquisition management

The Library acquisition team used the following methods to source up-to-date information.

- i) The scrutinizing of publication catalogues and announcements, and use of conventional acquisition methods of direct purchases from publishers or employing commercial jobbers;
- ii) The cultivation and establishment of publications exchange partners; and
- iii) The undertaking of field trips to strengthen the collection building programmes and to widen acquisition networks (Sandhu 1988, 40).

Joint Microfiche Project Indonesia

The largest growth was in microfiches due to the Library's participation as one of the eight subscribers in the Joint Microfiche Project Indonesia, also known as the Cornell Project. Thus the number of microfiche increased from 166 to 6,509 in 1971 (Silverstein 1971, 6; Silverstein 1972, 5, Appendix A). The last instalment of the Project issued during the period 1945-68 was received in 1974. The microfiche collection totalled 21,880 pieces. In addition attempts were made to improve the Thai, Vietnam, Laos and Cambodian collection on mainland Southeast Asia. The Thai collection has grown through an expanded network of acquisition and exchange and an acquisition agent (Sandhu 1975, 10, Appendix A).

Newspaper collection

A start was made in 1972 to microfilmed newspapers. The files were arranged on a biographical basis. During the first phase of the project, cuttings were made from two Indonesian newspapers (Silverstein 1972, 6). The Library also began its Press Cuttings Collection in areas of international relations and ethnic relations from at least one newspaper from each Southeast Asian country. In 1973 library services were extended in other types of information like speeches, press statements, broadsheets, off prints, seminar papers and other items too small to be handled by conventional procedures. (Sandhu 1974, 8).

Papers of prominent politicians and scholars

In 1972 family of the late Tun Dato Sir Tan Cheng Lock placed eighteen folios of his papers, comprising about 2,000 documents (Silverstein 1972, 6). The indexing and description of all the 18 folios the Tan Cheng Lock papers was completed in 1973. It was published under the title *Tan Cheng Lock Papers: a Descriptive List* (Sandhu 1973, 6). In 1986 Mr Gerald de Cruz and Mr Alex Josey, deposited their papers with the Library. They provided valuable documentation on the political development of Singapore (Sandhu 1986, 34).

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Southeast Asian Regional Branch of the International Council on Archives (SARBICA)

In 1971 the Librarian presented a set of guide-lines for regional and international co-operation in microfilm projects at the First General Conference of the Southeast Asian Regional Branch of the International Council on Archives (SARBICA) held in Manila. She was appointed Co-ordinator of a Regional Microfilm Clearing-House jointly with the Conference of Southeast Asian Librarians (CONSAL) and her paper formed the basis for the co-operation of subsequent projects (Silverstein 1972, 6). She was also editor of its *Southeast Asia Microfilms Newsletter* published by ISEAS for the Clearing House (Sandhu 1973, 7).

Master list of Southeast Asian microforms

The Library served as the coordinating centre for the Master List of Southeast Asian microforms, which was a cooperative compilation involving many institutions in the region. (Sandhu 1977, 20). The ISEAS Librarian acted as Project Coordinator and Mrs Hedwig Anuar, Director, National Library of Singapore, as Project Administrator. The Master List was based in the Arsip Nasional, Jakarta. The Project was completed in May 1977 (Sandhu 1978, 21). The Master List was published by the University of Singapore Press (Sandhu 1979, 14).

The Benda Collection

In 1975 Professor Benda donated about 1,000 items including off-prints, seminar papers, book reviews and publications of Yale's Southeast Asian Studies and Cornell's Southeast Asian Programme. The off-prints of international journals which the Library does not subscribe were a valuable addition to its collection (Sandhu 1976, 11-12).

Bibliographic projects

The Malacca bibliography compiled by Mrs Lim as part of Professor Sandhu's and Paul Wheatley's comprehensive study on the state included manuscripts, archives, theses, printed materials, and a substantial listing of historical maps of Malacca (Sandhu 1978, 21) was completed in 1979 (Sandhu 1979, 14). The manuscript of *The Malay World of Southeast Asia: A Select Bibliography*, compiled by Mrs Lim was completed in 1985 (Sandhu 1985, 36) and published by UNESCO in 1987 (Sandhu 1987, 33).

Miss Zaleha Tamby's *Cambodia: A Bibliography* was published in 1982 as No. 12 in the Library Bulletin series (Sandhu 1983, 29). Professor's Muljanto Sumardi's bibliography on *Islamic Education in Indonesia* was published in 1983 as Library Bulletin No. 13. Mr Lkuo Iwasaki's *Japan and Southeast Asia: A Bibliography of Historical, Economic and Political Relations* was issued as a joint publication of the Institute of Developing Economies of Tokyo and ISEAS in 1984 as Library Bulletin No. 14 (Sandhu 1984, 31). Library Bulletin No. 15 issues in 1984 included *Urban Transport in South and Southeast Asia: An Annotated Bibliography* by V. Setty Pendakur. The compilation of a bibliography on Laos by Mr William W. Sage and Miss Judith Henchy (Sandhu 1985, 36) was published as Library Bulletin no. 16 (Sandhu 1986, 34).

Southeast Asia Cultural Programme (SEACUP) collection

The Institute carried out three research programmes. The ASEAN Research Unit (AERU), the Regional Strategic Studies Programme (RSSP), and the Social Issues in Southeast Asia (SISEA) programmes. In 1981 the South East Asia Cultural Research Programme (SEACURP) was established in 1981 after it was inspired by the work of the late American architect, Dorothy Pelzer work of assembling 15,000 black-and-white photographs, 7,000 colour slides and six filing cabinets of notes taken between 1962 and 1970 about the traditional houses in the remote interior of Irian Jaya, Burma and Laos. Thus the Institute established the Southeast Asia Cultural Programme (SEACUP) as a documentary project within the Library (Lim 1989, 135-136). Over the years the Library has been slowly developing a small collection of visual ethnography (Sandhu 1985, 36). The vast amount of cultural materials was in the subject of history, anthropology and religion.

The audio recordings can be divided into two categories. First, there were the language learning tapes purchased from foreign centres. Secondly, there were tape recordings of interviews taken by researchers as part of their field work (Lim 1989). Appendix A shows the growth of the Library's collection from 1968 to 1988. Appendix B shows the growth of SEACUP collection from 1993 to 2001.

Un-catalogued and unprocessed materials

At the end of March 1976, the microfiche collection stood at a low 21,880 because the microfiches of the Joint Microfiche Project Indonesia have not yet been catalogued and processed (Sandhu 1976, 11). Two Assistant Librarians were employed on short-term contracts to clear a good part of the cataloguing backlog with special reference to the European and Vietnamese language materials. Another librarian, from Thailand's Chulalongkorn University, catalogued the Thai language material (Sandhu 1984, 29). The cataloguing team of only five staff members was highly inadequate to meet the volume of incoming materials. By 1988 there was a backlog of about 23,000 titles of monographs, periodicals, and microforms accumulated over a number of years (Sandhu 1988, 42).

Table 1: Institute of Southeast Asian Library, 1968, 1974 and 1983 (selected information)

1968	1974	1983
Staff: 1 librarian 1 unqualified librarian 5 others	Staff: 3 qualified librarians 7 others	Staff: 3 qualified librarians 10 others
Opening hours: Weekdays: 9.00 am – 4.30 pm; Saturdays: 9.00 am – 1.00 pm		
Lending policy: NA	Staff and accredited enquirers	
Library users: NA	About 200	400
Inter-library loan: local	local	local, overseas
Collection		
Books: 2,300 volumes	19,390 volumes	38,600 volumes
Periodicals: 120 titles	1,560 titles	2,200 titles
Non-book materials: NA	25,195 items	375 maps, 75,300 microfiche, 6,500 microfilm, 250 rare books

Subjects covered: Social sciences related to modern Southeast Asia		
Classification: Library of Congress		
Catalogue		
Dictionary	Dictionary; author/title; subject	Dictionary; author/title; subject, country and language files for Southeast Asian countries
Special equipment		
Microfilm reader: Recordak MPE-1	Microfilm reader, microfiche reader, document copier.	Microfilm reader/printer, microfiche reader/printer, photocopying machine

NA = Information not available

Sources: Lim 1969, 52; Lim 1975, 42-43; Sng 1983, 47.

The fifth to seven Directors of the Institute, 1993 – 2012

After Professor Sandu's unexpected death in 1992, Professor Chan Heng Chee was appointed the fifth Director on March 1993 (Chan 1993, 5). In 1996 Professor Chan became Ambassador to the United States and Professor Chia Siow Yue became the institute's sixth Director (Chia 1997, 1). She retired on October 2002. Mr K. Kesavapany, formerly Singapore's High Commissioner to Malaysia (1997 – 2002), succeeded Professor Chia as the seventh Director. (Kesavapany 2003, 3). Mr Tan Chin Tiong, who retired as Ambassador to Japan, became the eighth Director on February 2012, after Kesavapany's retirement the same year (Tan 2013, 4).

The second ISEAS Chief Librarian, Chng Kim See, 1988 – 2012

In 1988, Miss Ch'ng Kim See, formerly Head, Technical Services, Joint United Nations/International Atomic Energy Agency (IAEA) Vienna International Centre Library, headed the ISEAS Library. She was sponsored by the Institute to attend a Master of Science course in Information Studies at the University of Sheffield (Sandhu 1988, 40). In 1989 a manpower study was conducted to ensure that the Library was adequately staffed (Sandhu 1989, 104). In 1989 there were four qualified librarians, three library assistants and five others (Foo and Lim 1989, 54). Seven years later, staffing situation improved with five graduates with professional library qualifications, eight para-professionals and four support staff (Lim-Yeo, 39). See Table 2 for the staff strength of the library from 1989 to 1996.

Table 2: Institute of Southeast Asian Library, 1989, 1993 and 1996 (selected information)

1989	1993	1996
Staff: 4 qualified librarians	4 qualified librarians	5 graduates with library qualifications
3 library assistants	4 library assistants	8 para-professionals
5 others	4 others	4 support staff
Collection (selected information)		
Books: 76,004 volumes	96,335 volumes	122,600 volumes
Books: titles (NA)	57,760 titles	73,232 titles
Serials: 2,101	1,759	1,967
Microfilm: 9,472	10,825	11,999

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Microfilm: titles (NA)	1,084 titles	1,104 titles
Microfiche: 99, 169	118,253	130,445
Microfiche: titles (NA)	7,212 titles	12,430 titles

Sources: Foo and Lim 1989, 53-54; Cheng 1993, 34-35; Lim-Yeo 1996, 39-42; Sandhu 1989, 95; Chan 1993, 48; Chan 1996, 77; Sandhu 1989, 95; Chan 1993, 48; Chan 1996, 77.

Reference and information services

A Reference and Information Services desk was created in 1991 to look into the enquiries of ISEAS researchers and members from the government departments, statutory boards, tertiary institutions and private companies (Sandhu 1991, 95). The Library was considered to be “a self-help Library,” where professional and para-professional staff of the Library endeavoured to provide value-added services to its users. Some of the reference enquiries took “from one day to two weeks to answer” (Chan 1993, 51). In 2012 more than 50 per cent of the Library users were ISEAS Researchers and academic staff from the National University of Singapore as shown in Table 3.

Table 3: Types of registered users, 2003 – 2012

	ISEAS Researchers	Singapore academic staff	Local tertiary students	Government & statutory boards	Foreign Researchers & students	Others	Total user types
2003	28 %	21.8 %	22.8 %	9 %	18.2 %	0.2 %	501
2004	28 %	18.9 %	18.4 %	7.5 %	18.5 %	0.8 %	NA
2005	37.5 %	17.1 %	20.5 %	9.1 %	15.4 %	0.4 %	NA
2006	35.2 %	17.1 %	16.5 %	10 %	20 %	1.2 %	674
2007	27.2 %	12.7 %	12.7%	9.6 %	18.5 %	1.1 %	784
2008	37.8 %	12 %	17.6 %	7.5 %	24 %	1.1 %	738
2010	38.1 %	14 %	24.7 %	7 %	15.6 %	0.6 %	764
2011	43 %	18 %	13.5 %	6.9 %	18 %	0.6 %	788
2012	38.4 %	16.8 %	20.8 %	7.1 %	16.8 %	0.1 %	875

NA = Not Available

Sources: Kesapavany 2003, 37; Kesapavany 2004, 37; Kesapavany 2005, 45; Kesapavany 2006, 54; Kesapavany 2007, 55; Kesapavany 2008, 57; Kesapavany 2010, 49; Kesapavany 2011, 56-57; Kesapavany 2012, 48.

ISEAS Library 21 Vision Plan

The Institute moved to its new building in March 1998. The new office complex has four buildings – a one-storey Seminar block, a two storey Administrative Block, a five-storey research block and a six-storey Library block (Chia 1998, 3). In 1999 there were five professional librarians and 11 support staff (Chia 1999, 72). In April 2000, the ISEAS Board of Trustees requested the Library to prepare a ten-year plan on its agenda and programmes. The Plan was submitted to the Board in January 2001 (Chia 2001, 30). The ISEAS Library Advisory Committee (LAC) chaired by the Deputy Director and comprising some ISEAS researchers and the Head of the Library, was formed in 2006 (Kesapavany 2007, 48).

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The number of professional librarians remained the same in 2006, with six para-professionals and three clerical staff. The professional staff consisted of a chief librarian, and the Heads of Technical Services, Collection Development Services, Systems and Circulation and Reference and Information Services (Yeo 2006, 48). Chng Kim See, who has worked under the fourth to seven Directors since 1988, retired in September 2012 (Kesavapany 2012, 4) followed by Ms Zaleha Tamby, four months later her. See Appendix B for the collection of the Library from 1988 to 2012. Mr Pitt Kuan Wah, an archivist, took over as Head, Library from January 2013 (Tan 2013, 41). Table 4 shows the staff strength of the Library in 2000, 2006 and 2012.

Table 4: Institute of Southeast Asian Library, 2000, 2006 and 2012 (selected information)

2000	2006	2012
Staff: 5 graduates with library qualifications	5 professional staff	1 professional staff (3 retired and one resigned)
6 para-professionals	6 para-professionals	NA
5 clerical staff	3 clerical staff	NA
Collection		
Books: 159,075 volumes	196,931 volumes	226,882 volumes
Books: 93,910 titles.	120,752 titles	NA
Serials: 1,866 titles	1,928 titles	1,782
Microfilms: 15,811 reels	17,016 reels	18,393
Microfilms: 2,902 titles	2,924 titles	NA
Microfiches: 165,193	184,509	248,318
Microfiches: 28,863	36,661 titles	NA

NA = Not Available

Sources: Koh & Choy 2000, 222-226; Yeo 2006, 48-52, Chia 2000, 62; Kesavapany 2006, 50-51; Kesavapany 2012, 45.

Computerization of the Library

The five-year computerization of ISEAS, including the Library, began in 1993. It entailed a huge manpower effort not only by computer development staff, but also by library professionals and non-professionals as the bulk of the library-based information still in manual format had to be analysed, indexed, and input into the computer (Chan 1993, 51). The implementation of an integrated computerised system allowed library users to search the catalogue on-line (Chan 1994, 55). The on-line catalogue database known as *Southeast Asia Library On-line* (SEALion) had more than 90,000 records of titles. More than 70 personal computers in the Institute were able to access the bibliographic records in the database (Chan 1995, 58). In 1995 the system had 109,700 records of titles (Chan 1995, 74).

Southeast Asian Database (SEA Base)

A newly computer integrated system was installed to develop the Southeast Asian Database (SEABase) containing bibliographical citations and abstracts of journal articles, grey literature, documents and unpublished literature accessible to users via the Internet (Chan 1994, 57-58). SEABase, which began in January 1995 had over 15,000

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records by March 1996 (Chan 1996, 74-75). By 2008 SEABase provided on-line access to 40,609 important research work in journal and books (Kesavapany 2008, 56).

Southeast Asia Biography database (SEABiog)

The entries of the biography database of notable personalities (including their speeches) in Southeast Asia numbered nearly 1,500 in 1991. These included eminent leaders in politics, economics, academia and government mainly from Indonesia, Malaysia, Singapore and Thailand. Efforts were made to increase on Myanmar and the Indochina countries (Sandhu 1991, 97). As of 31 March 1998, the total number of records in the biography database was 2,570 (Chia 1998, 80).

Southeast Asia Full-text Database (SEAText)

Southeast Asia Full-text Database (SEAText) database, initiated in 1997, consists of full-text records of newspaper and selected current affairs journal articles (Chia 1998, 80). By 2008 there were a total of 61,679 records in the database (Kesavapany 2008, 56).

Southeast Asia Private Papers Database (SEA Priv)

The *Southeast Asia Private Papers Database (SEAPriv)* consists of the Library's collection of private papers (Chan 1996, 75-76). By 2012 the Library has the private papers of 14 well known Malaysian and Singaporean political personalities from Malaysia and Singapore like David Marshall, S. Rajaratnam,, P. G. Lim, S. Q. Wong, Tan Cheng Lock and Tun Ismail Abdul Rahman (ISEAS 2014). Table 5 show that number of entries in the various databases from 2002 to 2008.

Table 5: Clippings, private archives and databases

	2002	2006	2007	2008
SEA Biog (Biography entries)	2,570	NA	2,572	NA
SEA Base (journal article entries)	31,924	39,625	39,743	40,609
SEA Text (full-text articles)	28,071	57,961	59,716	61,679
SEA Priv (private papers indexed)	526	NA	NA	933
Private papers (personal archives)	1,490	NA	NA	NA
Southeast Asia Cultural Collection	82,965	83,861	84,132	85,612

*NA = Not available

Sources: Chia 2002, 32; Kesavapany 2006, 48 & 53; Kesavapany 2007, 48 & 54; Kesavapany 2008, 56.

Singapore Integrated Library Automation System (SILAS)

The Singapore Integrated Library Automation System (SILAS), a national bibliographic utility was launched in April 1987. It was a giant step towards building an integrated resource sharing system through cooperative cataloguing initially among six academic libraries in Singapore (Yap 1993, 88-89). The ISEAS Library became a member of SILAS in

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1988. Participation in this national database allowed the Library on-line access to the holding of 30 other library participants. By the same token, the Library allowed these other participating libraries on-line access to its holdings, nearly 60 per cent of which were unique titles. By the end of March 1990, the Library had more than 27,000 records in the holdings of SILAS (Sandhu 1990, 91). In 1996 the Library obtained about 35 per cent of cataloguing records as a cataloguing aid from the database of its new materials added to the collection. At the same time the Library contributed 65 per cent of original cataloguing records of its unique materials into the database (Chan 1998, 76; Chan 1999, 77).

Unprocessed print and microform materials

More than one-fifth of the Library's collection was vernacular language materials requiring native experts to analyse them. Moreover, about 40 per cent of the materials acquired were unique, requiring original or new description as there were no cataloguing aids to consult. Thus the backlog of unprocessed materials was 25,785 titles in 1989 (Sandhu 1989, 96). Table 6 shows the quantity and types of unprocessed information from 1996 to 2001.

Table 6: Unprocessed print and microform materials

	1996	1997	1998	1999	2000	2001
Books	6,711	5,565	4,365	3,992	4,101	5,278
Microfilm	3,023	1,281	1,313	1,312	1,313	1,315
Microfiche	48,153	41,993	40,300	39,324	37,429	33,338
Maps	168	88	102	26	23	26
Periodicals	44	0	0	0	2	0
CD-ROMs	-	-	7	5	15	18
Audio-cassettes	-	-	5	4	23	58
Video-cassettes	-	-	-	4	14	23
Digital video disc	-	-	-	-	-	1
Floppy-discs	-	-	-	-	-	3
Posters	-	-	4	4	4	5
Charts	-	-	4	2	0	0
Total	58,099	48,927	46,118	44,673	42,914	40,065

Sources: Chan 1996, 77; Chia 1997, 84; Chia 1998, 73; Chia 1999, 73; Chia 2000, 62; Chia 2001, 31.

In February 2007, a freelance professional cataloguer was employed for one year to assist in the cataloguing of the microfiche backlog (Kesavapany 2007, 48). In 2011 the accumulated backlog of print materials and microform was reduced to 28,152 items (Kesavapany 2011, 52) from 40,065 items in 2001 as shown in Table 6. Table 7 shows the processed and unprocessed materials by language streams from 2001 to 2008.

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Table 7: Print and microform materials by language, 2001 – 2008 (processed and unprocessed)

	Southeast Asian languages	Other Asian languages	Other European languages	English language	Total
2001	94,145 (51 %)	1,730 (1 %)	5,303 (3 %)	83,661 (45 %)	184,839
2002	96,829 (50.8 %)	1,766 (0.9 %)	5,326 (2.8 %)	86,636 (45.5 %)	190,557
2003	98,981 (50.7 %)	1,814 (0.9 %)	5,347 (2.8 %)	88,914 (45.6 %)	195,083
2005	106,066 (51 %)	1,231 (1 %)	5,933 (3 %)	93,202 (45 %)	206,432
2006	114,573 (54 %)	1,961 (1 %)	5,471 (2 %)	90,592 (43 %)	212,597
2007	107,573 (49 %)	1,630 (1 %)	6,937 (3 %)	101,924 (47 %)	218,064
2008	109,178 (49 %)	1,673 (1 %)	7,017 (3 %)	103,326 (47 %)	221,194

Sources: Chia 2001, 33; Chia 2002, 31; Kesapavany 2003, 35; Kesapavany 2005, 43; Kesapavany 2006, 49; Kesapavany 2007, 51; Kesapavany 2008, 54.

Depository Library for ASEAN Secretariat and the Asian Development Bank

On August 2006, the Library was appointed as the first depository library by the ASEAN Secretariat. It is also the depository Library of the Asian Development Bank (ADB) with a collection of 427 books in 2007 (Kesapavany 2007, 53).

CONCLUSION

During the first phase of the Library (1967-1987) headed by its founder librarian, a beginning was made to build a collection of books, periodicals, microfilms, microfiches, documents (Appendix A), newspapers and bibliographies, including SEACUP. The initial policies for acquisition management were made. However the library encountered problems due to insufficient space and lack of specialised professional staff to catalogue its materials. Hence there was a backlog of 23,000 un-catalogued items.

During the second phase (1988-2012) of development of the Library, it was recognised as a special library in Singapore when it contributed 65 per cent of original cataloguing records of its unique materials in the Singapore Integrated Library Automation System (SILAS) database in 1996. The number of registered users of the Library has increased by 75 per cent from 501 in 2003 to 875 in 2012.

Issues in Library Management

From the years 1996 to 2011 the Library had a total of five graduates with library qualifications and six para-professional staff (Table 3 and Table 6). However, between 2011 and 2012 the Chief Librarian, and Head of Technical Services and Collection Development Services have retired while the Head of Reference and Information Services have resigned. Two were Malaysian citizens and another two, were Singapore citizens. The only professional librarian still working, is from India. In 2013 the new Head of the Library who an archivist (Pitt 2002). He is not a qualified or professional librarian and is likely to have his own views or ways in the recruitment of new professional and para-professional staff

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Issues of Cataloguing

Throughout the history of the Library, it appeared that more materials were purchased, exceeding the cataloguers ability to processed all the items in the various Southeast Asian and European languages. The probable solutions are as follows:

1. Employ more professional and para-professionals who are experience cataloguers in the various Southeast Asian and European languages.
2. Employ professional cataloguers to clear the backlog of un-catalogue materials.
3. Outsource the cataloguing of selected materials.

Issues of Collection Development

Presently, the Association of Southeast Asian Nations (ASEAN) consists of ten countries and it is not possible for the Library to source materials from all these countries due to limited resources, manpower and space. While it is necessary for the Library to have a representative collection from all the ten countries, it depends on its library professionals and in-house core researchers “to select and recommend” information “in all languages and formats in the applied social sciences, except for law”. The subject areas include social, economic and political developments, human rights, gender issues concerning women, emigration and immigration, demography and population, including traditional medicine. Within the humanities, the Library selectively collects fine arts, textile designs, built forms, dance and music. However, the main acquisition programme focuses on Indonesia (ISEAS 2014). From the years 2001 to 2008, information materials from Indonesia consisted of more than 46 per cent of the Library’s processed items (Appendix C).

The Library recognised that “establishing, developing and building the Southeast Asian collection”...“is a combination of a specialist professional skills, expertise and deep interest, including a sustained labour of love”. However, it has to face the challenges like the lack of funding and shortage of professional and support staff (ISEAS 2014). Until such time that the Library take the crucial step to recruit, train and nurture professional and support staff, the ongoing problems will continue to persist. Thus limiting or decreasing the development of the library in one way or another.

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Appendix A

Collection of the Institute of Southeast Asian Library, 1968 – 1988

	Books and bound periodicals	Serials	Microfilms (reels)	Microfiches (fiches)	Documents
1968	2,300	120	-	-	-
1969/70	5,403	432	499	166	-
1970/71	9,151	705	1,034	6,509	-
1971/72	12,060	860	1,550	15,460	-
1972/73	14,440	1,170	2,080	20,300	-
1973/74	16,740	1,270	2,400	21,880	900
1974/75	19,390	1,560	2,960	21,880	1,680
1975/76	22,420	1,590	3,740	21,880	2,270
1976/77	25,220	1,860	4,130	70,310	2,480
1977/78	28,520	1,950	4,580	70,590	2,850
1978/79	31,980	2,010	5,420	71,420	3,260
1979/80	34,950	2,160	5,930	71,700	3,550
1980/81	38,630	2,240	6,550	75,270	3,800
1981/82	42,340	2,170	7,070	80,280	4,300
1982/83	47,010	2,180	7,430	80,450	5,200
1983/84	51,450	2,245	7,570	91,360	5,340
1984/85	56,300	2,240	7,880	93,010	5,820
1985/86	61,080	2,220	8,490	96,980	6,140
1986/87	66,090	1,960	8,970	98,090	6,290
1987/88	70,741	2,019	9,248	98,831	6,361

Sources: Lim 1969, 52; Silverstein 1971, 6; Silverstein 1972, 5; Sandhu 1973, 5; Sandhu 1974, 7; Sandhu 1975, 10; Sandhu 1976, 11; Sandhu 1977, 20; Sandhu 1978, 20-21; Sandhu 1979, 14; Sandhu 1980, 21; Sandhu 1981, 21; Sandhu 1982, 24; Sandhu 1983, 29; Sandhu 1984, 29; Sandhu 1985, 34; Sandhu 1986, 34; Sandhu 1987, 33; Sandhu 1988, 40.

Appendix B

Collection of the Institute of Southeast Asian Library, 1993-2012

Year	Books and bound periodicals (titles)	Serials	Microfilms (titles)	Microfiches (titles)	Documents
1993/94	104,394 (60,746)	1,678	11,042 (1,084)	121,672 (7,311)	7,633
1994/95	112,188 (65,677)	1,876	11,538 (1,102)	125,427 (11,977)	7,624
1995/96	122,600 (73,232)	1,967	11,999 (1,104)	130,445 (12,430)	7,974
1996/97	138,673 (79,922)	2,042	14,643 (2,848)	140,786 (19,896)	8,177
1997/98	146,343 (85,002)	1,981	14,916 (2,849)	152,545 (24,198)	8,300
1998/99	152,544 (90,170)	1,889	15,401 (2,875)	156,523 (25,722)	8,446
1999/00	159,075 (94,369)	1,866	15,811 (2,902)	165,193 (28,863)	8,608
2000/01	165,438 (97,529)	1,860	16,157 (2,903)	165,438 (33,281)	8,647
2001/02	171,339 (100,698)	1,924	16,411 (2,903)	167,922 (34,963)	8,746
2002/03	175,454 (103,186)	1,922	16,668 (2,909)	168,903 (35,050)	8,737
2003/04	179,938 (109,255)	2,000	16,857 (2,911)	179,938 (35,496)	8,746
2004/05	187,872 (116,777)	1,987	16,983 (2,913)	184,509 (36,649)	9,136
2005/06	192,136 (120,752)	1,928	17,016 (2,913)	184,509 (36,661)	9,136
2006/07	196,931 (123,863)	1,751	17,027 (2,924)	186,116 (37,076)	11,778
2007/08	NA	1,573	NA	NA	NA
2008/09	212,145	1,634	NA	NA	NA
2009/10	216,369	1,658	18,393	238,468	11,856
2010/11	221,167	1,766	18,393	248,037	11,864
2011/12	226,882		18,393	248,318	11,907

Year	Map (titles)	Slides	Black & White negatives	Photographs	Audio - recordings	Video - recordings
1993/94	533 (229)	26,173	36,878	17,497	632	445
1994/95	573 (258)	26,173	36,878	17,497	637	508
1995/96	584 (268)	26,737	36,878	17,497	637	546
1996/97	822 (520)	26,737	36,878	17,497	637	546
1997/98	836 (526)	26,737	36,878	17,497	909	751
1998/99	911 (608)	26,737	36,878	17,497	909	859
1999/00	911 (614)	26,737	36,878	17,497	909	918
2000/01	919 (620)	26,737	36,878	17,497	909	931
2001/02	990 (621)	NA	NA	NA	NA	NA
2002/03	992 (623)	NA	NA	NA	NA	NA
2003/04	1,024 (625)	NA	NA	NA	NA	NA
2004/05	1,075 (663)	NA	NA	NA	NA	NA
2005/06	1,077 (665)	NA	NA	NA	NA	NA
2006/07	1,082 (670)	NA	NA	NA	NA	NA
2007/08	NA	NA	NA	NA	NA	NA
2008/09	NA	NA	NA	NA	NA	NA
2009/10	1,153	NA	NA	NA	1,957	
2010/11	1,154	NA	NA	NA	2,176	
2011/12	1,156	NA	NA	NA	2,268	

*NA = Not Available

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Sources: Chan 1993, 48; Chan 1994, 56; Chan 1995, 62; Chan 1996, 77; Chia 1997; Chia 1998, 73; Chia 1999, 73; Chia 1999, 62; Chia 2000, 62; Chia 2001, 31; Chia 2002, 30; Kesavapany 2003, 33-34; Kesavapany 2004, 34-35; Kesavapany 2005, 40-41; Kesavapany 2006, 49-50; Kesavapany 2007, 49; Kesavapany 2008, 55; Kesavapany 2009, 42-43; Kesavapany 2010, 45-47; Kesavapany 2011, 51-52; Kesavapany 2012, 45.

Appendix C

ISEAS Library collection by region and country (only processed materials), 2001-2008

	2001	2002	2003	2004	2005	2006	2007	2008
Southeast Asia	5,967	6,485	6,628	6,996	8,383	8,712	8,974	9,321
<i>Percentage</i>	6.8 %	6.7 %	6.8 %	6.8 %	7.4 %	7.5 %	7.5 %	7.3 %
Myanmar	3,783	4,469	4,517	4,649	4,765	4,867	4,956	5,133
<i>Percentage</i>	4.3 %	4.6 %	4.6 %	4.5 %	4.2 %	4.2 %	4.1 %	4.0 %
Brunei	383	427	433	475	505	536	554	578
<i>Percentage</i>	0.4 %	0.4 %	0.4 %	0.5 %	0.5 %	0.5 %	0.5 %	0.5 %
Cambodia	1,246	1,351	1,379	1,045	1,531	1,638	1,760	1,840
<i>Percentage</i>	1.4 %	1.4 %	1.4 %	1.0 %	1.4 %	1.4 %	1.5 %	1.4 %
Indonesia	42,134	46,905	47,265	48,625	52,203	53,697	56,070	61,249
<i>Percentage</i>	48.7 %	48.7 %	48.8 %	47.2 %	46.3 %	46.0 %	47.0 %	48.0 %
Laos	943	989	1,003	1,045	1,093	1,131	1,167	1,201
<i>Percentage</i>	1.1 %	1.0 %	1.0 %	1.0 %	1.0 %	1.0 %	1.0 %	0.9 %
Malaysia	6,814	7,568	7,712	8,148	9,090	9,631	10,105	10,613
<i>Percentage</i>	7.8 %	7.9 %	7.1 %	7.9 %	8.1 %	8.3 %	8.4 %	8.3 %
Philippines	10,117	10,760	10,859	11,173	11,688	11,886	12,246	12,572
<i>Percentage</i>	11.6 %	11.1 %	11.1 %	10.8 %	10.4 %	10.3 %	10.2 %	9.8 %
Singapore	3,959	4,335	4,488	4,705	5,008	5,150	5,327	5,504
<i>Percentage</i>	4.5 %	4.5 %	4.6 %	4.6 %	4.4 %	4.5 %	4.4 %	4.3 %
Thailand	6,320	6,574	7,058	7,416	8,278	8,710	9,191	9,707
<i>Percentage</i>	7.2 %	6.8 %	7.2 %	7.2 %	7.3 %	7.5 %	7.9 %	7.6 %
Vietnam	5,780	6,364	6,698	8,405	9,092	9,548	9,734	9,959
<i>Percentage</i>	6.1 %	6.1 %	6.9 %	8.2 %	8.1 %	8.3 %	8.1 %	7.8 %
Total	87,445	96,227	97,607	103,097	112,636	115,638	120,084	127,677
Annual increase		8,782	1,380	5,870	9,539	3,002	4,548	7,593
Percentage increase		10.0 %	1.4 %	6.0 %	9.3 %	2.7 %	3.9 %	6.3 %

Sources: Chia 2001, 31; Chia 2002, 31, Kesavapany 2003, 35; Kesavapany 2004, 36; Kesavapany 2005, 42; Kesavapany 2006, 52; Kesavapany 2007, 50; Kesavapany 2008, 53.

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ABSTRACT

National Library of Sri Lanka is functioning under the National Library and Documentation Services Board(NLDSB) which was established in 1970. Main objective of the National Library of Sri Lanka is to collect and preserve Sri Lanka's documentary heritage for the present and future generations. National Library collection is built up according to the collection development policy prepared by the NLDSB. To record the country's documentary heritage, the National Library maintains a number of bibliographic and documentation services including the Sri Lanka National Bibliography. In addition to the collection and maintenance of country's publications, National Library of Sri Lanka maintains a number of library development activities in national level. They are training of librarians, providing library advisory services, grading of libraries, formulation of library standards, reading promotion, development of library co-operation, conducting book exhibitions and providing assistance for book publishing. The international programmes includes the international book exchange programme, membership of main international associations and institutions in the library and information field, maintaining international projects such as ISBN,ISSN and ISMN. In addition, National Library of Sri Lanka serves as the focal point of the Memory of the World programme in Sri Lanka implemented by UNESCO. National Library of Sri Lanka has faced a number of problems in its development process. Lack of understanding about the national library concept, legal problems, financial problems, insufficient training of staff, problems in the utilization of information technology, preservation of the national library collection and inadequate space for the growing collection are the main problems. Despite the above barriers, National Library of Sri Lanka has achieved a considerable development for the last twenty five years.

Keywords: National Library; Sri Lanka; Information; Library Resources; Documentation

INTRODUCTION

When compared with the other countries of the world, the establishment of the National Library of Sri Lanka somewhat delayed. The preliminary activities for the establishment of the National Library of Sri Lanka were carried out in 1960s. As the preliminary measure for the establishment of the National Library of Sri Lanka, the Sri Lanka National Library Services Board was established by an Act of parliament in 1970. The main objective of Sri Lanka National Library Services Board was to establish the National Library of Sri Lanka. The National Library of Sri Lanka was inaugurated on 27.04.1990. The National Library of Sri Lanka has been carrying out the internationally

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accepted national library functions successfully so far. New National Library and Documentation Services Board Act was introduced in 1998

Administrative Structure

National Library of Sri Lanka is functioning under the Ministry of Education Services of Sri Lanka and governed by a Board of Directors. The Board of Directors consists of seven ex-officio members and seven members appointed by the Minister of Education Services. Chairman is the Head of the institution and the Director General is the chief executive officer. National Library of Sri Lanka consists of ten professional divisions and five supporting divisions.

Function

According to the new Act of 1998, National Library of Sri Lanka is functioning under the National Library and Documentation Services Board. According to the Act the function of the National Library of Sri Lanka are as follows:

1. To make available for the use of all sections of the community, a national collection of library materials and documentation resources appropriate to their needs.
2. To preserve the national and cultural heritage of Sri Lanka through the establishment, development and maintenance of a national collection of library and documentation materials, published in or related to Sri Lanka.
3. To receive copies of Sri Lankan publication deposited in the Department of National Archives under the printers and publishers ordinance.
4. To acquire by purchase or otherwise, copies of publication published in, or relating to, Sri Lanka, or foreign publications relevant to the needs of Sri Lanka.
5. To provide bibliographic services, including national bibliographic services and to compile a national union catalogue of library material of libraries in Sri Lanka.
6. To establish and create a national bibliographic database of documents and publications, published in, or relating to Sri Lanka.
7. To publish the Sri Lanka National Bibliography.
8. To provide reference, information, referral, reprographic and documenting research services to all sections of the community of Sri Lanka.
9. To facilitate access to the library and documentation resources which are, or may in future become, available in or outside Sri Lanka to all members of the community.
10. To promote, advice and assist in the establishment, development and maintenance of library and documentation networks, including networks or public, school,

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academic, government and other libraries and documentation centers serving all sections of the community in Sri Lanka.

11. To promote and facilitate co-operation and resource sharing among libraries and documentation centers, at national and international levels including exchange of staff.
12. To promote the introduction and efficient application of new information technologies in libraries and documentation centers in Sri Lanka through the application of such technologies in the work on the centre and to provide advice, assistance and training to other bodies regarding the introductions of such technologies or promotional activities.
13. To undertake such projects and provide such facilities and services, in pursuance of the functions of the Board as the Board may from time to time require.

Major activities of the national library

Acquisition of library material

Library materials are acquired for the National Library through three methods. They are purchasing, legal deposit copies and donations. In addition, library materials are also acquired through the local and international books exchange program. The Legal Deposit Law is implemented by the National Archives Department and under this law every printer is legally bound to deposit five copies of their publications in the National Archives Department. National Library receives one copy of these five copies.

Bibliographic Services

National Library of Sri Lanka compiles a number of bibliographic and documentation sources in national level. They are as follows:

1. Sri Lanka National Bibliography
2. Sri Lanka periodical Article Index
3. Retrospective National Bibliography
4. Authority list of authors
5. Authority list of titles
6. Sri Lanka Newspaper Article Index
7. Directory of Government Publications
8. Index to postgraduate theses in Sri Lanka
9. Index to Research Reports in Sri Lanka

Sri Lanka National Bibliography is the official publication which consists of latest information on publications published in the country. Compilation of Retrospective Sri Lanka National Bibliography has also been completed. Retrospective National Bibliography includes information on publications published in Sri Lanka since the beginning of printing industry in Sri Lanka to the year in which the current national bibliography was started (1962). Sri Lanka Periodical Article Index includes information on periodical articles published in Sri Lanka. Authority list of authors and titles have been compiled to facilitate the librarians to create a uniformity in cataloguing activities. Sri Lanka Newspaper Article Index includes information on articles published in main

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newspapers in Sri Lanka. Directory of government publications contains information on publications published by government institutions. Index to Research Reports in Sri Lanka includes information on reports of research studies carried out by various institutions. Index to postgraduate theses in Sri Lanka includes information on postgraduate theses submitted to universities in Sri Lanka.

Conservation and Preservation Services

Conservation and preservation services mainly focus on to preserve the national library collection and the assisting the conservation activities of other libraries. Conservation activities of the national library include book binding, fumigation, humidity control, cleaning, using pesticide and document conservation. Organizing training programmes on conservation is also carried out by this Division. In addition to the preservation of the national library collection, National library maintains a number of activities for the benefit of other libraries in the country

Information Technology Services

The Information Technology Division handles all the computer activities of the institution. The activities carried out by the Information Technology Division include supervision and co-ordination of the computer activities of the institution, maintenance of the web server of the National Library, preparation of computer programmes, maintenance of National Library web page maintenance of the activities of the Alice for Windows.

Following online databases are included to the National Library website:

1. Sri Lanka Newspaper article index
2. National union catalogue of Sri Lanka
3. Postgraduate Theses Index
4. Sri Lanka conference Index
5. Devolution of power and ethnic conflict in Sri Lanka

These databases can be searched through the National Library website (www.natlib.lk) Creation of library software is also carried out. A library software called *pothgula*(an ancient name for the library)was created recently. This was specially designed for school libraries. This software is used by about 50 school libraries at present. A training was also given to the librarians of these schools on the application of this software.

Library Research Activities

Conducting research in library and information field in Sri Lanka is a responsibility assigned to the National Library of Sri Lanka. Accordingly, a number of research activities are carried out at present. Library research activities presently carried out are public library survey in provincial level conducting research studies on selected topics, compilation of the statistical handbook on libraries in Sri Lanka, organizing workshop on library research methodology for librarians, collections of media information on library activities in Sri Lanka.

In 2012, a study was carried out to understand the perception and attitude of library professionals about the resources and services of the National Library. In this study the attitude on different areas of the National Library such as services, membership

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procedure, staff efficiency were tested. Majority of the respondents (74%) have said that the membership procedure is satisfactory. 70% have said that staff efficiency is adequate. 90% of the professionals said that public relation of the national library staff is satisfactory. The research report titled "Study on attitude of library professionals on resources and services of the national Library of Sri Lanka" has been published by the National Library and Documentation Services Board. Implementation of some of the recommendations such as more staff training, digitizing the collections, amendment of the legal deposit law, improvement of the national library website have already been started.

Another research study was carried out recently on the reading habit among the students in secondary grades and above in government schools in Sri Lanka. The objective of the study is to examine the present situation of reading habit among school children in Sri Lanka. The study revealed that 83% of the students read materials other than text books. In reading high preference was given to novels, short stories, poetry, drama and educational books.

Resources and services of the National Library of Sri Lanka

The main function of the National Library of Sri Lanka is to collect and preserve the documentary heritage of Sri Lanka for the benefit of present and future generations. Accordingly, National Library collects different types of information resources. The library materials collected are books, periodicals newspapers, manuscripts, audio visual material and electronic media.

National Library presently has the following collections:

1. Sri Lanka collection
2. Periodical collection
3. Newspaper collection
4. Reference collection
5. Legal deposit collection
6. Government Publications collection
7. Audio Visual collection
8. Electronic Resources collection
9. Ola leaf collection
10. Microfilm collection
11. UNESCO collection
12. Library and information science collection
13. Postgraduate theses collection
14. Martin Wicramasingha collection
15. Map collection
16. Collection on Intangible Cultural Heritage
17. Foreign collection
18. Manuscripts collection
19. Collection on china

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20. Rare books collection
21. Science and Technology
22. Collection on Iran
23. Brail books collection
24. collection on policies and plans

The National Library is a deposit library and receives copies of Sri Lanka Publications under the printers and publishers ordinance and through other methods such as purchasing and donations. Sri Lanka collection consists of publications, published in Sri Lanka, publications on Sri Lanka and publications written by Sri Lankan in foreign countries. Over 800 titles of Sri Lankan and foreign periodicals are available in the National Library. The Newspaper Collection consists of over 300 newspaper titles in Sinhala, Tamil and English. This collection consists of newspapers published since 1976 to date. The reference collection consists of reference material such as Encyclopedias, Directories, Indexes, Bibliographies, Glossaries, Gazettes and others. Legal deposit collection consists of library material received from the National Archives Department under the legal deposit law. According to the legal deposit law, five copies of every publication published in the country should be deposited in the National Archives Department. National Library receives one copy of the five copies deposited in the National Archives Department. Government Publications collection consists of gazettes, acts, bills, ordinance, hanzards, seasonal papers, administration reports, Sri Lanka law reports, commission reports and blue books. There is a separate audio-visual unit and audio visual collection consists of audio cassettes, video cassettes, CDs, DVDs, gramophone discs of Sri Lanka songs, documentaries, plays and teledramas. electronic resources collection consists of a number of on line databases.

Ola leaf collection consists of ola leaf manuscripts covering the areas such as Buddhism, Literature, Ayurvedic medicine etc. The microfilm collection consists of local and foreign microfilms and microfiches. Microfilms include local newspapers and books. Microfiches include books, administration reports, reports, statistical reports, parliamentary series, government accounts, bills, laws and Hansards. National Library of Sri Lanka received UNESCO publications since 1971 to 1990. This collection consists of UNESCO publications received to the National Library during this period. The number of books of the UNESCO collection is about 8500. National Library of Sri Lanka has the largest and most comprehensive library and information science collection in the country. This collection consists of large number of books, reference materials and reputed local and foreign periodicals in the field. Postgraduate theses collection consists of Postgraduate theses (M.A, M Phil, PhD) submitted to universities in Sri Lanka. Martin Wickramasinghe collection consists of books written by veteran author Martin Wickramasinghe and his personal collection. His personal collection consists of about 5000 books on different subjects like literature, Buddhism, Philosophy, Sociology, Anthropology etc. This collection consists of over 1000 maps relating to Sri Lanka. These maps have been acquired from the Survey Department of Sri Lanka. Foreign collection consists of foreign books acquired to the national library collection. In the acquisition of foreign books, priority is given to books published on Sri Lanka, books published by Sri Lankans in foreign countries, books on library and information science and reference sources.

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Manuscript collection consists of manuscripts on folklore of Sri Lanka. They have been written on different aspects of folklore such as folk poems, folk songs, folktales, folk music, etc.. Collection on China consists of books and other library material on China. These books were received from China as donations. National Library of Sri Lanka acquires old and rare books from individuals. These books are selected by an expert committee appointed by the National Library. The prices of the books are decided by the committee. Factors such as rarity, contents physical conditions are taken into consideration in selecting the books. Science and technology collection consists of books and reference material on science and technology. This collection is much used by students of science and technology. Collection on Iran was started with the assistance of Embassy of the Republic of Iran in Sri Lanka. Embassy of the Republic of Iran donated books and other library material for the collection. Brail books collection is maintained for the benefit of visually handicapped readers. National Library of Sri Lanka is in the process of developing this collection through donations from various institutions which deal with blind and visually handicapped readers. The number of readers who used the National Library in 2013 was 18782.

Collection Development Policy of the National Library

Collection development activities are carried out according to the guidelines of the collection development policy. The objective of the collection development policy is to develop the national library collection in systematic manner. According to the collection development policy, following library material are acquired to the national library:

1. monographs
2. periodicals
3. newspapers
4. reference sources
5. manuscripts
6. ola-leaf manuscripts
7. audio visual material
8. stamps
9. maps
10. postgraduate theses
11. reports
12. government publications
13. pamphlets
14. Photographs
15. electronic media
16. micro forms
17. rare books
18. computer databases
19. circulars
20. paintings

According to the collection development policy, priority is given to acquire the following material:

1. Publications published in Sri Lanka

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2. Publications on Sri Lanka published in foreign countries
3. Publications compiled by Sri Lankans in foreign countries
4. Reference sources which are essential for research but cannot be acquired by other libraries
5. Publications on library and information science
6. Publications for the special collections

Services of the National Library of Sri Lanka

National Library of Sri Lanka maintains a number of services for the readers. Through user education service readers are made aware about the resources and services of the National Library. This awareness is given through various methods such as seminars, study tours, video programmes, lectures etc. Under inquiry service readers can make inquiries through letters, telephone calls, fax messages, emails and by personally visiting the National Library. The information desk located at the ground floor deals with the inquiries to the readers. Through the reference service, reference information is provided to readers through various collections of the National Library. Photo copies of national library material are provided to readers on concessionary rates. The number of photocopies issued to readers in 2013 was 97256. National Library maintains an inter library loan service with main libraries in the country. For this purpose the participating libraries have to sign an agreement with the National Library. For these libraries, National Library lends books for a period of two weeks. At the moment 32 main libraries have combined to this service. Internet service is provided to the readers on a concessionary rate. National Library maintains an information repackaging service for the benefit of national library readers. Under this service information on different topics are collected and organized in such a way that readers could search the information they need conveniently. Under the current awareness service readers are made aware about the latest publications available in the National Library.

Membership procedure

All Sri Lankans as well as foreigners are entitled to get the membership of the National Library. Membership is given under different categories. They are temporary membership, permanent membership, life membership and Institutional membership. The number of permanent members is about 3000 at present.

Conservation and preservation activities

Conservation activities of the National Library are carried out by the conservation and preservation Division of the National Library. Conservation activities of the national library collection include book binding, fumigation, document repairing and humidity control, etc. In addition to the conservation and preservation of the National Library collection, the Conservation and Preservation Division implements the programmes for the preservation of other libraries as well. This activity includes advisory services on conservation, organizing training programmes on conservation, supply of conservation material etc.

Automation of the National Library

Automation of the national library activities was started in 1993. An information technology committee was established in 1993 to get advice on the automation of the national library. On the instruction of the Information Technology Committee the first

Role and responsibility of the national library

action taken was the establishment of an Information Technology Division for the National Library of Sri Lanka. The other activities carried out were the recruitment of information technology staff, purchasing of computers and other equipments, installation of local area network (LAN), installation of internet facilities for national library staff as well as the national library readers etc. A considerable development has been achieved in the automation of the National Library for the last two decades. Most activities of the National Library have been computerized. Some bibliographic and documentation services are available on line in the national library web site (www.natlib.lk).

International Relation

National Library of Sri Lanka has achieved a considerable progress in maintaining the international relations in the library and information sector. National Library of Sri Lanka has obtained the membership of main international organizations in library and information sector. National Library of Sri Lanka maintains a book exchange programme with national libraries of other countries. Staffs of the National Library participate in foreign training programmes and conferences in library and information field. National Library of Sri Lanka serves as the Sri Lankan focal point of several international projects such as ISBN, ISSN and ISMN. The number of ISBN numbers issued in 2013 was 8993. National Library of Sri Lanka is also the focal point of Memory of the World programme implemented by UNESCO. A number of research studies have been carried out on the Intangible Cultural Heritage in Sri Lanka with the financial assistance of ICHCAP, a UNESCO affiliated institution. National Library of Sri Lanka has established an Iran Corner and a China Corner in the national library. Books and other library material and equipments for the corners were provided by the Embassies of the relevant countries.

Library Development activities in national level

Human Resource Development in Library and Information Sector

National Library maintains following training programmes for training of librarians in the country:

1. Training programs for public librarians
2. Training programs for school librarians
3. Training programs for pirivena (temple) librarians
4. Training programs on conservation and preservation of library materials
5. Training programs on Information Communication Technology (ICT)
6. Training programs on compilation of documentation sources
7. Training workshops on cataloguing and classification
8. Training workshops on library research methodology
9. Training programs on record room management
10. Training workshops for authors and writers

Library Advisory Services

National Library provides advisory services for libraries free of charge. Advisory services are provided on areas like building planning, conservation, automation, cataloguing and classification etc.

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Grading of Libraries

Libraries are graded to different grades such as grade iii, ii, i and supra grade. The library standards compiled by the National Library and Documentation Services Board are made used of in grading the libraries.

Formulation of Library Standards

The National Library and Documentation Services Board has compiled standards for libraries in Sri Lanka. These standards have been compiled for different grades separately. Standards have been compiled on different areas of library operations.

Reading Promotion

Promotion of reading among the Sri Lankan community is a responsibility of the National Library. It is the generally accepted opinion that the reading habit among the Sri Lankan people has declined. To overcome this problem. National Library and Documentation Services Board started National Reading Month program in 2004. On the recommendation of the National Library and Documentation Services Board, the government of Sri Lanka declared the month of October as the National Reading Month since 2004. During the National Reading Month National Library and Documentation Services Board implements various reading promotion programs throughout the country with the assistance other libraries in the country.

Development of library co-operation

Action have been taken to improve the co-operation among the libraries. A separate division has been established for library co-operation. Under this a number of projects are implemented to improve the inter library co-operation.

Assistance for book development

A number of projects are implemented to assist the book development in the country. One project is providing financial assistance to authors to publish their books. Under this project manuscripts are accepted from authors and they are sent to experts in the relevant fields for inspection. The successful manuscripts are provided financial assistance for publishing. National Library has provided financial assistance to publish about 3000 books so far under this project. The amount spent for the project in 2013 was Rs.1,387,345. Another project is the purchase of new printed publications as an assistance to sell their books.

Sale of books and library stationary on concessionary prices

Books and library stationary such as catalogue cards, book pockets, book cards, date labels, equipments and tools needed in book binding etc. are sold at concessionary prices in the National Library Bookshop.

Problems Encountered By the National Library of Sri Lanka in its Development Process

The National Library of Sri Lanka has faced a number of socio economic problems in its development process. National Library of Sri Lanka was established twenty three years ago and it is still a growing organization. Following are the major socio economic obstacles presently faced by the National Library:

Role and responsibility of the national library

1. Lack of understanding about the national library concept

Although the National Library of Sri Lanka was established twenty three years ago, the understanding of the national library concept has not gone the Sri Lankan community so far. The idea of the most people is that the national library is just another library. Therefore, awareness raising on the national library concept is a timely requirement.

2. Legal problems

The main legal problem is the weaknesses of the Legal Deposit Law. The Printers and Publishers Ordinance of 1885 and the Newspaper Ordinance of 1839 have not been amended so far and it is still functioning as the legal deposit law. According to this law, five copies of every publication published in Sri Lanka should be deposited in the National Archives Department. National Library receives one copy of these five copies. However, some printers do not deposit the publications because the fine charged for not depositing the publications is very low. As a result, National Library does not receive many publications. Also, the present legal deposit law does not cover some material like audio-visual and electronic media. Therefore, the amendment of the legal deposit law is an urgent requirement.

3. Financial Problem

National Library depends on government allocations. Although the institution earns a little income through its various activities, maintenance of the institution mainly depends on government funds.

4. Insufficient Training of the national library staff

Insufficient training of the national library staff is a major problem faced by the National Library. Most of the officers have not acquired an adequate professional training on library activities. Only few officers have obtained foreign training. Therefore, a systematic staff development program is necessary to improve the manpower.

Problems in the Utilization of Information Technology

Although the computerization of the national library activities was started 1993, national library has faced many problems in the utilization of information technology for the last twenty years. Most of the computers presently used by the institution are old and outdated. There are problems in providing speedy internet facilities due the financial constraints. There is a strong need to obtain new computers to carry out the services satisfactorily.

Problems in the Preservation of national library collection

Preservation of the national library collection has to be ensured for the present and future generations because the national library collection consists of the documentary heritage of the country. Due to the financial constraints, the preservation of the national library collection has become a challenge. Some old newspapers are deteriorating rapidly. Digitization of these materials is an urgent requirement.

Space for the growing collection

Due to the rapid expansion of the national library collection, inadequacy of space is becoming a serious problem. Specially the newspaper collection, legal deposit collection

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and Sri Lanka collection are growing rapidly. Therefore, the additional building space is needed.

CONCLUSIONS

National Library of Sri Lanka has achieved a considerable development during the last few decades. When compared with other countries of the world, the establishment of the National Library of Sri Lanka was somewhat delayed. However it has been able to identify the internationally recognized national library functions and implement them in Sri Lanka. However, according to the research studies carried out by the National Library certain areas need further development. The areas such as collection development, automation, preservation, international relations, staff and staff efficiency, library research, etc. have not developed into a satisfactory level and they need further improvement. In addition, awareness raising about the national library concept among the Sri Lankan community also needs improvement. The understanding about the national library concept and its role has not spread among the Sri Lankan community adequately. Presently National Library of Sri Lanka performs all the internationally recognized national library functions despite many difficulties. Our objective is to develop the resources and services of the National Library into a considerably advanced status within the next few years.

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Vietnam's libraries: A potential catalyst for building a learning society

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ABSTRACT

Vietnam envisages building a learning society by 2020. A range of initiatives, namely 'SEAMEO Regional Centre for Lifelong Learning' and 'Book Day' have been established. Vietnam aims to implement and develop lifelong learning activities in libraries, museums, and cultural center clubs. This paper reveals interconnection between library, lifelong learning and learning society. It also briefly discusses the initiatives taken by the Vietnam's government and non-government organizations to improve reading habits of Vietnam's people. The present library activities and services, and reading habits of Vietnam's people are evaluated. The paper discusses how Vietnam's libraries could be a potential catalyst to improve the reading habits and to create lifelong learners for building a learning society.

Keywords: Lifelong learning; Learning society; Library; Reading habits; Vietnam,

INTRODUCTION

From 2005-2010, the Vietnam government adopted the lifelong learning (LLL) society strategy by the Ministry of Education and Training (MoET) and the Vietnam Study Encouragement Association (VSEA). Under that project, from 2005 to 2008, more than 163,000 illiterate citizens took part in education classes and over 123,000 attended advanced training courses. In 2008, more than 5 million families registered to become 'Studious Families' and over 50,000 families have been recognized and named the 'Study Encouragement Families' (VOV, 27/10/2008). In 2013, the LLL project was extended to 2020 under a new official project 'Building a Learning Society by 2020', with clear responsibilities and involvement of ministries and agencies. Organization of lifelong learning activities through the mass media, libraries, museums, and cultural center clubs are targeted to achieve this state ambition.

According to the Vietnam Government Portal, under the extended LLL project, 98 percent of people aged between 15 and 60 will be able to read and write by 2020. The project also aims to have 70 percent of rural laborers join courses to improve their education and skills. It will provide secondary school education or equivalent training for 90 percent of export processing and industrial zone workers, and vocational training for

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95 percent of workers. Officials and public servants will learn a foreign language and receive IT training. Every official and public servant from central to district levels will attend refresher courses, and all commune level officials will take part in courses on leadership and management skills. Annually, around 50 percent of students and pupils will be taught life skills.

Library, lifelong learning and learning society

The idea of the learning society has featured strongly in recent pronouncements around adult and lifelong learning. But what actually is a learning society? If learning involves all of one's life, in the sense of both time and diversity, and all of society, including its social and economic as well as its educational resources, then we must go even further than the necessary overhaul of 'educational systems' until we reach the stage of a learning society (Faure, 1972). A learning society gives rise to the capacity for lifelong learning through socialization and for individuals to contribute back to the learning abilities of the broader society in the form of wisdom. Torsten Husen (1974) argued that it would be necessary for states to become 'Learning Societies' where knowledge and information lay at the heart of their activities. Reference is often made to the 'knowledge industry', meaning both the producers of knowledge, such as research institutes, and its' distributors, e.g. schools, mass media, book publishers, libraries and so on (Jarvis, 2001).

The strength of the idea of a learning society as a concept is that in linking learning explicitly to the idea of a future society. It provides the basic for a critique of the minimal learning demands of much work and other activities in our present society, not excluding the sector specializing in education. Mark K. Smith (2002) goes further in noting that the 'Learning Society' is an aspect of this movement to look beyond formal educational environments and to locate learning as a quality, not just of individuals but also as an element of systems. In a similar fashion Stewart Ranson (1992) has argued that the notion of a learning society provides us with a helpful way of making sense of the shifts required in the context of the profound changes associated with globalization and other dynamics of social and economic changes.

Library is one of the most perfect places for "beyond the classroom learning." It is the place where students are, or should be encouraged to explore other worlds, to develop their imagination, to think about the impossible (White, 2012). Libraries assist in finding, using and interpreting appropriate information that opens up opportunities for lifelong learning, literacy enhancement, informed citizenship, recreation, creative imagination, individual research, critical thinking, and ultimately, empowerment in an increasingly complex world. The role of libraries in promoting lifelong learning is especially critical in developing scientific, reflective thinking and innovation.

Essentially, libraries are at the front line of developing and promoting lifelong learning. "School libraries and public libraries should be pivotal to the 21st century educational experience, and the base for a positive attitude by young people towards information

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skills development, lifelong learning and enhancing their life chances” (Bandy, 2006). In addition, libraries are one of the best places that preserve reading resources and by using those resources we become literate and civilized, the main ingredients of a learning society. There are not many alternatives to a good library for the enrichment of lifelong learners. All over the world, libraries are dedicated to provide free and equitable access to information for all in print, electronic and audio visual formats. In effect, libraries have been a part of our community development since the Neo-Assyrian Empire period (2600 A.D.) regardless of race, creed, culture or color, and are the wonderful gathering places to pursue knowledge, whether you are student, teacher, parent, laborer, employed or unemployed.

Libraries have become the essential ingredient of a civilized society and their contribution is towards education, research and training. As “education is the most powerful weapon, we can use it to change the world” (Mandela, 2003). Lifelong learning must go hand-in-hand with a capacity for self-learning. Today, education is not limited to the path from kindergarten to university. People must continue learning beyond that. There is no doubt about the fact that development is a product of education and education is a process through which people are formally and informally trained to acquire knowledge and skills. ‘Education’ and ‘Library’ are two inseparable indivisible concepts, both being fundamentally and synchronically related to and co-existent with each other. One cannot be separated from the other [.....]. One dies as soon as the other perishes. One survives as long as the other exists (Adio & Olasina, 2010). Therefore, libraries are the crucial factor for educational development and creating lifelong learners for building learning societies.

PURPOSE OF THE STUDY

The specific objective of this paper is to investigate the ongoing ‘Reading Habits’ development activities in Vietnam that serve as catalyst for building a learning society. It also aims to reveal current reading habits of Vietnam’s students and Vietnam’s library situation such as collection, services and user satisfaction.

METHODOLOGY

This study employed a mixed methodology using questionnaires and literature review utilizing primary, secondary and tertiary sources. The questionnaires were distributed by hand, targeting fifteen hundred students and teachers in Ho Chi Minh City (HCM City) and its vicinity during 2012 and 2013 period. One thousand and nineteen participants responded (67.93 percent) to the survey. The results of the survey were analysed around the following five Study Questions (SQs), three of which asked to the teachers, one to the students and one aimed at both teachers and students:

- SQ1. How would you evaluate the reading habits of your students (teachers)?
- SQ2. What is your evaluation about library resources (students)?
- SQ3. How do you rate the library services (teachers)?

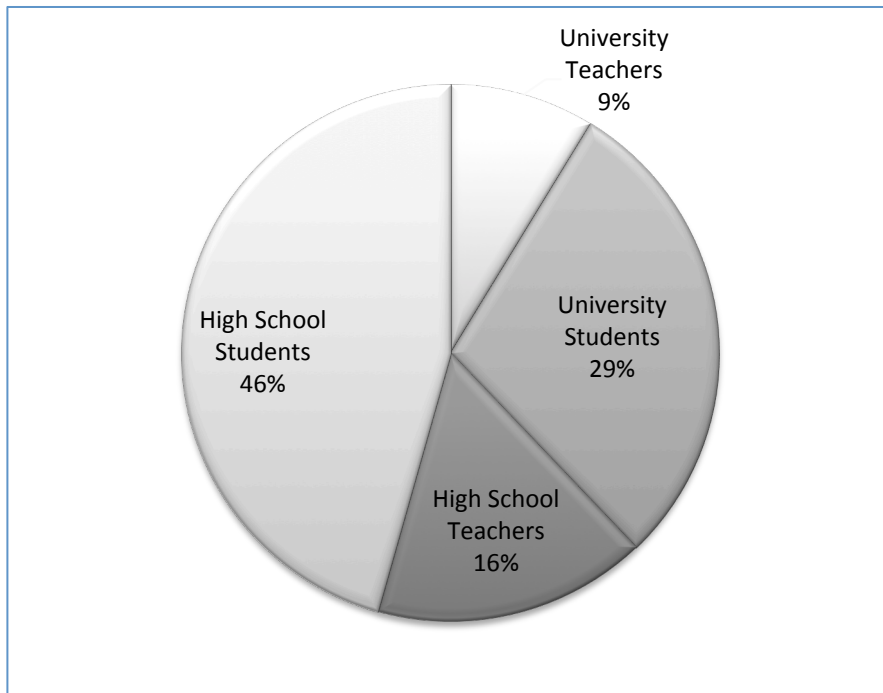
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SQ4. Why do you go to the library (both teachers and students)?

SQ5. What steps should be taken to promote reading habits of Vietnamese students (teachers)?

Eighty-nine (9 percent) of the respondents were university teachers, 168 (16 percent) respondents were high school teachers and 297 (29 percent) were university students. The age of the respondents varied considerably. Four hundred and sixty-five (46 percent) high school students stated their age at around 17. Overall, more than half (54 percent) of respondents were in the age group of 17 to 22 years old. In terms of gender participation, more than twice the number of participants were women (67.19 percent) compared to just 32.81 percent of men.

Figure 1: Respondents' Demographic Background



FINDINGS AND DISCUSSIONS

Reading habits and learning society are intertwined as healthy reading habits are considered an essential and important aspect for building a learning society. It is said that poor reading habits among the Vietnamese is one of the major challenges for building a learning society proven by a 2008 survey report published in the local media: "in Vietnam the average person reads only 0.6 books per year and 80 percent of the books published are textbooks" (VNS, 15/08/2008). In order to explore current reading

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habits of Vietnam's students both high school and university teachers have been asked the SQ1 (*How would you evaluate the reading habits of your students?*).

Figure 2: Students' Reading Habits

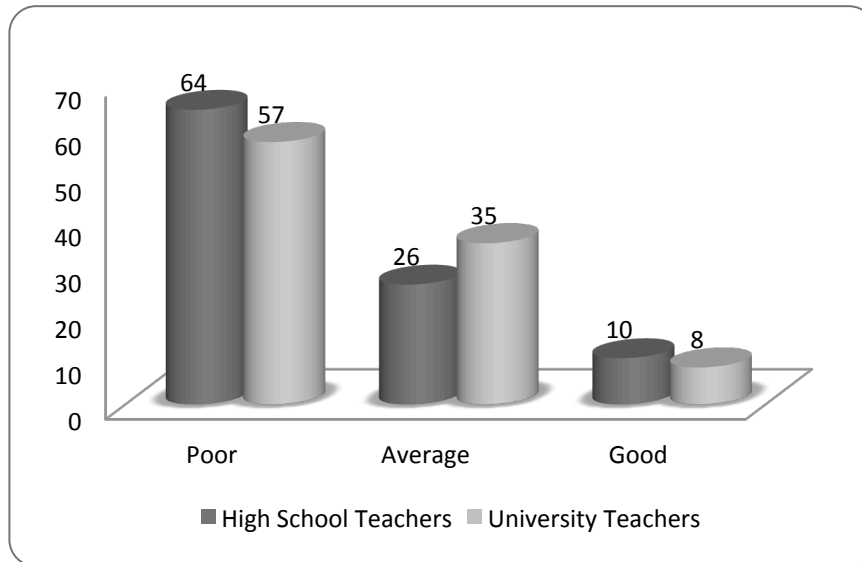


Figure 2 implies that both teacher groups have the same opinion that the reading habits of Vietnam's students are not at a satisfactory level e.g. 64 percent and 57 percent of high school and university teachers respectively acknowledged their students poor reading habits whereas only 10 percent of high school and 8 percent of university teachers believe that their students have good reading habits. Respondents' feedback is attested by two recent media reports. According to the first report conducted by the Publishing and Printing Department of Vietnam, a Vietnamese read only 3.2 books, including textbooks, on average in 2013 (VNS, 19/03/2014). The second report by Vietnam National University survey found that seventy (70) percent of students said they had little interest in books, with 25 percent saying they loved books and 5 percent only mildly interested (VNS, 23/10/2013).

For a long time, library has the natural advantage of providing an excellent learning environment and good services; therefore it is the best place to enhance reading habits and to nurture the "Learning Society" model. Library not only brings development opportunity for the society, but propels a new generation of lifelong learners. Library activities appeared very early in our society and it is no exception in Vietnam. As a developing country, Vietnam possesses a remarkably sophisticated library system where more than 23,000 state funded libraries and over 25,000 people are working to provide different kinds of library and information services (NLV, 2008). The Library Department is under the Ministry of Culture, Tourism and Sports (MoCST).

In order to explore user satisfaction on Vietnam’s library collections and services, participants were asked SQ2 (to students) and SQ3 (to teachers) (*What is your evaluation about library resources? and How do you rate the library services?*)

Figure 3: Evaluation on Library Resources

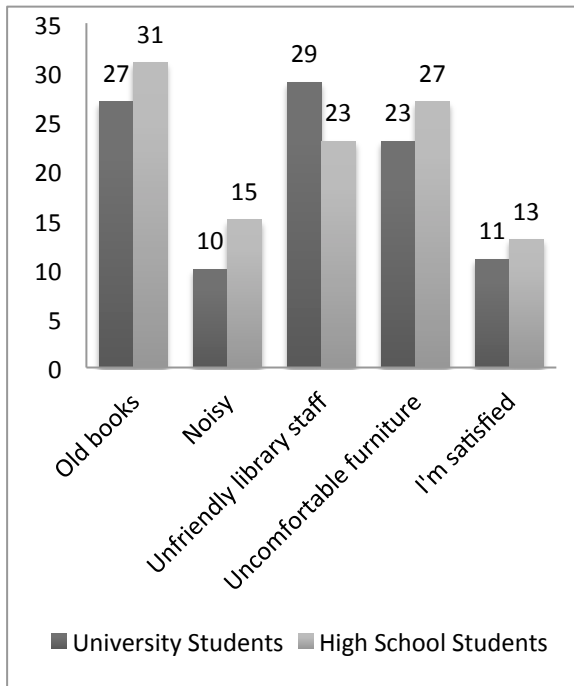
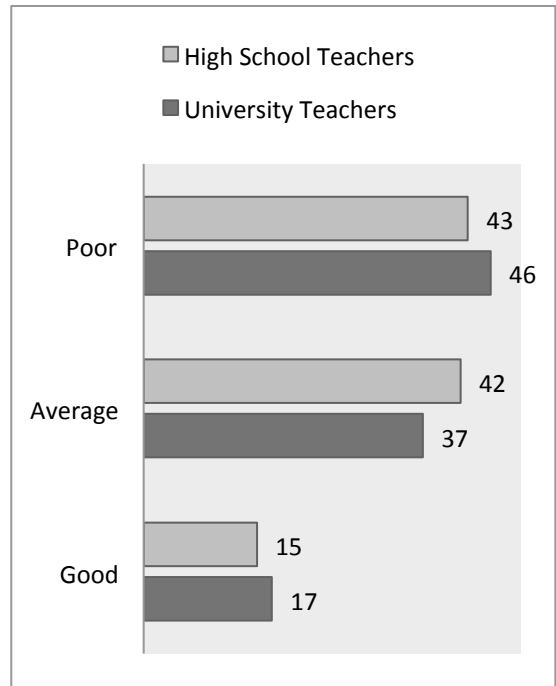


Figure 4: Evaluation on Library Services



Figures 3 and 4 depict that only 11 and 13 percent of university and high school students are satisfied with their library collections whereas 15 and 17 percent of high school and university teachers are agreed that their library services are good. The above results could be attributed to the lack of innovative services in Vietnam’s library sector, a claim originally made at a recent seminar, organized by the MoCST where educators blamed for the lack of innovation of the country's library system. At that seminar, P. T. Khang, Chairman of the Vietnam Library Association stated: “10 years had passed since the target to upgrade, unify and standardize the library system in the country, but it has yet to be realized.” (VNS, 23/10/2013). Further, the MoCST figures show that the average Vietnamese reads only 0.8 books per year in the library. Similarly, another report from Vietnam’s Prime Minister’s office mentioned that the community library network does not meet the readers' needs (VNS, 19/3/2014).

In comparison, the number of students who read books and use libraries is modest (Table 1). A recent survey conducted by the Vietnam National University (NVU) found that “60 percent of what they [readers] read were comic books. Some of them chose to read short stories and novels” (VNS, 23/10/2013). The VNU study noted that normally, students only read books in the public, school and university libraries during exams, but after exams, the libraries are often deserted. Even though library users visit the library for many other purposes such as the Internet browsing, chatting, social networking,

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playing online games, meeting friends etc., the findings of SQ4 (*Why do you go to the library?*) appears to be consistent with the conclusions of the VNU study.

Table-1: Purposes of Going to Libraries

Purpose(s)	High School Students (percent)	University Students (percent)	High School Teachers (percent)	University Teachers (percent)
Read Books	23	27	27	25
Assignments	13	18	27	34
Internet browsing	40	49	37	23
Read Newspapers / Magazines / Journals	20	20	15	20
Others	13 e.g. waiting for next class; meeting friends	06 e.g. taking rest, waiting for friends/ next class	14 e.g. looking for new books/ old newspapers and magazines	08 e.g. looking for old newspapers / magazine

Table-1 shows that 49 percent of university and 40 percent of high school students visit library for browsing the internet whereas only 13 and 18 percent of high school and university students respectively use library for assignments. It also shows that 34 percent of university and 27 percent of high school teachers were using libraries for assignments which is fairly good indication.

Having considered some of the factors responsible for poor reading culture in Vietnam, it is pertinent to suggest some strategies that can be adopted to transform the country into a learning nation and make its citizens lifelong learners for building a learning society. In question SQ5 (*What steps should be taken to promote reading habit (for building a learning society) of Vietnam's students?*), teachers suggested to improve library activities and establish more libraries while others advised to offer free books and stop online games facilities as summarized in Figure 5.

In this circumstance, according to the majority of the respondent teachers (Figure 5), it can be assumed that libraries are obviously able to play a significant role in building a learning society in Vietnam by improving library activities, services and establishing more libraries. Respondent teachers' feedbacks are also reflected on Vietnam's government and non-government organizations effort on library centric reader development enterprises discuss below:

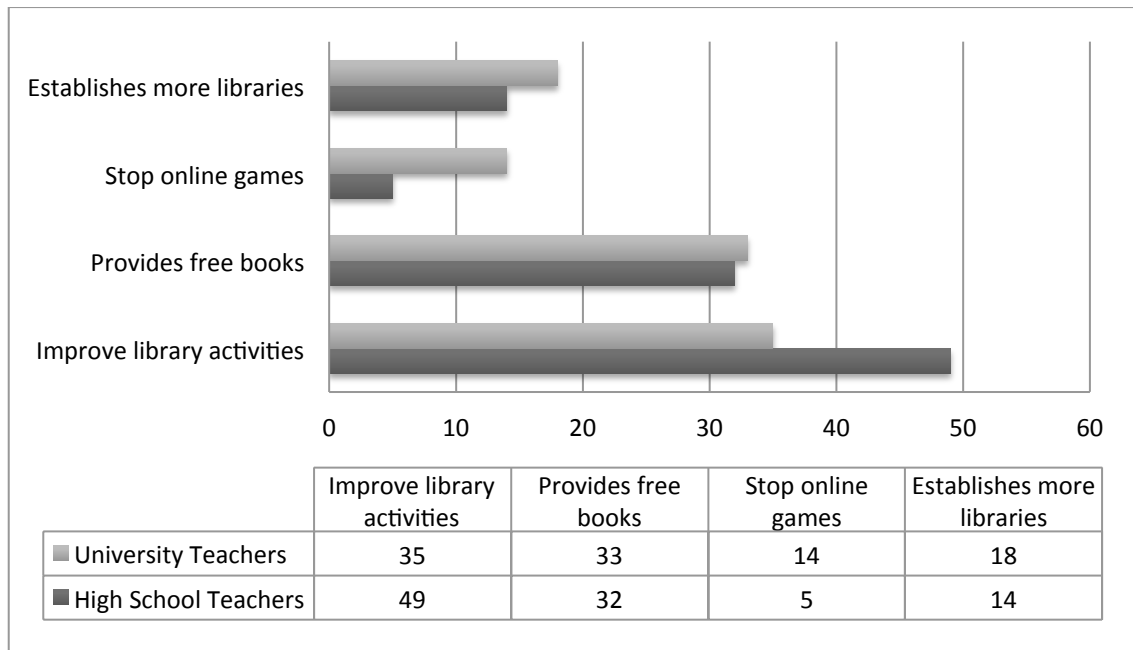


Figure 5: Respondents’ Suggestions to Promote Reading Habits

a. Vietnam’s government projects for building a learning society

To accomplish this national goal e.g. building a learning society by 2020, Vietnam government alone has taken a number of innovative enterprises such as: between 2005-2008 it established more than 9,000 community learning centers in 10,600 communes and wards throughout the country; in 2008 it approved 2nd of October annually as ‘Vietnam’s Day for Study Encouragement’; a week in response to lifelong learning that delivers the message: ‘Lifelong learning – key to every success’ launched in 2011; and in 2013 it established a lifelong learning center, namely SEAMEO Regional Centre for Lifelong Learning under the auspices of SEAMEO (Southeast Asian Ministers of Education Organization), UNESCO Institute for Lifelong Learning, as well as other SEAMEO associate member countries.

Finally, in 2014 the country granted a ‘Book day’ (21st April) along with a ‘Book Street’ and a ‘Book Week’ organized in the central cities and provinces, and promoted through seminars on books, exchanges between writers and readers, and a book auction. According to the Vietnam Prime Minister’s decision, the annual event aims to raise people’s awareness of the important role of reading culture with the improvement of people’s knowledge, skills, thought and personality. The day will also be an opportunity to emphasis to important role of books in social life, and to give recognition to book collectors, writers, publishers and distributors. Moreover, the day will help to raise the responsibility of functional agencies and social organizations on building and promoting the reading culture in Vietnam. Besides, the MoCST organizes an annual reading festival on 23rd of April, an effort to promote a culture of reading among people, especially students. In 2011 the reading festival entitled ‘Reading for Tomorrow’ included many

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activities such as a painting contest, presentations on reading culture and speed-reading techniques, and an exhibition of books featuring library activities (VOV, 23/04/2011).

b. Vietnam's non-government projects for building a learning society

NGOs and Non-profit organizations play a significant improvement in the library activities and enhance all kinds of modern library services and facilities: provide books, build and renovate libraries, and train librarians through their Corporate Social Responsibilities (CSRs). Besides government the following non-government library based projects are working for increasing reading habits of Vietnam's people mostly patronize by national and international non-government and non-profit organizations:

i. Book Box

Book box is a community reading encouraging project in HCMC. It was initiated by a group of young inspired by the 'Little Free Library' project in several countries such as USA and Pakistan. Book Box has scattered several boxes in public cafés where anyone can pick up a book and replace it with another. The take-and-give model means that each location features a diverse set of books, with each becoming a unique mini library. The project initiators encourage readers to replace the books they take out with their own treasured digests so that they can pass the value of good literature on to future readers. Book Box aims to strengthen Vietnam's reading culture and to encourage sharing and respect of public property.

ii. Park Library

Park library is not a new concept in Vietnam. Hue City, for example offers free book reading at park. Every weekend, members of the group will display more than 500 books arranged on various subjects including education, psychology, and economics, as well as novels, newspapers and magazines made possible by the charity group Bup Sen Hong (Pink Louts) (Zakir, 2013b). Hence, park library would be another popular place for developing reading culture if government and other stakeholders support and encourage this initiative.

iii. Coffee House Library

This project is a relatively new concept in Vietnam. Having a coffee while reading a book at a nearby café would be wonderful! It is said that coffee houses are one of the favourite places of students and young couples in Vietnam. The Hub Café in HCM City, for example, stacked with more than 10,000 book titles on topics including philosophy and history, as well as fiction and reference books in Vietnamese and foreign languages. Besides HCM City, Hanoi city and Hue city also have a number of coffee house libraries however the quantity and public awareness of these initiatives are still very low. In order to increase reading habits and provide reading with pleasure, it should be recognized that coffee house library activities and services in Vietnam need a boost regardless of urban or rural locations.

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iv. Book Corner and Book Shelf Library

Book corners offer a wide selection of fiction and non-fiction hardback and paperback titles including some CDs and DVDs. Bus, railway and boat stoppage corners would be much more inviting, where people can choose a book to read and drop it off at the next stoppage book corner. Imagine a library where there are no due dates and no librarians telling you to be quiet! Israel and Brazil are two examples using this practice to promote literacy. A book corner can be organized in the hotel, such as the Alcove Library Hotel and Hotel Equatorial in HCM City where they have hundred of books to serve their customers. Similarly, Thu (2013) reports that Entertainment and Education Bookshelf, a voluntary programme run by a veteran physician that makes bookshelves in the remote areas, collects and donates books to poor children in rural mountainous areas in Vietnam; the organization has more than 700 bookshelves across the country and one in Ethiopia.

v. Mobile Library

Mobile library services in Vietnam are worth streamlining. There are number of mobile library projects that are operated by public libraries and NGOs. Singapore International Foundation Mobile library (SIF), widely known as 'Words on Wheels' is the first mobile library in Vietnam that not only distributes books, educational games and toys, but also offers access to the internet and multi-media facilities. A mobile library for the blind is operated by HCM City General Science Library and funded by Standard Chartered Bank and the Force Fund of The Netherlands. Another Mobile Internet Library inaugurated at the same library provides its services to army personnel with funding from LG Electronics Corporation and the Amcham-United Way Vietnam. This mobile library is a customized coach equipped with eight Internet-connected computers in addition to peripheral devices, two TV sets, DVD players as well as some 1,500 book titles.

vi. Toy Library

Vietnam Toy Library (VTL), the first community public library, began in Hoi An by Aid for Kid (AfK), a NGO with support from the local government in 2007. It has offered books and other non-book materials to the children and the general public. The VTL loaning books programme is a new concept in Vietnam which helps around 4500 area people to access books for education and enjoyment (Zakir, 2012).

vii. Book Swapping Clubs

Book swapping club helps bibliophiles to obtain new reading material without having to worry about purchasing expensive books. The idea of book swapping is a fresh concept in Vietnam. Dong Tay Book Exchange Club, for instance, in the capital city of Hanoi is one in a growing number of organisations that allows readers to swap their old books for the ones they need. According to Ngoc (2013), the club now has nearly 200 members including students and graduates. The club has also enable readers to gain new circle of friends. They can build lasting relationships through book swapping, often sparked by a discussion about a good paperback or a bad film adaptation. Nguyen Huy Truong Book

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lovers' club in HCM City that has over 6000 books is another example of book clubs. During a period when the culture of reading is not given the attention and encouragement it deserves, book exchanges have become a meaningful way to store, preserve and popularise useful books in the society. Perhaps the birth of more book clubs similar to Dong Tay and Nguyen Huy Truong Book Lovers can open a new chapter for the country's avid readers.

viii. Book Festivals

Book festivals both online and traditional are essential to the cultural expression of a society or nation. For many people books are their best friends. Book festivals play a great role in encouraging good reading habits among all age groups. They are a platform for writers, readers and librarians' to gather and exchange ideas characteristic of a learning society. The professional event of librarians is also one of the special features of the book festivals. Vietnam holds a number of book and reading festivals mostly in Hanoi and HCM City such as Spring Book festival, Autumn Book festival, Comic Book festival, and Biennial Book festival. Book festivals can be organized online like HCM City based Tiki Joint Stock Company where it attracted more than 100 international and Vietnamese publishers with more than 20,000 displayed titles (VNS, 05/11/2013). Libraries could get a boost in their recognition if they would participate in book and reading festivals, which could be extended to remote areas to encourage reading among a wider population.

ix. Other Non-Government And Non-Profit Organizations Library Projects

In Vietnam, the national and international NGOs/NPOs such as Room to Read, The Library Project and Aid for Kid built and renovated over one thousand school and community libraries throughout the country (Zakir, 2012). Among others, Room to Read (RtR report 2011) an International Non-profit organization built and renovated over 667 school libraries and donated more than 1,294,696 books among the participant school libraries of which over 364.000 children have been benefited towards their lifelong learning (Zakir, 2013b). Samsung Vina Electronics Company handed over 28 hi-tech libraries, offering more than 40,000 books to 22,000 pupils across the country through a project called 'Smart Libraries'. The company also introduced another project titled 'Books that change my life' to encourage a reading habit among society, especially youngsters (VNS, 11/28/2013). The Bill and Melinda Gates Foundation project has provided 280 computers, 42 printers, 42 cameras and other devices to equip the province's 18 public libraries and 24 communal post offices. The \$50 million project, aimed at improving computer use and internet access in Vietnam is being implemented in 400 public libraries and 1,500 communal post offices in 40 disadvantaged provinces across the country (VNS, 08/10/2012).

RECOMMENDATIONS AND CONCLUSION

The value of knowledge and information lies in its usage. Education, information literacy and lifelong learning are the three pillars for putting knowledge to work (Singh, 2012).

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Libraries and information networks have a pivotal role to play in human progress by preserving and serving knowledge and information across frontiers. However, library cluster is only one player or stakeholder in reader development. The importance of building partnerships with other interested sectors is also crucial. There is a need to form alliances with all those who promote reading or reap the benefits of a literate population. Radio and television media for example, can play a vital role by broadcasting interesting books on air. This will encourage children to listen and thus enhance their pronunciation skills and reading habits. They also can include 'Children Reading' in their programs.

Activities directed at children rely on a strong relationship having been created with the education sector. Library and school co-operation are at the heart of 'Want to Read's programmes' to develop and enhance reading skills. To inspire a love of reading in students, school libraries play a vital role. Vietnam's school libraries should be pivotal to the 21st century educational experience, and the basis for a positive attitude by young people towards information literacy skills development, lifelong learning and develop important life skills. However, in Vietnam, school timetables are too rigid to take advantage of useful public library events (Nhung, 2011). To overcome these shortcomings, school libraries should be the strategic partner of local public libraries. Local government should ensure a collaborative atmosphere between teacher and librarian to foster a school curriculum inclusive of library literacy skills (Zakir, 2013a). Where there is an absence of libraries in some schools, students could be taken on excursions to libraries in other schools, topped up by tours to book exhibitions and fairs. During such visits, children would be introduced to the library and its resources, and be educated on the importance of books and reading to their intellectual well-being.

These days' teenagers perpetually scan screens for something new. Redesigning the library space by including a café, social and digital media based services, would inspire a sense of love for reading therefore create lifelong learners. Using Social Networking Sites (SNSs) such as Facebook, Twitter, Myspace and Zing Me (local SNS) as means of library outreach programmes should be a significant 21st century consideration by Vietnam's library and information professionals. A 2011 survey reported that about 54.3 percent Vietnamese internet users use SNSs and more than 66 percent and 73 percent of users use Facebook and YouTube respectively, whereas 60 percent of the Vietnamese teenagers use Zing Me, a locally developed social networking site. These rapid developments in technology and their use have affected librarians too, who now utilize different forms of social media for different purposes. Therefore, the library and librarians need to reach users through avenues familiar to them, in their own space or environment in order to extend library services beyond the physical library walls. For this reason, libraries are adopting, and should adopt, SNSs as a part of their services, specifically outreach services.

The project (Building a Learning Society by 2020) targets 98 percent literacy rate for people aged 15 to 60 by 2020. To accomplish this national target, library professionals should play a vital role in helping to accomplish this important goal. Similarly, Vietnam's

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libraries must perform as reading clinic not only to eliminate the online game 'virus' (although studies have shown the positive effects of gaming on cognitive development) among the young generation but also to create a reading and lifelong learning nation in order to make for a literate, peaceful and prosperous Vietnam. In Vietnam, for instance over 86,000 students quit school during the September-December (2012) semester, according to MoET report. They can be invited to the libraries to enjoy reading and non-reading activities, such as lectures, movies or discussion groups to facilitate their first step back into learning. Over the past twelve (12) years the Vietnam Study Encouragement Association helped to develop academic activities into a far-reaching public movement. They introduced learning models such as the 'Studious Family', the 'Study Encouragement Family' and the 'Study Encouragement Residential Quarter'. However, the achievements from these initiatives are far less than expected.

To strengthen libraries, it is important to raise the awareness of the role of libraries and also to improve library activities and services. Service attitudes and quality of service must be developed. There are also impressive examples of ambitious services such as the General Sciences Library in HCM City, the National Library, and the brand new Public Library in Hanoi. However, there is a gap not only between urban and rural areas but also between different provinces. The Vietnam Library Association (VLA) should be an important player in promoting library services and to increase the understanding of the role of libraries in society and national development. Librarians should also be more dynamic in their connection with information seekers. The VLA should boost regional cooperation with the Congress of Southeast Asian Librarians (CONSAL) and the Library Association of Singapore and Malaysia, and pursuing international collaboration with the IFLA, ALA and CILIP to develop library and information science professionals to meet the needs of *netizen library users. Therefore, the Ministry (MoCST) should set up an action plan for training library professionals on different levels. To create a comprehensive public library system there is a need for national coordination and standardization in certain fields. The National Library should play a more strategic role in public library development. It should have a clear mandate and adequate resources to act as a central resource for library automation, digitization, standardization, coordination and professional training. As the incumbent providers in the current system, governments, schools, universities and libraries must not only seek to drive innovation but also learn to be 'good adopters'.

*netizen: *A person who is a frequent or habitual user of the Internet.*

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Choice of information sources of blind and visually impaired person

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ABSTRACT

The paper aims to develop a theoretical model to investigate the relationships between Information Need (IN), Information Quality (IQ), Service Quality (SQ), Carrier Quality (CQ), Personality (P) and Relationalism (R) with the Choice of Information Source (CIS) among the blind and visually impaired (BVI). It serves to establish the link among IN, IQ, SQ, CQ, BFP and R with CIS to fill the gap in the current literature. The research model is proposed based on reviews of the literature on information seeking behavior, human needs, quality, personality, relationalism and choice behavior perspective. With the new knowledge gained on the associations among the variables, librarians and other information providers can focus their effort on understanding the BVI's persons' information sources preferences and provide better information sources based on the IN, IQ, SQ, CQ, BFP and R. It is anticipated that this paper will contribute towards a sustainable development for better lives for the BVI in Malaysia.

Keywords: Blind and visually impaired (BVI); BVI library services; Choice of information sources; BVI's behavior

INTRODUCTION

The library is one of the important elements either in schools, academic institutions or other organizations that comes from the word *liber*, a Latin word that means book. It can be defined as a collection or group of collections of books and/or other print or non-print materials organized and maintained for use (reading, consultation, study, research, etc.) and meet the user needs (Reitz, 2004). There are five types of libraries namely the national library, public library, academic library, school library and special library. This study focuses on a special library, that is, the blind and visually impaired (BVI) special library since the BVI community is the biggest minority community in the world.

The literature published in the popular journals on different types of disabilities has studied the various disabilities and found out that visual disability ranked first amongst disabilities and this is followed by learning disability and physical disability, auditory, multiple and nonspecific, general types of disabilities (Hill, 2013). The first global estimation of BVI in 1975 stated that there are 28 million BVI people worldwide and this figure increases yearly with 38 million on 1990, 5.8 billion on 1996 and 7.9 billion in 2020 (WHO, 2007). A total of 10% of the world population live with disability with one -

third of this from BVI disability (UN, 2001) and 90% of the BVI community lived in developing countries (WHO, 2013). If a 10% projection is taken into account for the Malaysian population of 30,021,078 (Department of Statistics Malaysia, Mac 2014), the estimated number of people with disabilities is 3 million and one-third or 1 million are those from people that have BVI problems.

Information seeking behavior (ISB) has become a major research in library and information science (LIS) field since the early 1980's. Several ISB models had been created which focus more on the flow or process of ISB. Generally ISB involves three steps which are perception of the need for information, the search for information, and the use of information (Choo, 2006). A simplified process of the information search process is presented in the Figure 1. Hence this research will focus more on the information search which is the factor that influences the choice of information sources of BVI in the BVI special library in Malaysia.

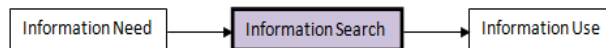


Figure 1: Information search process by Zimmer 2011

The development of the libraries for BVI differs from country to country and are often developed outside of the mainstream library system as an extension of charitable agencies to fulfil roles in education, training and lifelong learning for BVI people. In Malaysia, the Malaysian Association for the Blind (MAB) is the premier voluntary organization in Malaysia serving BVI with suitable information sources in their library. However technological evolution has also changed the ISB of the BVI and its sources of information. This study is important due to the different format of information sources available for this community rather than other disability community.

Previous research in this area found out that the choice of information sources was influenced by the task, the seekers, the source (O'Reilly, 1982) and social communication (Zimmer, 2011). In this research, the task will be represented as Information Need (IN), the seekers as Personality (P), the source as Source Quality (IQ, SQ, CQ) and the social communication as relationalism (R). This paper proposed the new framework to investigate the Relationship between IN, IQ, SQ, CQ, P and R with CIS based on the Customer Purchase Behavior (CPB) model (Kim, Forsythe, Gu & Moon, 2002), Information System Success (ISS) model (Delone & McLean, 2003), relationalism model on selection of information source (Zimmer, 2011) and the personality on the source of information (Sin, Kim, Yang, Park & Laugheed, 2011). All these models and theories are grounded based on the behavior theory and the same applies to this conceptual model that involves the choice behavior.

LITERATURE REVIEW

The research model is proposed based on reviews of the literature on ISB, information source, information need, personality, relationalism, choice and behavior perspective. One of the earliest theorists on ISB highlights the need to study information-seeking behavior, rather than just information needs (Wilson, 1981, 1999). Other researchers

examined in more detail about the ISB among different target groups (Dervin, 1983; Bates, 1989; Ellis, 1989; Kuhlthau, 1991; Savolainen, 1995, 2008; Mohammed Nasser, 2007; Yadamsuren, 2010; Zimmer, 2011 & Markwei, 2013).

Choice of Information Source

Information sources (IS) is a physical carrier of information and the most important element in seeking information either for the job or non-job related information and school or non-school related information. There are an infinite number of different information needs and there are also an almost unlimited number of different sources of information (Kari, 1997). IS or sometimes used as information resource or information channel is defined as any system producing information or containing information intended for transmission and it is distinguished by the form of representation either textual (books, journals, manuscripts), graphic (graphs, diagrams, plans, charts) and audiovisual (sound recordings, motion pictures, slides) (Great Soviet Encyclopedia, 2010).

Several researchers have divided and categorized IS into a few categories. Information sources can be categorized into four categories which are: 1) self, 2) other people, 3) organizations, and 4) documents (Wilson, 1981; Chen & Herson, 1982; Brown, 1991). IS also can be classified into internal and external sources (Huston, 1991), into normal and paranormal sources (Kari, 1997) or into people and media (Agosto & Hughess-Hassell, 2005). Based on the categories above, the researcher agreed that the recorded IS can be classified as a formal IS while non-recorded IS can be classified as informal IS.

IS for the urban youth adult revealed the most frequently consulted people included friends, family, and school employees while librarians appeared low on the final typology, after mentors and customer service personnel. For the media source, teenagers turn to telephones, televisions, computers and radios before turning to print resources such as newspapers, books and magazines (Agosto & Hughess-Hassell, 2005). However, the seniors' main source of information regarding health is the nurse or physician while newspapers or magazines are for information regarding hobbies. The seniors agreed that technology-mediated information (phone and the internet) always frustrates them although it was the best way to get information (Gray, Snarr & Vallance, 2005). Both researches found out that personal or word of mouth is a major source of information.

The evolution in technology has changed the sources of information in the world especially for the BVI community. The BVI's IS is identically different compared to other group of disabilities and other normal visual people due to the limitation of their sight. Due to this, several IS has been made available for BVI although the cost for each source is high like the Braille book, Digital Talking Book (DTB), audio cassettes, large print, adaptive technology and a few more. All these IS can be obtained from the BVI charity organization and the Blind Special Library. Special libraries for BVI produce materials in alternative formats since it was not commercially available and they also provide free postal services (Pillar, 1995).

The services like access to digital texts, DTB, CD-ROMs, Braille, large print books and special format interlibrary loan had become a part of public library services (Craddock,

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2003). Adaptive technologies are sometimes accompanied by training activities for BVI users and librarians (Cahil, 2003). The Daisy Consortium (2004) had also created the Daisy format for the BVI where users will be able to make large print and will be able to translate it into Braille, audio formats, and different languages. Availability of software like Job Access with Speech (JAWS) allows BVI users to read the screen either with a text-to-speech output or by a Refreshable Braille display. Nowadays, other speech software also had been embedded in the smart phone and tablet widely. This technological evolution may change the patterns of ISB and choice of information sources of the BVI.

Hence, the IS for the BVI had changed in parallel with the technological change and it has changed the ISB and ELIS of the BVI especially on their choice of IS or perhaps they will use the IS that requires the least effort due to their visual disability.

Relationship between Needs and Choice

Information needs influence the choice of information sources by stating that the more information is needed, the more sources and human sources are use (Byström's 1999). Findings from previous study revealed that the choice of information source are based on either meeting human acute needs, new needs, specific needs or future needs and the appropriate information sources will be scanned in the mind as long as the to-do list of information needs stays in the minds (McKenzie, 2003). Other than that, students turn to a plethora of IS to meet their information needs including people, telephones, televisions, and computers (Agosto & Hughess-Hassell, 2005). People also read for orienting their needs and choose new sources and stories that meet their needs (Yadamsuren, 2011).

Meeting the needs of the users is one of the important elements in marketing. The library is an information service provider that provides the user's information needs. Providing the right products or services to fulfill the customer needs is necessary where it becomes an ongoing marketing challenge in the competitive global market (Kim et al., 2002). Therefore, the consumer purchase behavior theory that examines the relationship between customer needs which are experiential needs, social needs and functional needs with the purchase behavior had been used in this study by assuming the Choice of Information Source (CIS) determined by the needs the BVI's itself. Based on this, the following hypothesis is proposed:

H1: Information Needs of the BVI have a positive influence towards Choice of Information Source (IN → CIS).

Relationship between Quality and Choice

Previous findings on the ISB study revealed the quality of information source itself. Accuracy is most important when selecting information sources among the seniors (Gray, Snarr & Vallance, 2005). The criteria for quality of the information needed are physical form, amount of information needed and emphasizes on the information and delivery itself (Kari, 1997). He also found out that the ten criteria for quality of the information from the previous research are: 1) Width or holistic nature of information, 2) Cost of information, 3) Ease of accessing information, 4) Applicability of information

Choice of information sources

to the person's situation, 5) Depth or specialization of information, 6) Reliability of information, 7) Newness of information, 8) Precision of information, 9) Swiftiness of getting information, and 10) Intelligibility of information.

Quality of the information and sources viewed influenced the CIS. However, he only took content and availability of the information as the information quality element in his study which influences the information source horizon (Savolainen, 2008). The quality and credibility of the online news source was also tested and found that the quality of writing (source of news, well-written, low quality, objective, slanted, fair, balanced, bias, twist stories, wisdom of crowd and accuracy), design/usability (layout, usability and design) and a few others like validity, reliability, faith, reasonable, trust and integrity are criteria are used to judge the quality of the information and its source (Yadamsuren, 2011). In consequence to this previous ISB and ELIS findings about the information quality, the well established ISS model will be used in this study. Choice of Information Source (CIS) is determined by the quality of the carrier, service and information itself (Delone & McLean, 2003). Based on this, the following hypotheses are proposed:

H2: System Quality has positive influence on BVI Choice of Information Source (SysQ → CIS)

H3: Service Quality has positive influence on BVI Choice of Information Source (SQ → CIS)

H4: Information Quality has positive influence on BVI Choice of Information Source (IQ → CIS)

Relationship between Personality and Choice

CIS is influenced by the personality of the seekers itself. This statement has been supported where behavior and choice preference of individuals can be explained to great extent by underlying personality traits (Allport, 1937). The major drivers of source selection are the seekers' characteristics itself that lead them to choose different information sources to fulfill their needs (O'Reilly, 1982).

The choice of mode transport is influenced by the attitudes and personality traits (Johansson; Heldt & Johansson, 2006) while personality plays a role for choice of website (Kosinski, Stillwell, Kohli, Bachrach & Graepel, 2012). Hence the influence of personality on information behavior requires further investigation. On the ISB, information source vary with personality traits (Sin, Kim, Yang, Park & Laugheed, 2011) as information behavior can vary with personality traits (Heinström, 2003, 2006; Farmer, 2007). Findings show that individuals with different personality traits favoured certain sources that were seldom used by others. CIS is determined by the personality of the BVI's itself. Based on this, the following hypothesis is proposed:

H5: Personality has positive influence on BVI Choice of Information Source (BFP → CIS)

Relationship between Relationalism and Choice

Another variable that influences the choice of information source is the relationalism that has been established between seekers and the sources because individuals not only

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communicate with the source, but create feelings (Duck, 1988). In this study, relationalism can be defined as the perception that an individual can form a relationship with a source (Zimmer, 2011). He viewed relationalism as the new factor that influences CIS. Relationalism is rooted in two separate research findings. First, in the course of studying how to best store and organize information for easy retrieval, researchers found that some individuals rely heavily on interpersonal communication instead of formalized information systems (Gerstenberger & Allen, 1968). Second, more recent research found that individuals perceive differences in accessibility for different types of sources (Zimmer, Henry & Butler, 2008).

Several information sources can contain equivalent information and the seekers will decide to choose the information source that enables relationship formation. Although face-to-face interaction is rich in establishing connections, individuals also establish connections through IT-enabled communication sources like Web 2.0, blogs, wikis, instant messaging and chat function because it can establish and maintain connections (Nardi, 2005) as well as allow for the exchange of substantive information and allow users to interact, openly share information, and generate the network effects that result from individuals combining their collective knowledge (Parameswaran & Whinston 2007; Zammuto, Griffith, Majchrzak, Dougherty & Faraj 2007). The availability of several information sources will make the seekers choose the source that have a high relationalism with the source. Hence the following hypothesis will be tested.

H6: Relationalism has positive influence on BVI Choice of Information Source ($R \rightarrow CIS$)

Theoretical Model

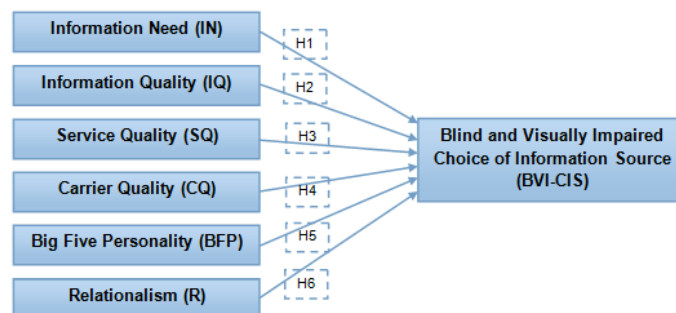


Figure 2: Proposed research model for BVI Choice of Information Source (CIS)

IMPLICATION

The main contribution of this model is the integration of needs, quality, personality and relationalism to improve the existing services of the library for BVI users especially in terms of information sources. It will also provide government and private organization an understanding about information needs of BVI in Malaysia. Librarians, information professionals and information providers could improve library services through understanding of the BVI's information need, identify and improve the quality for the

frequently used information source among BVI and could become cost effective organizations by eliminating the less frequently used information sources and vice versa.

This study will contribute to the ISB body of knowledge with the development of a new model. The suggested model will assist researchers to determine the linkage between IN, CQ, SQ, IQ, BFP and R with CIS. These six variables have been developed as a result of literature reviews.

CONCLUSION

Library services for the BVI and the information sources available have changed following the evolution of technology and the BVI community will not miss this change. Understanding the factor that influences CIS among BVI is vital for libraries and other information providers to meet the needs of the users especially BVIs in Malaysia. The proposed model identifies the relationship between IN, IQ, SysQ, SQ, P and R with the CIS. This suggested model perhaps will be used for future research and by information providers to prepare the best possible service and become a cost-effective organization.

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Assessing customer satisfaction at the Harish-Chandra Research Institute Library

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ABSTRACT

This paper is basically concentrated on the user information seeking and their satisfaction rate from the library. It caters to all categories of users, which includes Faculty, Students/ Research Scholars, Post Doctoral Fellows, Visitors and Resource Persons too. The main objective of this study was to assess the utility of the library and scope for future development.

Keywords: Users' Survey; Library Services; Library Staff

INTRODUCTION

The basis objective of this survey was to scale the satisfaction level of the users of this Research Library and users' expectation to some extent. This survey may be conducted further in other fields such as collection development, facilities extension, etc.

Academic libraries have been described as the *heart* of the Learning Centre, providing a place for students and faculty to conduct their research and enrich their knowledge. In the research education system, the academic library and information centre is the centre of academic life. Any library provided to an institution of higher education exists to support the goals of its parent organization. Since research libraries are an integral part of the research work and education system, they should provide support services for the formal educational programs, as well as for facilities for research and generation of new knowledge. It is important for any information professional working in an academic or any other library, to know the real needs of the user community.

Since all the use and existence is only for the users and their needs, it becomes necessary to know about their suggestions or comments on its quality of service and collection status. Although it has been a regular exercise for any library to assess the needs and comments of the users, but still some times it becomes so important to have their views in a nut shell about its use aspects: collection, web site, staffs awareness and eagerness to help them. In these circumstances users have been allowed to give their opinion about these aspects at specific points. These surveys provide an assessment of the services provided and informs how to improve on the same. We find some indicators for future course of action in terms of library services.

BACKGROUND

The purpose of employing the user studies are described by Cullen (2001) in the following terms:

- Provide detailed information about user's opinion of the service
- Help to clarify the librarians concept of the services as well as their assumptions about the user needs
- Indicate problems
- Suggest solutions

In the same direction Lancaster(1977) in his book on the measurement and evaluation of library services stated that *"library surveys are shifting their emphasis toward the library user, patterns of library use, and the degree to which user needs are being met."*

Busha and Harter (1980), in their text on research methods, mentioned that *"user studies are needed to justify and expand library services and usage and to learn more about how people communicate. More specifically, they stated that user studies are needed to: predict library usage; determine why people do or do not use libraries; identify what group borrow which kinds of materials; identify what groups use which services; suggest how user can be encouraged; explore how use patterns differ; measure the effects of mass media on library use; and identify actual needs"*.

The Institute's library is one of the best-equipped libraries in the region. It caters to the users of specific fields of research needs: Theoretical Physics and Pure Mathematics. Our basic emphasis is on journals only as journals provide the latest happenings in the fields of interest; we subscribe 178 titles in our area and spend approximately Rp.2.25 crores in Journals' subscription per annum. We procure books too in our core areas for which we spend approximately Rp.20 lakh per annum for books.

Being the library of a research institute, it provides the required support to the academic and research activities of the institute. It remains open on all working days from 8 am to 2 am, including Saturdays. It also remains open during the Sundays and the gazzetted holidays from 10 a.m. to 6 p.m. It has added 402 books, including 72 gifted books, during the current financial year. It has a total number of 20,850 books which includes 999 gifted books. The institute's library has a total collection of 56,059 books and bound volumes.

The whole collection is bar coded and equipped with Tattle Tapes for security purposes. Recently we have provided the latest systems to our users for browsing the library OPAC through LibSys 7 and related search. We enriched our Building of the Digital Depository of the HRI with the help of GreenStone, an open source software, which includes submitted articles, thesis, lecture notes etc. The library web page has been updated which provides more detailed information about the library, such as subscribed databases, archives, library rules, library staff, list of online journals, online link to the Video lectures and other useful links.

The library can be termed as a completely automated library system, which provides acquisition, cataloguing, circulation, search modules through LibSys-7. The on-line

catalogue has increased the opportunities of the use of our library resources by the neighboring organizations such as INSDOC, TIFR etc. through the Document Delivery Services (DDS). Normally we provide the DDS on request through post, at very nominal cost, but requests have also been honoured through e-mails.

We had encouraged the use of the library by providing the library consultation facilities to research scholars from neighboring institutes.

We had strengthened our library security with the implementation of Electro-magnetic Tattle Tapes to reduce losses. This has been made completely functional.

RESEARCH DESIGN

The research was conducted among users who use the library quite frequently. We used the survey methodology. The questionnaire was prepared and users were asked to provide their opinion using the scale from 1-10 on different points. Since the library users are using the library from many places in campus, the questionnaire was provided through mail and in print. We have excluded the Administrative staff from this survey as they are not frequent users of our collection as their use is limited to our General Collection, which is quite insignificant in numbers too. The following Table 1 provides the complete information of our total users.

Table 1: The library users

1	Faculty	Physics, Mathematics	36
2	Post-Doc. Fellows/Visitors	Physics, Mathematics	25
3	Student Research Scholars	Physics, Mathematics	101
4	Administrative Staff		30
5	Visitors/Project Students	Physics, Mathematics	30
	Total Users		222

Objectives

The main objectives of the survey were as following:

- To explore the use of library and it's utility in the present era of internet.
- To investigate the users' and library staff's interaction and opinion of users.
- To explore about our library collection and its depth and weaknesses as described by users.
- To identify the physical facilities provided in the library.
- To investigate users' critical and constructive suggestions

RESULTS

Table 1 has been devised to give the complete picture of the users in the institute, however the separate category status has already been shown in Tables 2 to 4. It reflects the total user strength of the HRI library:

Table 2: Complete Number of Users

No.	Category	Physics	Maths	Total
1	Faculty	23	13	36
2	PDFs	20	5	25
3	Research Scholars	71	30	101
4	Admin.			30
	Total			192

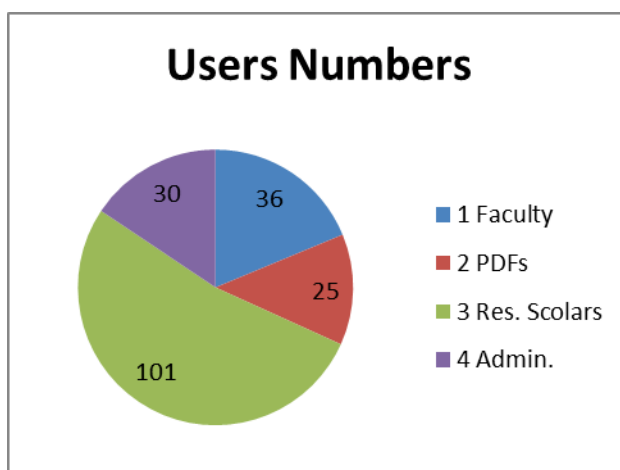


Figure 1: Users by category

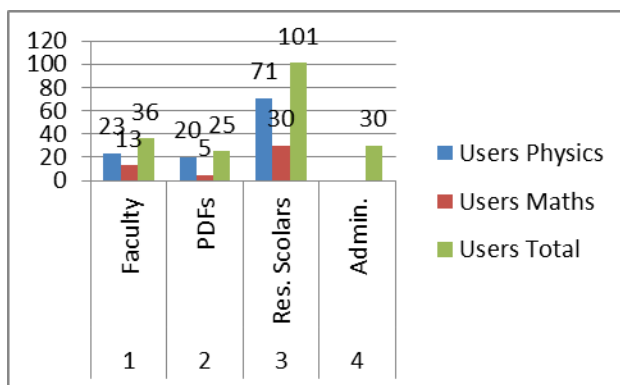


Figure 2: Users by category and field

The above mentioned Table 2 show the total number of permanent users of our institute in different categories. It is termed as permanent users as we have a number of

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conferences and schools being held throughout the year, hence we have a number of research scholars and resource persons attending these activities. These visitors constitute a good number of users in our institute but they leave after the schools/conferences are over. Since these visitors are from different parts of world and they belong to different institutes inside India and outside, we have included their responses too.

Since the survey was conducted during the summer, some of the permanent faculty and research scholars were not on campus mainly because they had gone on leave or sabbatical leave. We had a number of visitors attending Summer Schools who have provided valuable feedback to the survey. Table 3 shows the response rate is almost 66%. Since the opinions received from user in all points does not differ very much in numbers the 'Average Method' was opted for reflecting their results.

Table 3: Responses of Users

No	Category	Numbers	Available	Responded	Percentage
1	Faculty	36	20	12	60
2	PDF	23	15	8	53
3	Research Scholars	126	85	62	73
4	Visitors/Project Scholars	38	38	23	61
	Total	223	158	105	66

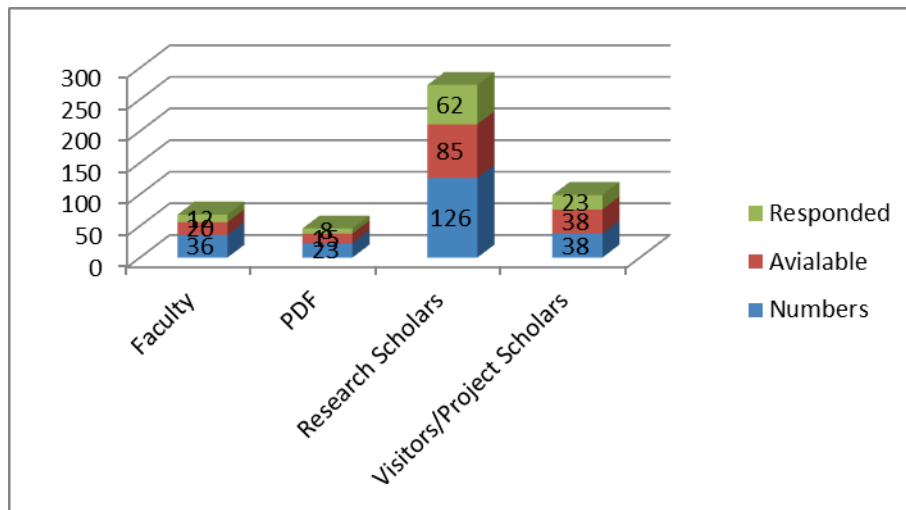


Figure 3: Response rate by category

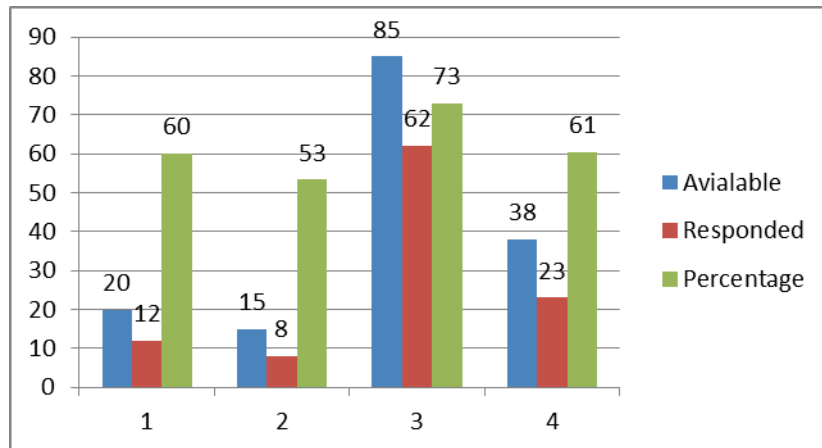


Figure 4:

Now we come to the finding of this survey. We have tried to get the opinion from the users on the specific questions/ points and shown their results in average response on a particular point through tables and graphs to have more specific indicating terms. The following Table 4 and the graph shows the users view on “Library as Comfortable Location”.

Table 4: Library Location Comfort Level

Library Location	As Comfortable	(Scale of 1-10)
1	Faculty	8
2	PDF	9
3	Research Scholars	8
4	Visitors/Project Scholars	9

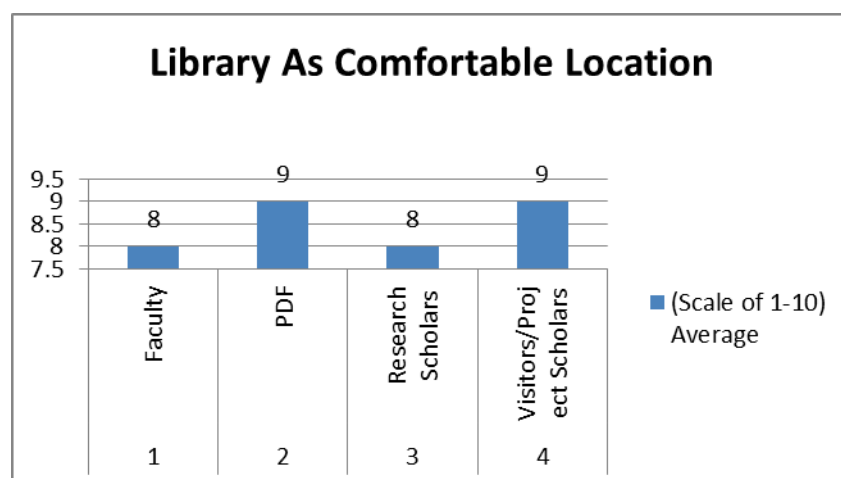


Figure 5: Library Location Comfort Level

Table No. 5 (Library Staff Behaviour)

Library Staff Behaviour		(Scale of 1-10)
No	Category	Average
1	Faculty	9
2	PDF	9
3	Research Scholars	10
4	Visitors/Project Scholars	10



Figure 6: Staff behavior

Above mentioned table no. 4 shows the opinion of the users of different categories in average mode about the Library staff's behaviour towards the user, as it is more concerned section of the survey the response was quite overwhelming and encouraging too. It gave us real encouragement to work even more friendly with user to attain a cent per cent satisfaction.

Table 6: Library Modernisation Level

Library Modernisation		(Scale of 1-10)
No	Category	Average
1	Faculty	8
2	PDF	8
3	Research Scholars	9
4	Visitors/Project Scholars	9

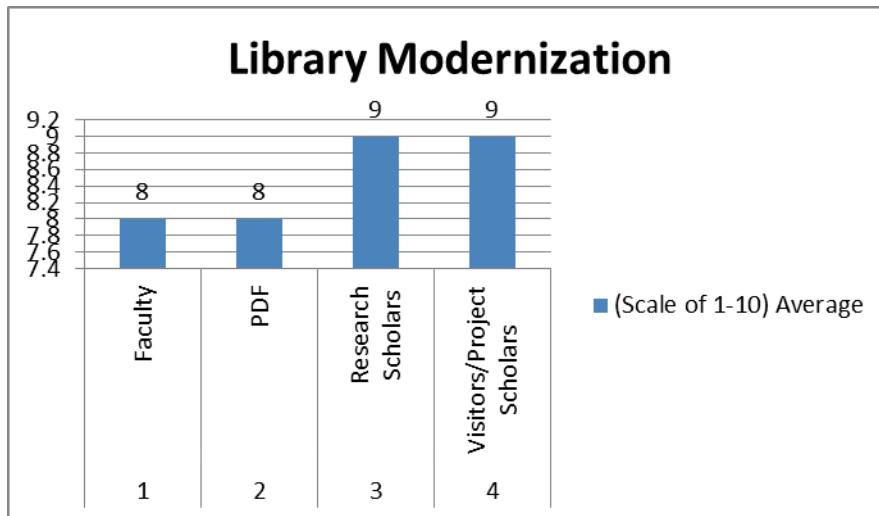


Figure 7: Library Modernization

Table 6 shows the opinion of the users of different categories in average mode about the Library Modernisation aspects which effects the users, the response was quite satisfactory. It gave us real encouragement to work even more aggressively to attain a better satisfaction rate.

Table 7: Library Collection Development

Library Collection Print + Electronic		(Scale of 1-10)
No	Category	Average
1	Faculty	8
2	PDF	8
3	Research Scholars	7
4	Visitors/Project Scholars	9

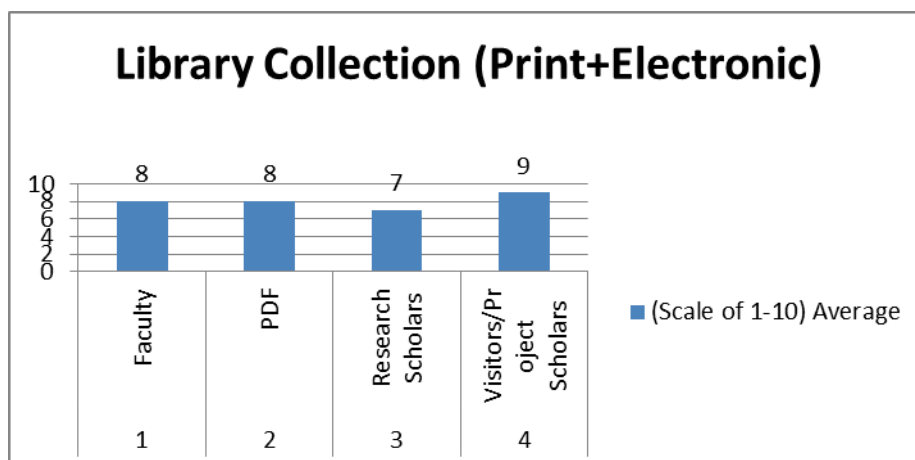


Figure 8: Library Collection

Above mentioned table no. 7 shows the opinion of the users of different categories in average mode about the Library collection in print and electronic both aspects which effects the users, as it is more concerned section of the survey the response was quite satisfactory but still it is an area we need more emphasis is needed. It gave us real ticker to work even more aggressively to attain a better satisfaction rate

Table 8: Library As a Group Learning Space

Library (Group learning)		(Scale of 1-10)
No	Category	Average
1	Faculty	6
2	PDF	7
3	Research Scholars	6
4	Visitors/Project Scholars	6

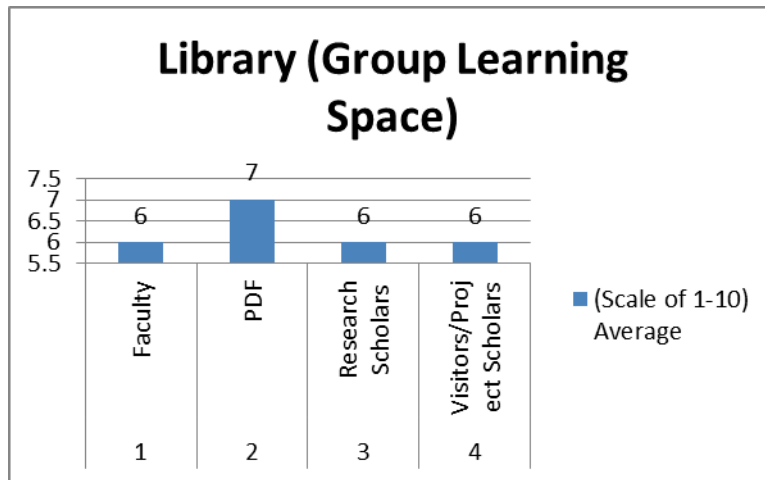


Figure 9: Library As a Group Learning Space

Table 8 shows the opinion of the users of different categories in average mode about the Library (Group Learning Space) aspects which effects the users, the response was satisfactory. Infact the authority has planned in advance to provide more than 1.5 times extra space for library building and extension work is in full swing. We expect to get the additional space within a span of a year and half.

Table 9: Library Access

Library (Online Access throughout Campus)		(Scale of 1-10)
No	Category	Average
1	Faculty	10
2	PDF	10
3	Research Scholars	10
4	Visitors/Project Scholars	10

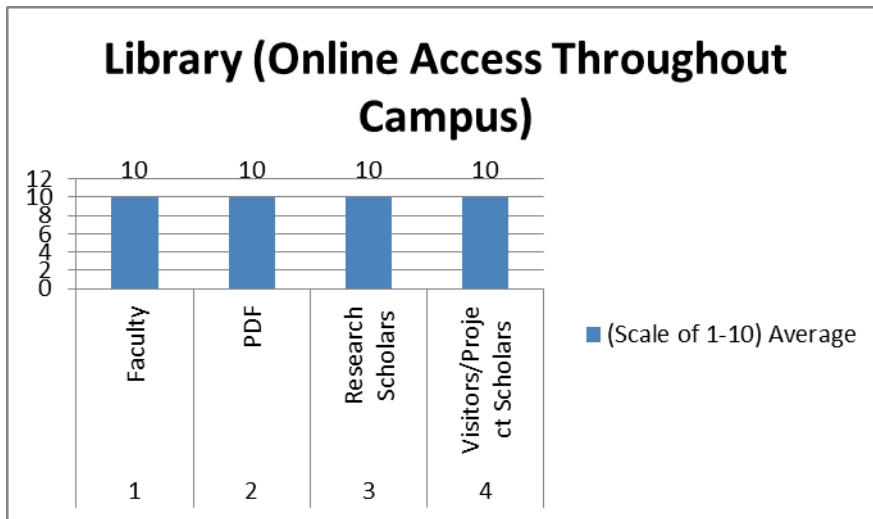


Figure 10: Library Access

Table 9 shows the opinion of the users of different categories in average mode about the Library Material Online access aspects which effects the users, the response was quite satisfactory. It gave us real encouragement to work even more aggressively to maintain the better satisfaction rate regularly.

Table 10: Library Website Usefulness

Library Website Usefulness		(Scale of 1-10)
No	Category	Average
1	Faculty	8
2	PDF	9
3	Research Scholars	9
4	Visitors/Project Scholars	10

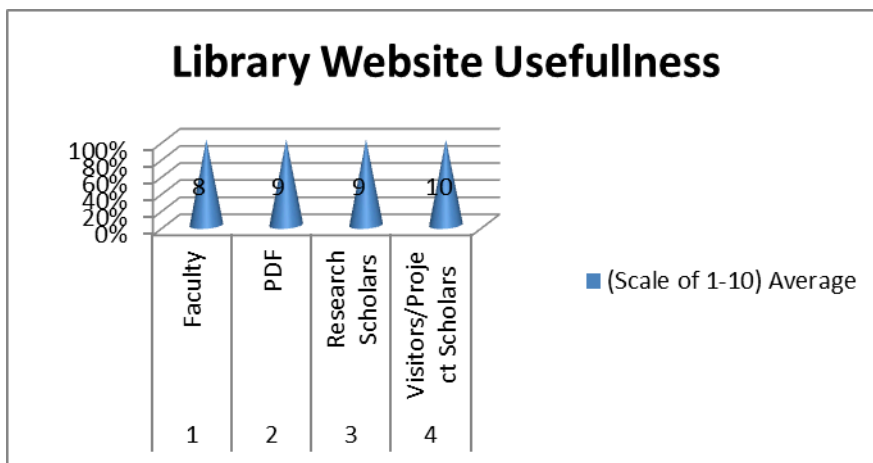


Figure 11: Website usefulness

Table 9 shows the opinion of the users of different categories in average mode about the Library Website Access and usefulness aspects which effects the users the most, the response was quite satisfactory. The lot of work is done from the library staff to get it updated and functional for the benefit of the users but it should be reflected from the users about its functionality.

Table 11: Library Staffs' Ability

Library Staff Ability to Access User Needs		(Scale of 1-10)
No	Category	Average
1	Faculty	9
2	PDF	10
3	Research Scholars	9
4	Visitors/Project Scholars	10

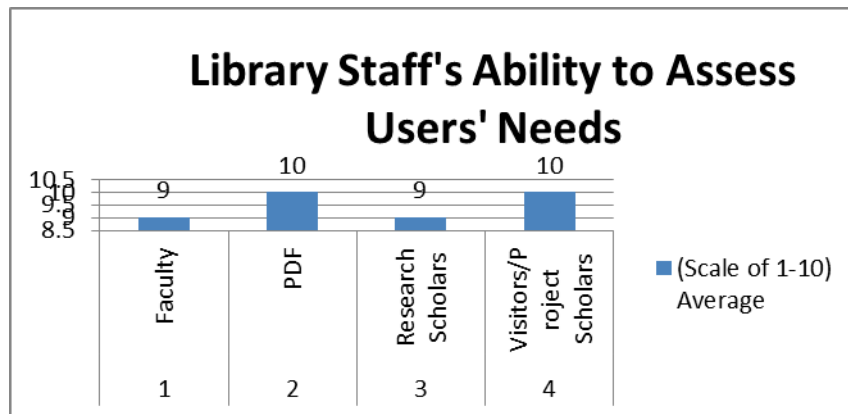


Figure 12: Staff ability

Above mentioned table no. 11 shows the opinion of the users of different categories in average mode about the Library staffs' ability aspects which concerns the users, as it is more concerned section of the survey the response was quite satisfactory. It gave us real encouragement to work even more aggressively to maintain the better satisfaction rate regularly.

FINDINGS

The focal points of this study were to get views on the following areas were the comfort level in the library; Space environment and inspiration to read; Quality of the library staff services rendered; Access to information and ease of the same; Availability of E-resources of their need; Library staff's willingness to help; Collection development and its use among users; Accessibility of E resources throughout the campus; Anticipation users' need by Library Staff ; Individual attention level to the users by library staff.

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The separate column was provided for suggestions and it was well used by the users who provided some very constructive suggestions too. Since most of the users stay in the campus only, the response was quite satisfactory. The users did come with some useful suggestions too. While analysing the results of the findings one factor was more visible as being summer season, more of the visitor/summer project students were available but the regular faculty and research scholars have not been physically available in campus. The response rate has gone down, but few of the responses have been received through mails too. The main findings may be expressed as:

- Some the students have provided some quite valuable suggestions regarding collection development issues:
- Some represented the issue of having more number of copies for their required books whereas we try not to duplicate the titles in our library, the point has been well taken and will be placed in the Library Committee.
- Few suggested for more private cubicles for intensive study in Library premises that will be taken care by the library extension which is already in the process. Hopefully the students will be getting more personal space/ cabins for intensive study in the library.
- Few suggested about more power points for Laptop charging, the action has already been initiated in this regard.
- Few suggested for inclusion of E-books in our collection development pattern.
- Most of the users have shown satisfaction towards the library staffs' approach to their queries. They had shown their satisfaction towards their personal approach to the users.
- Responses towards the Library Staff: The responses towards the library staff were quite satisfactory as it recorded almost a perfect 10. It encourages us to work even harder to satisfy our user to the best of our possibilities.
- Kind of Services provided to the users: The kind of services that we provide to locate the material needed. If any visitor doesn't know to use our library we assist them to use the maximum. We provide photocopy of the printed material and allow electronic information to be downloaded in the interest of the users.
- Availability of the Required Material: The reading material is strictly procured on the basis of the users recommendations only. These recommendations are processed through the library Committee and then approved by the Director. After this screening process the library procures the material. Since the number of students is increasing to demand for more than one copy is increasing.

CONCLUSION

Some suggestions were quite expected, such as, space for group learning, which is very restricted. The library management has already planned for physical space extension of 1.5 times additional space, which is currently under construction.

Collection development sometimes due to the paucity of the funds the demands is not met. However recommendations are frequently taken from students and approval rate for recommendation has been almost 95%. It gave us some indicators for our future planning for the library development which was the main reason for conducting this

survey. There are few developments which are already in the pipe line as these will occur at certain point of time according to the funds availability, as the Institute receives the funds from two levels, one is Recurring Funds and another is Non Recurring (Plan) Funds. There will be a need for a few more surveys to cover some other areas: procurement of E-Books and other E-Content available for the users. There is a scope of the shifting the content/collection developments from print to electronic too as the young researchers are more accustomed to electronic version compared to the senior ones.

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<http://lcc.hawaii.libguides.com/librarysurvey2014>

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Evaluation of selective dissemination of information (SDI) service: A case analysis in Indonesia

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ABSTRACT

The focus of this study is to evaluate SDI service provided by ICALTD, the Indonesian Center for Agricultural Library and Technology Dissemination. ICALTD is one of structural bodies under the Indonesian Agency for Agricultural Research and Development, Ministry of Agriculture. The library is the oldest agriculture library in Indonesia that was established in 1842. The SDI service named Selected Distribution Information (SDI) Service (Penyebaran Informasi Terbaru dan Terseleksi / Selected Distribution Information Service) is conducted by sending a list (Selected Distribution Information (SDI) Service bulletin) which contains selected abstracts on latest article journals and research through personal and group email. This is a quantitative research with survey method. The questionnaires were distributed to researchers at Indonesian Ministry of Agriculture, throughout Indonesian region. The purpose of this research are to determine level of satisfaction from 4 aspects: delivery system of SDI service; relevancy of information provided on SDI Service Bulletin with researcher's subject interest; advantages of SDI service to researchers; and way of presenting information on SDI Service Bulletin. The study shows that ICALTD has been successful in conducting the SDI service. Respondents are satisfied with the service. The finding also shows that SDI service has opened the possibility to communicate and sharing among researchers in the same subject interest. This paper also discusses the importance of updating user profiles. The finding would be helpful to improve the quality of service.

Keywords: Selective dissemination of information; Agricultural information; Indonesia

INTRODUCTION

One of the most important activities in the library is providing information service to users. Information service provided by the library is based on two types of services: 1) service provided to respond to any information requests from user (e.g.: reference service) and 2) information service conducted to anticipate and to fulfill the information needs of user. The second type of service is widely known as current awareness service (CAS), which is designed to supply the current and latest information on a specific subject area for its users. Hamilton (1995) stated that a current awareness service is a service which provides the recipient with information on the latest developments within the subject areas in which he or she has a specific interest or need to know. Basically, the purpose of a current-awareness service is to inform the users about new collection

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in their libraries. The service is performed by sending a list of contents on various collection: journals, books, and magazine. Current awareness service enables users with various interests to find out the relevant information depending on their needs, choice and interest. However, users also have to make some extra effort to be aware of the new information which is also compiled by the (information service) provider (Hossain and Islam, 2008).

ICALTD, the Indonesian Center for Agricultural Library and Technology Dissemination, is one of structural bodies under the Indonesian Agency for Agricultural Research and Development, Ministry of Agriculture. ICALTD consists of two major divisions, i.e the library and technology dissemination. The library, established in 1842, is the oldest agriculture library in Indonesia. By March 2000, it was formally declared by a Ministerial Decree as the Center of Agricultural Library and Technology Dissemination (Pusat Perpustakaan dan Penyebaran Teknologi Pertanian / PUSTAKA). The library plays important roles to support and disseminate research on agriculture produced by Indonesian Agency for Agricultural Research and Development, Ministry of Agriculture. To cover the specific scientific needs of researchers, the ICALTD provides full text electronic access to various journals (e.g. Journal ASHS (*American Society for Horticultural Science*); HortScience) and up-to-date international databases (ProQuest, Science Direct; Springer; TEEAL (The Essential Electronic Agricultural Library)). The library also provides other important services: circulation, reference, information searching, current awareness and selective dissemination information service.

Current awareness service is conducted by distributing the table of contents of printed journals to users while selective dissemination information service is conducted by sending a list (SDI Service Bulletin) to researchers through personal email. The SDI service (Indonesian: Penyebaran Informasi Terbaru dan Terseleksi) is intended for agricultural extensionist and researchers. The Selected Distribution Information (SDI) Service Bulletin contains abstracts on latest article journals and research on agricultural commodities and its aspects. Those sources are gathered and selected by subject specialists. To increase the use of SDI service, the library also posted the bulletin on website <http://pustaka.litbang.deptan.go.id> or even collaborate with librarians who works at researchers' home institution. Through this service users can get information on scientific research by topic and agricultural commodities such as: Food Crops; Horticulture; Estate Crops; Livestock; Land Resources; Biotechnology and Genetic; Post Harvest; Socio Economics and Policy; Technology Assessment.

Librarians in ICALTD realized the importance of the SDI service by performing excellence work. Therefore, in order to improve the quality of SDI service, an evaluation needs to be conducted. User's feedback on the service quality would be helpful for ICALTD in supporting its major institution's goal: *By 2014 to be a world class research and development institution producing and developing agricultural innovations to support the realization of the industrial agriculture system.*

LITERATURE REVIEW

SDI or Selective Dissemination of Information is developed to make the current awareness service more user oriented. It is offered at individual level of selected items and is restricted to every user's area of interest (Rowley, 1993). Dawra (2004) in Hossain and Islam (2008) also defined SDI as a service that can be regarded as a by-product of CAS which not only serves current information but also is totally user-oriented. O'Neil (2001) also stated that the fundamental idea behind SDI is to somehow match new documents to expressions of user interest. Therefore, librarians will conduct regular search throughout various databases to find new articles, research, or other sources that match with users needs. However, the SDI service nowadays has been improved by applying excellent strategies. Majority libraries in the world have adopted various tools and techniques from ICT aspect (Information and Communication Technology) to satisfy information needs of users, especially to improve the SDI service. Mansuri (2010) proposed that RSS Feeds and e-Alerts can be used as a current awareness service tool in a library environment. The RSS Feed and e-Alert services in libraries would equip the library and information professionals to meet the needs of their customers by providing fast and quality service.

Research on SDI and current awareness service have been conducted in various approaches. Yunaldi (1996) conducted a research on effectiveness of current awareness service provided by *Center for Scientific Documentation and Information*, The Indonesian Institute of Science. The result shows that 94.7% respondents were satisfied with the service. Research conducted by Naqfi (2013) in Fiji National University resulted that the majority of students and staff came to know about CA services through the library website, e-mail, and library tour. Notifications of new books and periodicals through e-mail are popular among the staff and students. Different approach was done by O'Neil in 2001. The research was conducted to explain about SDI in the dynamic web environment. Hossain and Islam (2008) explored some possible requirements for performing online SDI service. The research proposed an initiative to formulate an exact matching technique between user's subject interest and document profile with exploration along with electronic delivery of voluminous information technique. It also discusses some standard features and model of user profile. In Indonesia, research on current awareness service development in library is rarely done. Therefore, it's difficult to trace and browse any research/studies about current awareness service in Indonesia. Hopefully, this research could provide current condition of the service in Indonesia.

RESEARCH PROBLEM AND OBJECTIVES

The objectives of this study are:

- To determine level of satisfaction;
- To analyze the evaluation result of SDI service.

The following research questions were formulated for the study:

"How is the evaluation of current awareness service provided by ICATDL by researchers?"

METHODS

The data were gathered by distributing questionnaires to researchers at Indonesian Ministry of Agriculture. The population of this study is researchers who have received the service through email *peneliti_deptan@yahoo.com*. The respondents were scattered throughout Indonesian region. Total sample used in this study is 74 respondents from 286 of total researchers who used the service. The total sample is obtained from Slovin's formula:

$$n = \frac{N}{1 + Ne^2}$$

Where;

n = Number of samples

N = Total population

e = Error tolerance (10%, since the population is less than 1000)

The research instrument was a questionnaire that consists of two (2) main parts that covered 20 close ended structured questions. The first part consisted of questions about demographic of respondents: sex, latest education and functional title of respondents. The second part of the questionnaire consisted of questions about users' responses on quality of service. The second main part is subdivided into four categories:

- 1) Strategy of delivery service;
- 2) Accuracy and relevancy of the information with the subject interest of researchers (scope, abstract, and availability; including articles journals subscribed by ICALTD)
- 3) The advantages of service
- 4) Ways of presenting information on Selected Distribution Information (SDI) Service Bulletin (easy to read, eye-catching and fully referenced)

Likert scale is used as a measurement tool. Each item is given a score with summative scale (1-4).

Likert Item	Score
Strongly agree	4
Agree	3
Disagree	2
Strongly disagree	1

In order to calculate the ideal score, a formula is used:

Value criterion =	Item score x Total Respondent
	4 x 74 = 296 (Ideal score)

All of the respondents' answer were summed and processed into rating scale. The rating scale is as follows:

0% - 20% = Strongly unsatisfied

21% - 40 % = Unsatisfied

41%-60% = Fair

61% - 80% = Satisfied

81%-100%= Strongly satisfied

Another formula was used to get the percentage:

$$p = \frac{f}{n} \times 100\%$$

Where;

p : Percentage

f : Frequency (frequency is obtained from total score of a mean question/statement)

n : Ideal Score

100 : fixed number

For example, the score for the service provided by ICALTD is as shown below:

Strongly Agree = 22 respondents (4 x 22 = 88)

Agree = 45 respondents (3 x 45 = 135)

Disagree = 7 respondents (2 x 7 = 14)

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$$P = \frac{\quad}{296} \times 100 \% = 80 \% \text{ means Satisfied}$$

From the percentage above, the evaluation of current awareness service provided by ICALTD will be known.

FINDINGS

Questionnaires were distributed to all respondents and only 60 questionnaires were collected. The explanation will be divided into two main category: 1) Participant Demographics and 2) Result. The "Result" is subdivided into four aspects of assesment:

- a) Delivery system of SDI service
- b) Relevancy of information provided on Selected Distribution Information (SDI) Service Bulletin with researcher's subject interest
- c) The Advantage of SDI service to researchers
- d) Way of presenting information on Selected Distribution Information (SDI) Service Bulletin

Participant Demographics

Age

57 % of research participants (34 respondents) are within the age of 36–55 years. Nineteen respondents (32%) are below 36 years old. Those between 56 and 65 years of age are small in number (12%). It can be concluded that the range between 36-55 years of age are considered as productive years for doing research. Therefore, they always need latest information and trends about research on agriculture and technology.

Educational background

Majority of respondents have bachelor's degrees (n= 34, 57%) where the rest of respondents have master degree (n= 16, 27%) and doctoral degree (n= 10, 17%). Some of them are master and doctoral degree.

Functional Title

Functional title is a career path given by the government for Indonesian civil servant. Functional title is given based on credit points of each civil servant. Fewest respondent in this research (n= 6, 12%) are First-Instance Researchers, followed by Principal Researcher on the second place (n=9, 15%). Majority respondents are Young Researchers (n= 23, 38%) and Associate Researcher (n= 21, 35%).

Credit points are needed for functional researcher promotion. Credit points are gained from research activities that conducted by researcher. Principal Researcher is the highest functional title for researcher in Ministry of Agriculture. The result indicates that Young and Associate Researchers dominated the use of service. Young Researcher has duty to conduct, to publish, and to distribute the research. Associate Researcher plays a role as supervisor in doing research. This implies that the service provided by ICALTD is useful for helping users to do research in agriculture and technology.

Results

a) Delivery system of SDI

Table 1 below shows that majority of respondents strongly agree (n=16, 27%) and agree (n=38, 63%) that the use of email (*peneliti_deptan@yahoo.com*) as a media to send Selected Distribution Information (SDI) Service bulletin and article journals more effective rather than using traditional system (sending printed document). As mentioned earlier, ICALTD had formed groups of researchers into nine (9) subject interests:

1. Food Crops
2. Horticulture
3. Estate Crops
4. Livestock
5. Land Resources
6. Biotechnology and Genetic
7. Post Harvest
8. Socio Economics and Policy
9. Technology Assessment

Table 1. Delivery System of SDI Service

Statement 1: Delivery system with email considered more effective

Assesment	Frequency	Percentage
Strongly agree	16	27%
Agree	38	63%
Disagree	4	7%
Strongly disagree	2	3%

The library would send Selected Distribution Information (SDI) Service bulletin to each group by using email. Researchers who joined the group would possible to open communication with other researchers in the same group. Therefore, library’s goodwill to invite researchers to join the group is considered as important to open possibility of information sharing among researcher. Beside using email, the library also post their newest bulletin on the website <http://pustaka.litbang.deptan.go.id>. The other method conducted by ICALTD to distribute SDI Bulletin is by collaborating with librarians who works at researchers’ home institution to distribute the bulletin to their users.

After reading the Selected Distribution Information (SDI) Service bulletin, users may contact librarian to send needed article by email. By sending needed article via email, the library is encouraged to create paperless environment. Another benefit that would be received by users is, they can get the document as soon as possible rather than waiting for printed document. Since all researchers are scattered throughout Indonesia region, delivery system by email also beneficial for ICALTD to save time and cost.

On the other hand, the rest of researchers in Table 1 (disagree: 7% and strongly disagree: 3%) stated that offline method for sending bulletin is considered better than online method. The same finding also found in Table 2, that 10% respondents (n=6) were preferred to receive printed documents than soft file version.

Table 2. Document delivery

Statement 2. I would prefer to receive the fulltext article on soft file format rather than hardcopy

Assesment	Frequency	Percentage
Strongly agree	20	33%
Agree	34	57%
Disagree	6	10%
Strongly disagree	-	-

Respondents who prefer traditional method for sending bulletin and document are researchers within the age of 55-65 years. They would prefer printed document than soft file document, because they can directly access the document without downloading and opening document through computer. The main goal of SDI service is to keep user well informed about newest information on subject interest. Hossain and Islam (2008)

stated that mode of distribution or delivery of information needs to include on user profile. Further, Hossain and Islam (2008) also explained that this option is related to distribution of finally assembled information to the concerned users which covers the type of presentation (i.e. providing only bibliographic information or bibliography along with articles); form of dissemination (i.e. printed hard copies, soft copies, e-mail, etc.); mode of delivery of information (i.e. hand-to-hand delivery, delivery by postal service, delivery through e-mail, etc.). Therefore, in order to fulfill their information need, the library could identify which researchers who has special request on document delivery and consider what delivery method to do.

Respondents were also asked to assess delivery schedule of bulletin and articles. Majority of respondents stated that ICALTD always send the Selected Distribution Information (SDI) Service bulletin regularly each month (5% strongly agree and 53% agree). Some of them claimed they did not receive the bulletin regularly.

Table 3. Bulletin delivery schedule
Statement 3. ICALTD always sends the Selected Distribution Information (SDI) Service bulletin each month

Assesment	Frequency	Percentage
Strongly agree	3	5%
Agree	32	53%
Disagree	19	32%
Strongly disagree	6	10%

The same condition also shown in Table 4. Majority of respondents agreed that ICALTD always send needed article on time. Unfortunately, the rest of respondents claimed they did not receive their article on time.

Table 4. Document delivery
Statement 4. ICALTD always sends needed fulltext article on time

Assesment	Frequency	Percentage
Strongly agree	12	20%
Agree	34	57%
Disagree	13	22%
Strongly disagree	1	2%

As stated before, ICALTD also collaborate with librarians who work at researcher's home institution to distribute the bulletin. Researchers who claimed they did not receive the bulletin regularly might caused by librarians in their home institution do not distribute the bulletin to their researchers. The second possibility that might happened is:their email were not active or they've changed their email address.

Regarding the delivery schedule, respondents were also asked to give assesment whether the SDI Bulletin sent each month is considered enough for updating information about agriculture and technology (Table 5). Majority of respondents agree

(72%) and strongly agree (5%) about this statement. However, the other respondents gave different opinion. 22% (n=13) and 2% (n=1) respondents were not satisfied with the delivery schedule. They considered that Selected Distribution Information (SDI) Service Bulletin could be send more often than before.

Table 5 . Service Bulletin for Keeping User Update about Newest Information
Statement 5. Selected SDI Service bulletin which has been sent each month is considered enough for updating information about agriculture and technology

Assesment	Frequency	Percentage
Strongly agree	3	5%
Agree	43	72%
Disagree	13	22%
Strongly disagree	1	2%

Hamilton (1995) stated, the most superb, detailed and well presented current awareness service will be a waste of time if no one can rely on it. Whatever the frequency promised, it is vitally important to stick to it. So that information not received may lead to the loss of business or failure of the organization itself. Therefore librarian who works both in ICAALTD or researcher’s home institution is expected to be more active in responding to the needs and distributing Selected Distribution Information (SDI) Service Bulletin to the targetted user. As suggestion,the library may intensify their schedule to be more often (biweekly) to keep user informed about newest development about agriculture research and technology. Users also might be asked to give more than one email address to anticipate the loss of delivery.

b) Relevancy of information provided on Selected Distribution Information (SDI) Service Bulletin with researcher’s subject interest

The data related to pre relevancy of information provided through SDI service with researcher’s subject interest are presented in Table 6 and 7. In Table 6, majority of the researchers claimed they agree that information provided through SDI service is relevant to their subject interest (87%). 12% of researchers (n=7) disagreed with that statement.

Table 6. Relevancy of SDI with Subject Interest
Statement 6. Information provided on Selected Distribution Information (SDI) Service bulletin relevant with my subject interest

Assesment	Frequency	Percentage
Strongly agree	1	2%
Agree	52	87%
Disagree	7	12%
Strongly disagree	-	-

Similiar condition also shown in Table 7. Respondents were asked about the advantage of Selected Distribution Information (SDI) Service bulletin to keep they well informed regarding their subject interest. Majority of respondents strongly agree (25%) and agree

(68%) with the statement. Only 4 respondents (7%) were not satisfied with information provided in Selected Distribution Information (SDI) Service Bulletin.

Table 7. Advantage of Selected Distribution Information (SDI) Service Bulletin for Keeping User Update about Newest Research Trends
Statement 7. Selected Distribution Information (SDI) Service bulletin keep me well informed with newest research trend on my subject interest

Assesment	Frequency	Percentage
Strongly agree	15	25%
Agree	41	68%
Disagree	4	7%
Strongly disagree	-	-

Hamilton (1995) mentioned that a good CAS is based on four main factors: knowing what topics to cover; knowing who wants what; knowing the sources for obtaining the latest information; and supplying that information regularly and reliably, year in, year out. The finding in Table 6 and 7 shows that ICALTD has successfully meet the information needs of user. However, library also needs to improve the quality of service, since some respondents claimed that they did not find relevancy of information provided with their subject interest. Again, the finding shows the importance of consistent updating user profiles.

c) The Advantage of SDI service to researchers

The third part of the discussion is about the advantage of SDI service to researchers. Respondents were asked to give assesment whether the SDI service give beneficial impacts to their research activities. Table 8 shows that 13% and 67% of participants strongly agree and agree that SDI services helped them to know more about various information resources about agriculture and technology. Then, the other 18% and 1% of respondents dissagree and strongly disagree with the statement.

Table 8. Various Resources on Agriculture and Technology
Statement 10. The service provided by ICALTD has helped me to know more about resources on agriculture and technology

Assesment	Frequency	Percentage
Strongly agree	8	13%
Agree	40	67%
Disagree	11	18%
Strongly disagree	1	2%

While distributing Selected Distribution Information (SDI) Service Bulletin, ICALTD always completed the bulletin with the origin sources of listed articles. This allows user to start independent searching by directly accessing the origin sources. However, not all users

aware and have enough time to conduct an independent search. They might prefer to ask librarians rather than do independent searching.

Table 9. SDI Service for Research Activities
Statement 11. Information provided on Selected Distribution Information (SDI) Service bulletin helps me to find new idea for doing research

Assesment	Frequency	Percentage
Strongly agree	6	10%
Agree	42	70%
Disagree	10	17%
Strongly disagree	2	3%

Table 9 shows majority of respondents (10 % and 70%) found SDI service really helpful for doing research. They've direct benefit to find new idea for doing research. Unfortunately, some respondents did not receive the same benefit (17% and 3%). It might be caused that information provided were less appropriate with their needs. However, the finding shows that ICALTD has been successful in supporting researchers for doing research. It also shown in Table 10 that majority of respondents agreed that SDI service is really helpful in finding needed literature.

Table 10 . SDI Service for Literature Finding
Statement 12. The service provided by ICALTD is considered useful for saving time in finding needed literature

Assesment	Frequency	Percentage
Strongly agree	10	17%
Agree	46	77%
Disagree	4	7%
Strongly disagree	-	-

d) Way of presenting information on Selected Distribution Information (SDI) Service Bulletin

The data related to the way of presenting information on Selected Distribution Information (SDI) Service Bulletin is shown in Table 11 and 12. From the aspect of information presentation, 78% respondents agreed that information presented on Selected Distribution Information (SDI) Service Bulletin is easy to read.

Table 11. Information Presentation
Statement 11. Information presented on Selected Distribution Information (SDI) Service bulletin is easy to read

Assesment	Frequency	Percentage
Strongly agree	2	3%
Agree	47	78%
Disagree	11	18%
Strongly disagree	-	-

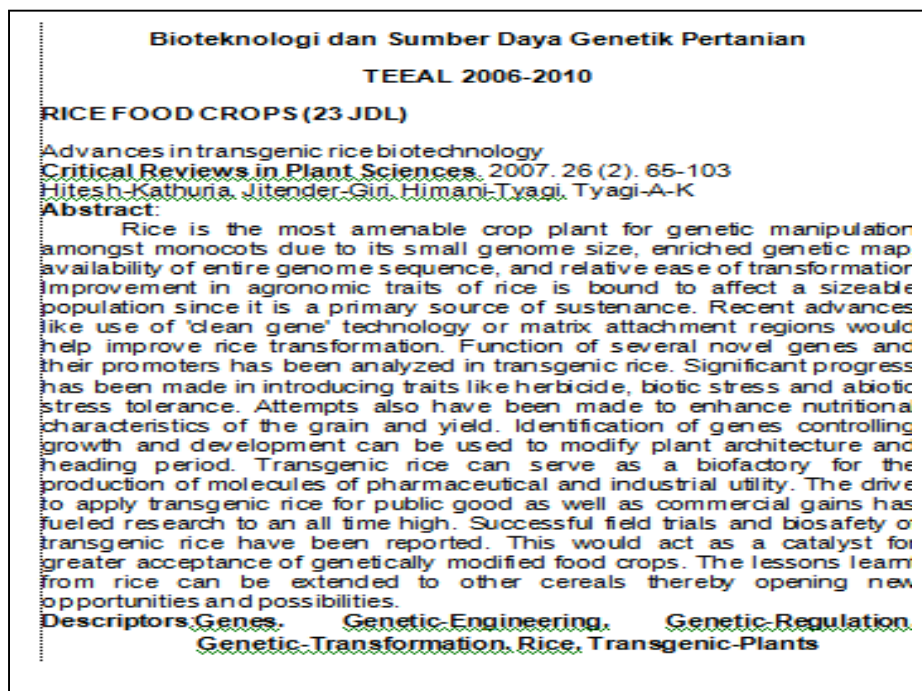
The same finding were also shown in Table 12 that layout of Bulletin design is considered interesting. On the other hand, 18% respondents disagree in both table (Table 11 and 12) and that the library needs to improve the layout.

Table 12. Bulletin's Design
Statement 12. Design of Selected Distribution Information (SDI) Service Bulletin is interesting

Assesment	Frequency	Percentage
Strongly agree	3	5%
Agree	46	77%
Disagree	11	18%
Strongly disagree	-	-

Below is an example of Selected Distribution Information (SDI) Service Bulletin which was sent to researchers:

Picture 1. Selected Distribution Information (SDI) Service Bulletin



Hamilton (1995) stated that a current awareness service must be designed to be eye-catching; easy to read; laid out in standard format; restricted to short entries and fully referenced. The picture shows that Selected Distribution Information (SDI) Service Bulletin is laid out in standard format, short entry, easy to read and fully referenced. Unfortunately, the design was less interesting. To make it more attractive and eye catching, the library might add some colours. The library also needs to pay more attention to the length between entries and font size to avoid monotony.

The whole result of questionnaires with rating scale in order to determine the level of satisfaction. The result is shown in Table 13 below:

Table 13. Level of Satisfaction on SDI Service

Statement	Score	Percentage	Level of Satisfaction
Delivery system with email considered more effective	190	79%	Satisfied
I would prefer to receive the full text article on softfile format rather than hardcopy	200	83%	Strongly satisfied
ICALTD always sends the Selected Distribution Information (SDI) Service bulletin each month	152	63%	Satisfied
ICALTD always sends needed fulltext article on time	177	74%	Satisfied
Selected Distribution Information (SDI) Service bulletin which has been sent each month is considered enough for updating information about agriculture and technology	168	70%	Satisfied
Information provided on Selected Distribution Information (SDI) Service bulletin relevant with my subject interest	174	72%	Satisfied
Selected Distribution Information (SDI) Service bulletin keep me well informed with newest research trend on my subject interest	191	79%	Satisfied
The service provided by ICALTD has been helped me to know more about resources on agriculture and technology	174	72%	Satisfied
Information provided on Selected Distribution Information (SDI) Service bulletin helps me to find new idea for doing research	172	71%	Satisfied
The service provided by ICALTD is considered useful for saving time in finding needed literature	232	96%	Strongly Satisfied
Information presented on Selected Distribution Information (SDI) Service bulletin is easy to read	171	71%	Satisfied
Design of Selected Distribution Information (SDI) Service Bulletin is interesting	172	71%	Satisfied

The final result shows that users are satisfied with the SDI Service conducted by ICALTD. From the result above, it can be identified that the highest level of satisfaction are placed on delivery system and the advantage of SDI service in finding needed literature for research. The lowest level of satisfaction from the table above is delivery schedule of Selected Distribution Information (SDI) Service Bulletin to researchers.

CONCLUSION

The finding of the study shows that respondents are satisfied with the SDI service provided by ICALTD. It can be seen from various aspects: delivery system of SDI; relevancy of information provided on Selected Distribution Information (SDI) Service Bulletin with

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researcher's subject interest; advantages of SDI to researchers; and way of presenting information on Selected Distribution Information (SDI) Service Bulletin.

From the aspect of delivery system, the finding shows that use of email as a media to distribute the service is considered as appropriate method. From the aspect of relevancy of information, the finding shows that ICALTD has successfully meet the information needs of user. The library could identify and provide appropriate resources for users regarding their subject interests.

Findings on advantage of SDI service to researchers shows that the library has successfully support researchers for doing research. The form of support covered: possibility of discovering new ideas and topic from various sources informed by library; saving cost and time in finding literatures; and open possibility for user to conduct an independent searching with library's advice. SDI service also opened possibility communication and sharing among researchers in the same subject interest. The last aspect of assessment shows that Selected Distribution Information (SDI) Service Bulletin is easy to read and laid out in standard format. The whole study also shows the importance of updating user profiles regularly.

The research proposes some suggestions based on the finding: first, eventhough the use of email is considered as appropriate method to send the bulletin, library also needs to identify users with special request on document delivery method. Secondly, the library also expected to send the bulletin biweekly to keep users well informed about recent development and trends on agriculture research. Another important thing is: the library needs to update their user profile regularly, since the needs of users may changed and developed. In addition, the bulletin design also needs to be improved by adding some colours, bigger font size and library heading at the head of script.

The study is worthwhile addition to the existing research in SDI service. The ICALTD could use these findings to improve the service. It is also expected that the study provides a helpful contribution in developing and improving the quality of SDI service, especially in Indonesia.

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Differences in perceptions of academic librarians on organizational learning capabilities' (OLC) dimensions

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ABSTRACT

This paper presents the results of a study that examines the differences in perceptions of academic librarians on organizational learning capabilities' (OLC) dimensions. A research survey method using questionnaire was distributed to 240 academic librarians in selected university libraries in Malaysia. A total of 78% (186) of the respondents returned the questionnaire for further analysis. From the findings, the OLC's dimensions on information communication technology (ICT) was ranked as the highest (mean= 5.65) indicating that it was the most preferred response as perceived by the respondents. Using ANOVA test, the results showed that there were significant differences on organizational culture and leadership among respondents with different years of working experience. The findings are important to the librarians and the academic libraries for improving the skills of acquiring knowledge and organizational learning capabilities toward enhancing the performance of the librarians and organization.

Keywords: Organizational Culture; Leadership; Organizational Learning Capabilities (OLC); Librarians, University Libraries

INTRODUCTION

Academic libraries need to enhance their level of organizational learning capabilities in order for them to remain relevant to the universities' communities. Libraries served as repositories of information and librarians play their roles as gatekeepers to the information. Most of the organizational learning studies argued about the impact of technology on the organization especially the library (Geisecke and McNeil 2004; Su 2006). Technology has changed the entire library's business (Miller 2011). Libraries' functions have grown and change from collecting information and making it accessible. According to Geisecke and McNeil (2004) and Fowler (1998) there are many of library scholars who are concerned about academic libraries and its relevance in embracing organizational learning for future survival. Basically, learning organization is a model and organizational learning is process, whereby organization can adapt the working-learning relationship in order to innovate and lead. Nevertheless, the idea of an academic library as a learning organization is great and it appears frequently in anything related to organizational learning and academic libraries (Senge 1990).

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Organizational learning has become a main concept that covers variation of topics in the study of such library (Geisecke and McNeil 2004; Su 2006; Rowley 2000; Shoid and Kassim 2013). According to Aghdasi and Bafruei (2009) measuring organizational learning capability is the most important issue in organizational studies. Reid and Samer (2005) believed that organizational learning and innovation replicate closely to the related processes and influenced by the many elements such as; culture, climate, leadership, management practices, information acquisition, retrieval and sharing and organizational structures, systems and environment. Besides, organizational learning capabilities have been considered as an active process that will result to the openness, experimental capability, knowledge transfer and integration capability (Bahadori, Hamouzadeh, Qodoosinejad and Yousefvand 2012).

Meanwhile, this study aims to explore the difference in perceptions on organizational learning capabilities (OLC) of academic librarians. This paper addresses four dimensions of the OLC which are organizational culture, leadership, employees' skills and competencies, and ICT. The objectives are:-

1. To examine the perceptions of librarians on organizational culture, leadership, employees' skills and competencies, and ICT.
2. To examine the differences on OLC dimensions between selected demographic characteristics (position, education level, age group and work experience).

From the research objectives, the following research hypotheses were formulated for the study: -

H1: There are significant differences on OLC's dimensions between respondents of different position.

H2: There are significant differences on OLC's dimensions between respondents of different educational level.

H3: There are significant differences on OLC's dimensions among respondents of different age group.

H4: There are significant differences on OLC's dimensions among respondents of different work experiences.

LITERATURE REVIEW

Organizational Learning Capabilities (OLC)

Aradhana and Anuradhan (2006) affirmed that organizational learning capabilities is the situation where individuals and groups are willing to acquire and apply knowledge in their jobs in making decisions and influencing others to accomplish important tasks for the organization. Organizational learning has a positive relation with the organizational performance. Therefore, organizations should take initiative to design themselves as learning laboratories in terms of acquiring, generating, sharing and using knowledge resources continuously for the innovation and performance of the organization and its members.

Differences in perceptions of academic librarians

Meanwhile, studies by Dibella, Nevis and Gould (1996) and Goh and Richards (1997) stated that organizational learning capability is the organizational and managerial elements that facilitate the organizational learning process or allowing the organization to learn. Full attention has been given to the growth of organizational learning capability by scholars. After few studies, it shows that organizational learning capabilities play as an important role for innovation. Besides, it is shown that organizations have increased to learn and it is a critical factor for organization to grow and innovate (Goh 1998; Hult, Hurley and Knight 2004). In addition, failure is the key for the effective organizational learning, e.g. interaction with the external environment to the relationships with the organizational external environment (Alegre and Chiva 2008).

Besides that, organizational learning capabilities is the learning process for each of the organization who practice it (Fang, Chang and Chen 2011; Shoid, Kassim and Salleh 2012). Therefore, any changes resulted from the learning process may drive to the recovery, or maintenance of organizational function (Alegre and Chiva 2008). Organizational learning capabilities has become as important element to enhance the growth and innovation of one organization. Moreover, a collection of resources of tangible and intangible skills are necessary to use competitive advantages. Organizational learning capabilities are also known as a formation of capacity and combination of ideas in an efficient way in contact with an assortment of organizational borders and through special managerial methods and innovations (Rashidi, Habibi and Jafari Farsani 2010).

Yeo (2005) conceptualized organizational learning as an element that deals with the process of change and revolution. It focuses on both short-term solutions and overall adaption of the organization. Systematic approach in learning and development in one organization is vital as it helps in facilitating the organization's members to participate in transformation process (Yeo 2005; Senge 1996). Change of an organization involved change in people's values and beliefs. Changes in cooperative order may help the materialization of organizational learning and transformation to a learning organization (Yeo 2005).

a) Organizational Culture

Hall (1992) believed that organizational culture plays as cognitive capability of one organization. Besides that, it is strongly related with the learning behavior of employees. Few types of organizational culture might value and promote learning behaviors, while others do not. Organizational culture helps to facilitate the systematic change of organizational learning behavior and also improve the learning capabilities (Shoid and Kassim 2012). Furthermore, organizational culture is the essential element in organizational performance. Therefore, performance and productivity are affected by the organizational culture. Organizational culture also helps to motivate and apply employees' talents and improve productivity (Jafarnia 2004).

Organizational culture is a set of shared value that is responsible in making the organizational community to understand the functionality of the organization itself. Moreover, it helps in guiding the ways of thinking as well as behavior. There are 4 types of cultures that are listed by McKenna (2000) that surrounds the organization which are power, culture, role culture, support culture and achievement culture. The cultures are

totally different from one to another country. Thus, organization's vision should acknowledge both organizational structures and communication (Howard and Sommerville 2008). Based on this perspective, culture in organization provides elements of appreciation and growth of positive action within organizational system (Jenlink and Banathy 2005).

b) Leadership

Kanter (1983) is responsible in introducing the empowerment or leadership concepts as a successor to the older command-and-control approach in organization. Thus, it directs the management to promote employees on what to do and how to do it. The power has been decentralized to employees of lower echelons and they are responsible to make their own decisions (Randolph 2000).

Leadership is important in one organization. The existence of leadership may encourage the organizational culture which also enables the workforce to understand and believe their organization's vision, mission and value (Malek Shah 2005; Shoid and Kassim 2013). A constant and powerful leadership will encourage employees to do their job because they want to enhance and develop learning culture. Besides, organization's leadership also encourages learning culture with future and an external orientation. This may foster the free flow of information between customers and staff to improve the quality service and products (Malek Shah 2005).

c) Employees' Skills and Competencies

Beheshtifar, Mohammad-Rafiei and Nekoie-Moghadam (2012) stated that employees' skills and competencies is a self-management of working and learning experiences in order to achieve desired career growth. According to Azmi, Ahmad and Zainuddin (2009), in order to develop the employees' performance in their present and future tasks, employees' skills and competencies which are based on career development is important to be implemented. Employees' skills and competencies are special abilities which are characterized by representing, at society defined level, the ability to behave adequately and to take responsibility for one's behavior. Beheshtifar, Mohammad-Rafiei and Nekoie-Moghadam (2012) affirmed that employees' skills and competencies have the potential to go far beyond technical skills and managerial abilities on specific organizations' growth plan.

d) Information Communication and Technology (ICT)

According to Bhatt, Gupta and Kitchens (2005) collaboration support systems are integrated information and communication technologies that facilitated communication and connectivity among individuals in supporting organization's collaboration during performance. Meanwhile, developments of new products of ICT require information specialists to be knowledgeable on how to incorporate the technologies and products in their services. Therefore, they should ensure that they keep abreast with technologies, systems, new forms of information, information media and information sources (Chou, 2003; Shoid, Kassim and Salleh 2012).

RESEARCH METHODS

Quantitative method has been conducted in this study. Selected university libraries in Malaysia were chosen as the study setting. The respective university libraries were Universiti Teknologi MARA (UiTM), Universiti Malaya (UM), Universiti Kebangsaan Malaysia (UKM), Universiti Putra Malaysia (UPM), Universiti Sains Malaysia (USM), Universiti Islam Antarabangsa Malaysia (UIAM), Universiti Teknologi Malaysia (UTM) and Universiti Utara Malaysia (UUM). They were chosen because the universities have the most number of academic librarians in the university libraries. Questionnaires were personally distributed to a total of two hundred and forty (240) librarians of the selected university libraries. From the feedback, one hundred and eighty-six (78%) of the questionnaires were returned and usable for analysis. The questionnaire consists of four dimensions of OLC namely organizational culture, leadership and employees' skills and competencies and ICT. The questionnaire items were designed on a 1 (strongly disagree) through 7 (strongly agree) Likert scale. For data analysis, descriptive statistics include frequency, percentage, mean and standard deviation while the inferential statistics include independent samples *t*-test and ANOVA (One Way Analysis of variance).

FINDINGS AND DISCUSSION

Reliability Analysis

It can be summarized that Cronbach's alpha value of organizational culture (0.814), leadership (0.884), employees' skills and competencies (0.872), and ICT (0.875) exceed 0.7. The value of this coefficient was considered high and acceptable thus satisfying the reliability assumption of the items in the respective dimensions.

Table 1: Reliability Test

Variables	No. of items in a component	Cronbach's Alpha	Cronbach's Alpha based on standardized items
Organizational Culture	7	0.805	0.814
Leadership	7	0.884	0.884
Employees' Skills and Competencies	7	0.871	0.872
Information Communication and Technology (ICT)	7	0.874	0.875

Profile of Respondents

The summary statistics for the profile of the respondents are presented. From the total of 186 respondents, 70.4% (131) of the respondents are female and 29.6% (55) of the respondents are male. Majority (153 of 82.3%) are middle management staff compared to 33 (29.6%) holding senior management post. Slightly, more than half (95 or 51.1%) of the respondents have Bachelor's degree while 91 (48.9%) had Master's degree. Majority

of the respondents belong to the 31 – 40 years of age group (83 or 44.6%), followed by 20 -30 years of age group (58 or 31.2%), 41 – 50 years of age group (37 or 19.9%) and 51 and above years age group which represents only 8 or 4.3%. Slightly, more than half of the respondents (52.2% or 97) have worked less than 10 years, followed by 37.1% or 69 of those who have worked for 11 – 20 years, 9.1% or 17 who have worked for 21- 30 years and a small number (1.6% or 3) have worked for 30 – 40 years. In terms of work department, respondents are quite well spread over the seven different departments. The catalog and classification department represents the most number of respondents (43 or 23.1 %). This is followed by the acquisition department (35 or 18.8%), reference service department (31 or 16.7 %), and automation and IT department (24 or 12.9 %). There are less than 10% of respondents in each of the circulation department (17 or 9.1 %), administration department (15 or 8.1 %), training and support service department (6 or 3.2%) and other department (15 or 8.1%).

Normality Test

The measure of skewness between -1.0 to 1.0 indicates that data does not depart from normality. Hence, the parametric statistical analysis can be employed. Since all measures for the skewness are closer to 0.0 and within the range between -1.0 to 1.0 as shown in Table 2, the study concludes that the distribution of data is almost symmetry or bell-shaped. The bell-shaped distribution indicates the data is normally distributed. Hence, the data obtained in the study meets the required assumption for employing the parametric statistical analysis that data comes from a normal distribution.

Table 2: The Measure of Skewness of the Data

Variables	min	max	skewness	kurtosis
Organizational Culture	3.43	6.71	-0.421	0.154
Leadership	3.14	7.00	-0.351	0.464
Employees' Skills and Competencies	3.14	7.00	-0.166	0.292
Information Communication and Technology (ICT)	4.00	7.00	-0.074	-0.011

Ranking Levels of Perceptions on OLC Dimensions

The frequency analysis was used to measure the respondents' perceptions and understanding of 4 OLC dimensions. All the scores were then arranged according to the ranking with the highest mean which was considered as the most preferred response. Result shows the highest mean score was ICT (5.65), followed by employees' skills and competencies (5.53), leadership (5.39), and organizational culture (5.23) as depicted in Table 3.

Table 3: Ranking of the Level of Perception

No.	Dimension	Mean Score	Standard Deviation
1	Information Communication Technology (ICT)	5.65*	0.618
2	Employees' Skills and Competencies	5.53	0.649
3	Leadership	5.39	0.701
4	Organizational Culture	5.23	0.640

* The higher the mean score, the more positive is the perception

Difference of Perceptions on OLC Dimensions between Position

The parametric statistical test used in this analysis was independent samples *t*-test analysis as it involved two groups (middle management and senior management) of respondents. Table 4 presents the independent samples *t*-test analysis to compare the perception on position between organizational culture, leadership, employees' skills and competencies and ICT. From the findings, the *t* value for all the dimensions were not significant at 5% level ($p > 0.05$). It was concluded that there was no adequate evidence to prove that there were significant differences in the mean scores of dimensions measured between respondents who were in middle management and senior management.

Table 4: Results of Independent Samples *t*-Test Analysis by Position

No.	Variable	Mean		t	Df	Sig.
1	Organizational Culture	Middle Mgt.	5.19	1.548	184	0.123
		Senior Mgt.	5.38			
2	Leadership	Middle Mgt.	5.35	1.745	184	0.083
		Senior Mgt.	5.58			
3	Employees' Skills and Competencies	Middle Mgt.	5.51	0.603	184	0.547
		Senior Mgt.	5.59			
4	ICT	Middle Mgt.	5.65	0.391	184	0.696
		Senior Mgt.	5.70			

Difference in Perceptions on OLC Dimensions between Education Level

The same analysis proceeded with the education level of respondents. Table 5 shows the independent samples *t*-test involving four dimensions of OLC namely, organizational culture, leadership, employees' skills and competencies and ICT to determine whether

perceptions on these differ between respondents with bachelor’s degree and master’s degree. Based on the results on *t* value, there was no evidence that the four dimensions of OLC scores between bachelor’s degree and master’s degree was different as shown by the sig. value ($p > 0.05$). Therefore, the perceptions of respondents on the four dimensions of OLC were the same regardless of their education level.

Table 5: Results of Independent Samples *t*-Test Analysis by Education Level

No.	Variable	Mean		<i>t</i>	Df	Sig.
1	Organizational Level	Bachelor’s Degree	5.26	1.092	184	0.276
		Master’s Degree	5.17			
2	Leadership	Bachelor’s Degree	5.48	1.653	184	0.100
		Master’s Degree	5.31			
3	Employees’ Skills and Competencies	Bachelor’s Degree	5.50	-0.496	184	0.621
		Master’s Degree	5.55			
4	ICT	Bachelor’s Degree	5.59	-1.537	184	0.126
		Master’s Degree	5.73			

Table 6: Results of ANOVA Analysis among Age Group

Variables		Sum of Squares	df	Mean Square	F	Sig.
Organizational Culture	Between Groups	0.654	3	0.218	0.528	0.664
	Within Groups	75.212	182	0.413		
	Total	75.866	185			
Leadership	Between Groups	0.220	3	0.073	0.147	0.931
	Within Groups	90.619	182	0.498		
	Total	90.839	185			
Employees’ Skills and Competencies	Between Groups	0.611	3	0.204	0.480	0.697
	Within Groups	77.224	182	0.424		
	Total	77.835	185			
ICT	Between Groups	1.604	3	0.535	1.409	0.242
	Within Groups	69.075	182	0.380		
	Total	70.679	185			

Comparison of Perceptions on OLC Dimensions among Age Group

Table 6 shows the results of One-Way ANOVA test analysis involving organizational culture, leadership, employees’ skills and competencies and ICT to determine whether perceptions on these differ between respondents age group. From the results, none of the test was significant at 5% level ($p > 0.05$). It was concluded that there was no evidence of age group difference in their perception on these four dimensions.

Comparison of Perceptions on OLC Dimensions among Work Experiences

Table 7 presents the One-Way Analysis of Variance (ANOVA) test analysis to compare the perceptions on work experiences on organizational culture, leadership, employees’ skills and competencies and ICT. From the findings, the computed F-statistic for organizational culture (2.952) was significant at 5% level ($p = 0.034 < 0.05$) and F-statistic for leadership (2.984) was significant at 5% level ($p = 0.033 < 0.05$). However, the F-statistic for employees’ skills and competencies (1.530) and ICT (0.895) were not significant ($p > 0.05$).

Table 7: Results of ANOVA Analysis among Work Experiences

Variables		Sum of Squares	df	Mean Square	F	Sig.
Organizational Culture	Between Groups	3.520	3	1.173	2.952	0.034*
	Within Groups	72.346	182	0.398		
	Total	75.866	185			
Leadership	Between Groups	4.259	3	1.420	2.984	0.033*
	Within Groups	76.055	182	0.476		
	Total	77.938	185			
Employees’ Skills and Competencies	Between Groups	1.915	3	0.638	1.530	0.208
	Within Groups	75.920	182	0.417		
	Total	77.835	185			
ICT	Between Groups	1.027	3	0.342	0.895	0.445
	Within Groups	69.652	182	0.383		
	Total	70.679	185			

Once the null hypothesis was supported for organizational culture and leadership, Post-Hoc comparison test with Tukey HSD would be used to determine which work experiences group showed significant difference in the mean scores as outlined in Table 8. For the organizational culture dimension, the results showed that the mean scores for

those who had a working experience of 21 – 30 years was significantly higher than those who had working experience in the range of less than 10 years, 10 -20 years and 30 – 40 years. For leadership dimension, the results showed that the mean scores for those who had a working experience of 21 – 30 years was significantly higher than those who had working experience of less than 10 years, 10 -20 years and 30 – 40 years.

Table 8: Results of Post-Hoc Tukey HSD Analysis Among Work Experiences

Dependent Variable	(I) Years of working experience	(J) Years of working experience	Mean Difference (I-J)	Sig.
Organizational Culture	Less than 10 years	11 - 20 years	-.04090	.976
		21 - 30 years	-.48506*	.020
		30 - 40 years	-.21895	.934
	11 - 20 years	Less than 10 years	.04090	.976
		21 - 30 years	-.44416*	.049
		30 - 40 years	-.17805	.964
	21 - 30 years	Less than 10 years	.48506*	.020
		11 - 20 years	.44416*	.049
		30 - 40 years	.26611	.907
	30 - 40 years	Less than 10 years	.21895	.934
		11 - 20 years	.17805	.964
		21 - 30 years	-.26611	.907
Leadership	Less than 10 years	11 - 20 years	.10222	.783
		21 - 30 years	-.44607	.070
		30 - 40 years	-.23319	.939
	11 - 20 years	Less than 10 years	-.10222	.783
		21 - 30 years	-.54829*	.019
		30 - 40 years	-.33540	.843
	21 - 30 years	Less than 10 years	.44607	.070
		11 - 20 years	.54829*	.019
		30 - 40 years	.21289	.961
	30 - 40 years	Less than 10 years	.23319	.939
		11 - 20 years	.33540	.843
		21 - 30 years	-.21289	.961

*The mean difference is significant at the 0.05 level.

CONCLUSION

It can be concluded that among the OLC dimensions, *information communication and technology (ICT)* was found to be the most preferred dimension perceived by the

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respondents. This implied that the respondents believed that the organizational learning capabilities on ICT occurred more in the organization. Meanwhile, in term of work experiences, result showed that there were significant differences on *organizational culture* and *leadership*. Post-hoc test using Tukey HSD was used to determine which work experiences group showed significant difference. On the other hand, the result showed that there were no differences in the perceptions between position and education level on the *organizational culture, leadership, employees' skills and competencies* and *ICT*. In terms of age group, the results also showed that there was no difference on *organizational culture, leadership, employees' skills and competencies* and *ICT*. Future study can focus on systems thinking, shared vision and mission and teamwork cooperation as other dimensions of OLC. This study had its limitation in which it was based on data from selected university libraries in Malaysia. It is expected that the outcome of the study will be useful in identifying appropriate programs to improve the skills of acquiring knowledge and enhance the learning capabilities of librarians. Furthermore, OLC elements can be used as the benchmark to measure knowledge performance and level of learning in the academic libraries.

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Reference desk service: Is it relevant to the undergraduates?

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ABSTRACT

This study seeks to assess the relevant of the function and role of reference desk services at Malaysian academic libraries. A number of the twenty respondents were involved from two libraries, which are Perpustakaan Tun Abdul Razak (PTAR), UiTM Puncak Alam and Perpustakaan Tunku Tun Aminah (PTTA), UTHM Johor. This study requires convenience sampling of an accurate census of active library members. Hence, the result of this study revealed that students express their need for the kind of help provided by the reference desk in terms of how students use and describe the desk service. This study indicated that student at UTHM were prefer online information searching rather than UiTM student. Usage patterns can also be predicted in terms of age, gender, and semester, indicating a way for the library to provide specific outreach to students who underutilized the reference desk. In this regard, the pilot project of this study can be used to seek whether this service is still relevant or not when experiencing declining reference desk questions from library users.

Keywords: Academic libraries; Reference desk; Desk service; Malaysia

INTRODUCTION

Reference librarians in academic libraries are actively engaged with many emerging new processes. It's not only by which learning occurs, but also by which research is done. Nowadays, reference librarians not only have to understand, but also embrace current and emerging technologies affecting reference functions and the information needs of library users. Wherever or however we (library) provide reference service, we are all cognizant of the major changes in libraries that stem from countless cultural, economic, legal and social developments that have impacted, and continue to impact our work. The provision of reference services has still at the heart of all libraries in every sector, which is in academic, public or special. The Internet era has changed the way of user access and retrieve the information. It was the exclusive preserve of the "Reference librarian" to provide information directly to the client. Pomerantz and Luo (2006) stated, the increasing availability of computers and Internet access within libraries and in

modern society at large. In fact, online services have become among the most heavily used services libraries offer. According to Pomerantz and Luo, reference service that offered by the library, whether at the desk or asynchronous media such as email and chat. It is generally provided in an interactive setting which involves two parties between the librarian and the user to solve user's problem. Tripathi (2014) noted that to establish a long term bonding with their customers, they supposed to provide "right information to the right user at the right time". According to Tripathi, "Right information" is a set of guidelines for information acquisition policy to be adopted by the library.

The raising of the Internet has given challenges to the librarian on duty at the reference desk. Recently, statistics from various studies on library anxiety provide additional impetus for this study. A study done by Callinan (2005) at University College Dublin reported that 56 percent of students prefer to ask library related questions of their friends rather than librarians. Brewerton (2003) and Elmborg (2013) noted that librarians tend to imagine their patrons as a "captive audience"? So, no matter the quality of promotional efforts done by academic libraries, these patrons will find and use the services out of necessity. A study done by Vondracek (2007) proved that user relatively unaware of librarians' capabilities. He stated that students were unaware the librarians had subject specialties. It is true and to be truth, student unaware of librarian skills because they think that the librarian is a part administrative worker like others in the university who gives and assist student needs.

Iberahim and Nadzar (2011) in their study found that most of the 17.5 percent of the students was very rarely used (at least monthly) the reference desk service. The frequency of inquiries posed (questions or problems) that are considered not very often is higher by 40 percent. This issues could affect the future planning of library services to give better service in reader's advisory services to their users (Sobel, 2009). Traditionally, it is a one-to-one service with user and reference librarian (Maharana & Panda, 2005). Library user is helped by the variety of sources available in the library to meet the information needs. But, in this present era, the library and information profession is facing the challenges so called 'electronic age' and being transformed by technology. So, the advancement in Information Technology (IT) has brought out incredible changes almost every aspect of information services (Maharana & Panda, 2005).

The library and information professional is also facing the challenges of the electronic age and all these developments gave way to a new range of reference services (Singh, 2012). The developments of digital reference are the latest trend in the digital era. Easily accessible digital information has rapidly become one of the hallmarks of the Internet. The present study combines a traditional evaluation of the user's satisfaction with the reference desk service, with details of the user's information use. The purpose of this comparative study was to explore and assess the effectiveness of reference desk service in meeting users' information needs and demand. This was addressed by the investigation of two research objectives which are (1) to assess user 'level of satisfaction' of reference desk service and (2) to improve reference desk service toward user satisfaction. This study presents the following two research questions to support the research objectives as follows, (1) how satisfied user used reference desk service

provided by academic library? And (2) what should academic libraries apply to meet their user satisfaction?

In this regard, the evaluations about the relevancy of reference desk service at Malaysian academic libraries, therefore, traditionally taken into consideration the points of view of both of these parties such as the accuracy of the answer provided by the librarian and the user's satisfaction with the answer and other aspects of the reference desk service.

METHODOLOGY

This study consisted of approximately twenty convenience sampling users from two libraries, which are ten (10) respondents from Tun Abdul Razak Library (PTAR), Universiti Teknologi Mara (UiTM) Shah Alam and ten (10) respondents from the Tunku Tun Aminah Library (PTTA), Universiti Tun Hussein Onn Malaysia Johor who visiting the library frequently. The subjects are selected just because they are easiest to recruit for this study and the researcher did not consider selecting subjects that are representative of the entire population. This is the reason why most researchers rely on this convenience sampling technique, because it is fast, inexpensive, easy and the subjects are readily available. Hence, a set of twenty structured questionnaire was developed based on the established exit survey (e.g. Sobel, 2009; Curry and Copeman, 2005; Iberhim and Nadzar, 2011) to set a measurement standard to variable construct. The structured questionnaire applied in this study consisted of 3 parts with only 18 questions. Part "A" dealt with the demographic characteristics of respondents, such as university, gender, age group and academic status. Part "B" listed questions that meant to collect data on the reader's advisory desk service, i.e. Use of Reference Desk, where to go for help, reason for never visiting the reference desk, while Part "C" collected data on the comment and suggestion.

FINDINGS

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

Figure 2 presents the result of responses acquired from each university where there go for help when they have a question about finding information. In UTHM, most of the 70% of responses were highly use welcome desk rather than UiTM which is only 10%. However, 40% of the responses at UiTM were likely use circulation desk rather than UTHM. Besides, 50% of responses from UiTM were like to use advisory reference desk rather than UTHM which indicates 30% of usage. Surprisely, UiTM and UTHM libraries indicate 0% of the other services (i.e. E-mail, Ask a librarian, Chat, FAQ, User Feedback form service and Collaborative Reference Service).

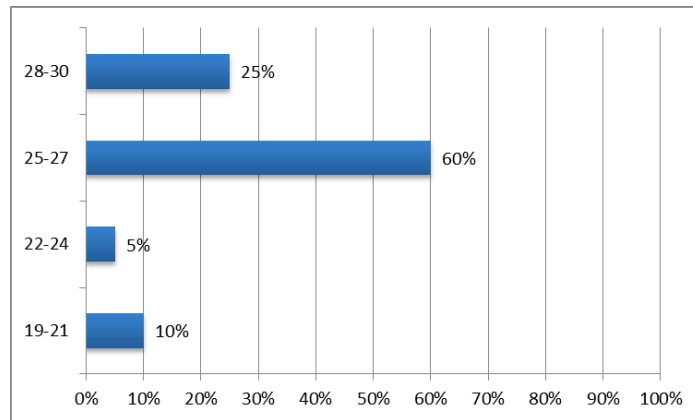


Figure 1: Age of respondents

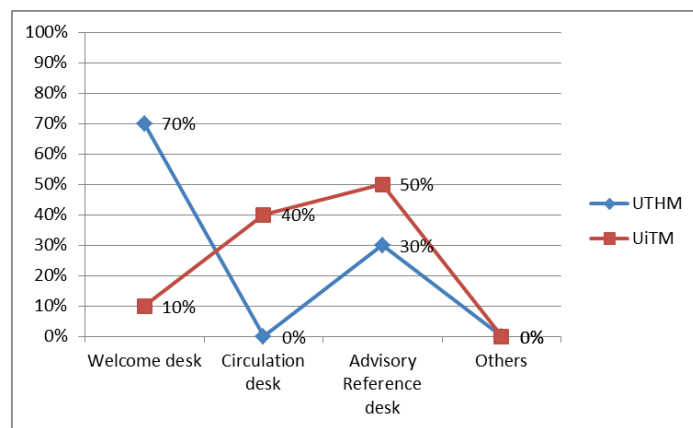


Figure 2: Where to go for help

Figure 3 indicates the result of respondents for those using Reference Desk. The results show that 80% of UiTM respondents were rated “Yes” in using Reference Desk. But, 40% of UTHM respondents were rated lower. However, 60% of UTHM respondents were rated “No” rather than 20% of UiTM respondents. This is possible because of the information technology (IT) took place in searching information around the globe.

Figure 4 presents the result of respondents which asked their reason for using Reference desk. The results show that both UTHM and UiTM respondents were rated 10% by using once a week. On the other hand, the results show that 80% of UTHM respondents were rated higher using twice a week reference desk rather than 30% of UiTM respondents. Others, the results show that 50% of UiTM respondents were using reference desk services three times a week. However, the results show that both UiTM and UTHM respondents were rated 10% of others using the reference desk service.

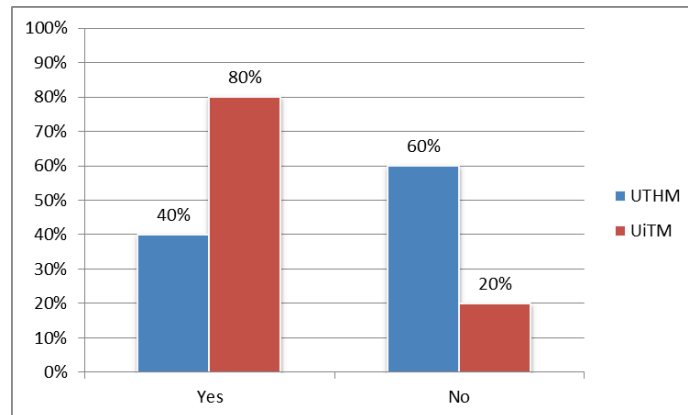


Figure 3: Use of Reference Desk

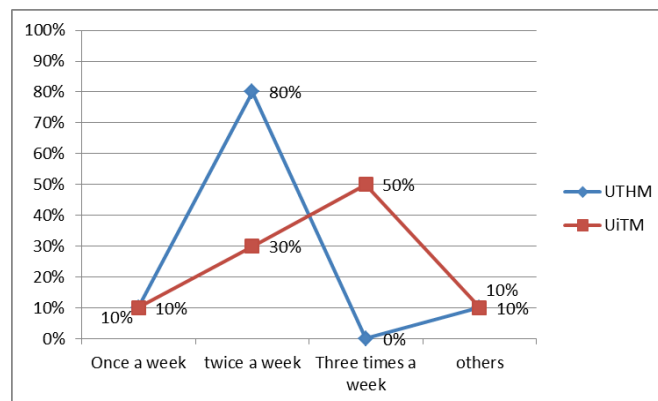


Figure 4: Reference desk usage

Figure 5 indicates the result of reason students never visiting the reference desk. About 10% of UiTM respondents did not know where the reference desk located while UTHM respondent was rated none. Besides, 10% of UiTM respondents were rated already know about the information. However, 80% of UiTM respondents rated higher because they claimed that they don't have a time to use reference desk. As such, 100% of UTHM respondents were highly stated that they prefer online searching rather than visiting to get desk service. Therefore, Figure 5 indicates an interesting significance gaps between respondents in PTTA UTHM and PTAR UiTM. In this regard, users at PTAR UiTM did not so much depend on online searching because they learned and understand that information could be retrieved in any format (e.g. Almanac, Cassette, Video Tapes, Newspaper Cutting, etc.) everywhere at any time. This results are the outcomes from the collection, interpretation, analysis and evaluation of data. In fact, the value of this study (e.g. Fig.5) will become a contribution to the body of knowledge, so that, they could further study to perceive why users recently becoming so excited and dependent in using online searching.

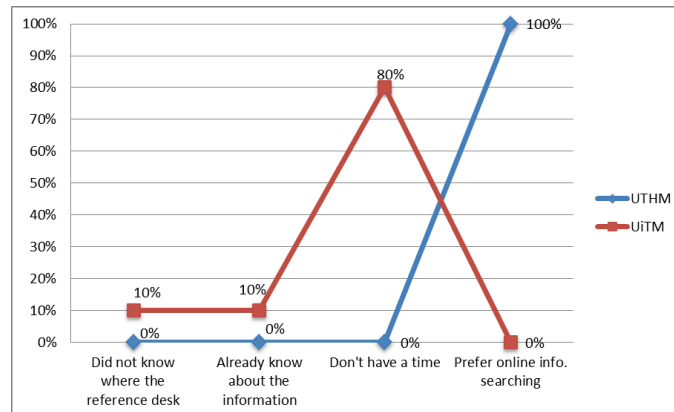


Figure 5: Reason for never visiting the reference desk

Figure 6 indicates the results of the satisfaction level of library reference desk service. 10% of respondents were rated not satisfied by UiTM while 20% were rated by UTHM. However, UiTM and UTHM were rated 80% highly satisfied with their reference desk service. Another 10% of UiTM respondents were rated very satisfied with their reference desk service, however, UTHM respondents were rated none.

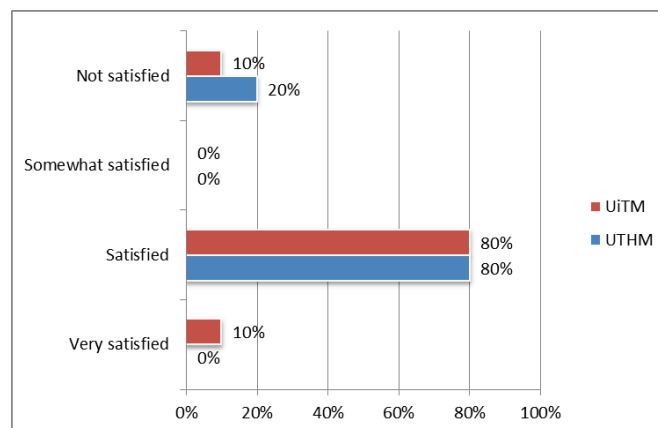


Figure 6: Level of satisfaction

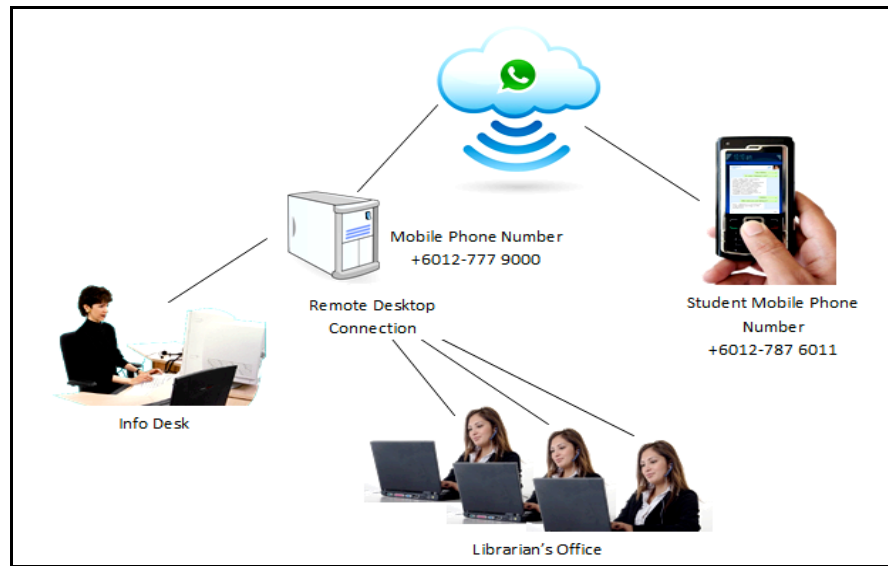
Discussion and Conclusion

The relevancy of reference desk service in the university libraries depends on the customers demand. After presenting the findings, the objectives of the study were achieved. Firstly, respondents from both universities agreed that they do practice using welcome desk, circulation desk and reference desk in finding information. These findings lead to some understanding of the working conditions of para-professionals at information and reference desks (Rieh, 1999). Librarians and desk staff currently need to explore the possibility of desk staff assisting liaisons with creating online subject guides and engaging, in other activities, to give the staff important experience and to assist liaisons with substantial non-liaison duties (Schulte, 2011). Furthermore, customers needing in-depth consultations with a reference librarian (Schulte, 2011), which they want to asked everything when they need help during reference desk hours.

Secondly, the level of user satisfaction presents almost 80% of the respondents both university satisfied with reference desk service. A study done by Garrison (2011) revealed that 80% of reference desk statistics and questions kept through Library Statistics (LibStats) had already informed what other academic libraries were already reporting. The majority of transactions could be answered by well trained staff and student assistants and library had already shifted to staffing the majority of desk hours with student staff (Garrison, 2011). At this point, policy maker (e.g. Chief Librarian) decision should be made to change the functions and capabilities of reference desk service in the digital age. For instance, the changing function and capabilities of reference desk service from physical into Online/Virtual environment in the technological era to encounter customers demand. It is important to continuously thrive for deriving tools and techniques where the individual user gets the feel of connectivity with their information providers (Tripathi, 2014).

Into this transition, Garrison (2011) noted that university libraries have identified several weaknesses with current practices and they are working toward making adjustments to improve the service. These include increased training and cross-departmental communication. The new library in the digital environment will also provide users with a different desk model (Garrison, 2011; Polger & Okamoto, 2010), consisting of several smaller pods that will allow working collaboratively with students. In this regard, Nolen (2010) recommended all questions that asked by library users can become easier to apply in the context of chat or email reference. Therefore, these services allow librarians to enter an extended reference encounter with a patron/user. For example, Chat programs that librarians can walk a user through a complex search, with the user having the opportunity to perform the search on their own, but with the librarian “virtually” nearby in the event that he or she runs into difficulty. As to collaborative live virtual reference, Su (2007) and Light et al. (2014) stated most librarians were aware that in America it became a trend to provide reference service through instant message depicted in Figure 7. In fact, Su (2007) noted that some of them have already learned how to use IM software (e.g. MSN) and practiced communicating with friends and students through IM. However, most respondents thought that face-to-face service was still not replaceable. This study suggests that Malaysian academic libraries should execute this system to be more interactive and always keep in touch with their users when needed.

In this context, it is inevitable for a library to provide richer information diets to their customers for fulfilling their information needs. This reality is very well felt by the developed world and in those countries reference and information services have seen revolutionary changes to meet the new challenges of the digital age. This study investigated the overall user’s perception and satisfaction with reference services in university libraries between UTHM library and UiTM library. This study urges to assess user ‘level of satisfaction’ of reference desk service in Malaysia. The researchers hope that this study will further motivate the future research. This comparative study result suggests that user needs and demands should pay attention for the improvement of present level of user satisfaction.



Source: Hong Kong University Science and Technology (HKUST) reference service

Figure 7: Reference service through instant messaging

Keeping this reality into view, the survey was an initial step for finding the status of such activities in the largest Province of Malaysia. On the basis of the findings of the study, some recommendations are made, which are as follows:

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

As a conclusion, this study suggests that both university libraries should emphasis on developing an assessment technique, measures, standards and IFLA/ALA guidelines so that librarians could provide better digital reference service to their users. It is hoped that this comparative study can be used to assess the relevant of a physical reference desk or as a springboard for considering other multi-tasking options when experiencing declining reference desk questions. Hence, this study open for discussions among librarians around the world to improve their research to discover the relevancy, reliability and sustainability of reference desk service in the digital world. Contributions

found in this study will be useful for the improvement library facilities and the betterment of the library profession to serve as a contribution to the body of knowledge in the relevancy of reference desk service offered in the library facilities.

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Evaluating the psychometric properties of a Malay version of Bostick's (1992) library anxiety scale

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ABSTRACT

The purpose of this study was to identify the components of library anxiety using a Malay version of Bostick's (1992) Library Anxiety Scale (LAS) and to examine the effects of demographic variable such as gender, native language, year of study, prior exposure to library services and medium of instruction at school on the variation in the library anxiety construct. A 46-item Malay version of Bostick's (1992) Library Anxiety Scale (LAS) was tested among 130 medical students drawn randomly from a population of 423 students pursuing their Bachelor of Medicine, Bachelor of Surgery (MBBS) Degree. The findings revealed a 3-factor solution which corresponded to the five factors as found by Bostick's (1992) pioneering psychometric effort of library anxiety. The sub-scales of library anxiety were named as barriers with staff, affective barriers and comfort with library technology. The factor 'barriers with staff' explained 19.76% of the variance in the library construct. The second factor 'affective barriers' explained 11.55% of the variance in the library construct. The third factor 'comfort with library technology' explained 10.282% of the variance in the library construct. The overall scale as well as each of three sub-scales was submitted to an internal reliability assessment using Cronbach's internal reliability coefficient alpha. All three sub-scales were found to have satisfied the 0.70 criterion as recommended by Nunnally and Bernstein (1994). Despite the fewer number of sub-scales that were yielded by the Malay version of Bostick's (1992) Library Anxiety Scale (LAS), the translated scale has been shown to be a valid and reliable instrument.

Keywords: Library Anxiety; Medical Students; Construct Validity; Internal Reliability; Bostick's Library Anxiety Scale

INTRODUCTION

'Anxiety' is like 'worry'. Anxiety is manifested in the form of a feeling of uneasiness, worry, nervousness and apprehension experienced when they are faced with challenges. Library anxiety is defined as library user's feeling of discomfort, uneasiness, uncertainty, fear and nervousness when he or she is confronted with the task of using the library in order to complete courses related assignments. In academic circles, library anxiety occurs when students are not sure what and how to use the library resources and services. They are more likely to pretend to know everything rather than ask the library

staff for help. Jiao, Onwuegbuzie and Bostick (2004) noted that library anxiety may occur from a lack of confidence while doing the research in the library or lack of exposure to library facilities and services. It clearly shows that students with inadequate exposure of the library are more likely to be anxious when using it. In addition, Anwar, Al-Kandari and Al-Qallaf (2004), observed that library anxiety can clearly be defined as a psychological barrier to academic success and achievement among students that hinders the optimal use of library systems, services, and resources by its patrons. Mellon (1986) was the first to introduce the concept of library anxiety. Her study revealed several reasons to explain why this library anxiety phenomenon was happening: not familiar with layout of the library, lack of knowledge about where the resources are located, how to use and what to do, overwhelmed by the library, feelings of inadequacy and hesitancy to approach the library staff for any type of enquiries. The Library Anxiety Scale (LAS) was developed and validated by Sharon L Bostick in her doctoral dissertation study (Bostick, 1992). Using exploratory factor analysis, Bostick developed the Library Anxiety Scale (LAS) which comprise five sub-scales: (a) barriers with staff; (b) affective barriers; (c) comfort with the library; (d) knowledge of the library; (e) mechanical barriers.

“Barriers with staff” refers to the students’ perception that librarian, as well as other library employees, are unapproachable or too busy to assist them (Jiao & Onwuegbuzie, 1999a; Mellon, 1986). A high score on this sub-scale or dimension will indicate higher levels of library anxiety. “Affective barriers” relates to students feeling inadequate about their abilities to effectively use the library (Jiao & Onwuegbuzie, 1999a). A high score on this sub-scale will indicate greater levels of library anxiety. “Comfort with the library” relates to students’ reactions to the ambiance of the library. If students do not feel the library is welcoming and non-threatening, they are unlikely to feel at ease to use the library effectively (Jiao & Onwuegbuzie, 1999a, Jiao, Onwuegbuzie, & Lichtenstein, 1996). A high score on this sub-scale will indicate lesser levels of library anxiety whereas lower scores will indicate greater levels of library anxiety. “Knowledge of the library” relates to students’ perceptions of familiarity they have of the library (Jiao & Onwuegbuzie, 1999a). A high score on this sub-scale will indicate low anxiety whereas low score will indicate higher levels of library anxiety. “Mechanical barriers,” refers with students’ reliance on mechanical library equipment, including change machines, computer printers, etc. (Jiao & Onwuegbuzie, 1999a). A high score on this sub-scale will indicate higher levels of library anxiety.

While a number of studies were conducted out to validate the Library Anxiety Scale (LAS), little effort was done to translate the scale into another language and to subsequently test the translated version of that scale. Shoham and Mizrachi (2001) employed a Hebrew version of Library Anxiety Scale (LAS). However, no attempt was made to report the psychometric properties of the scale. This study employed a Malay language version of Bostick’s (1992) Library Anxiety Scale (LAS) and subsequently tested the psychometric properties of the translated version of Bostick’s Library Anxiety Scale (LAS). The study is able to cross-culturally demonstrate the scale applicability among a population where the native language is not English.

LITERATURE REVIEW

The review of related literature would include studies conducted on library anxiety using the various psychometric instruments available to the researcher. Many of these studies employed either a modified version of Bostick's (1992) Library Anxiety Scale or a translated version of the aforesaid scale. This review would examine some of these modified and translated versions of Bostick's (1992) Library Anxiety Scale: Shoham and Mizrachi (2001), Van Kampen (2004), Anwar, Al-Kandari and Al-Qallaf (2004), Noor, H. A. K. and Ansari, N. (2010) and M. Swigon (2011).

Bostick (1992) developed and validated the Library Anxiety Scale. This 43-item 5-point Likert-format instrument has five dimensions, namely, barriers with staff, ($\alpha = 0.90$); affective barriers, ($\alpha = 0.80$); comfort with the library, ($\alpha = 0.66$); knowledge of the library, ($\alpha = 0.62$); and mechanical barriers, ($\alpha = 0.60$). These factors collectively explained 51.8% of the variation in library anxiety. Further, the internal reliability assessment using Cronbach's internal reliability coefficient α was reported to be at 0.80 for the overall scale. A test-retest further confirmed the overall scale to be internally reliable at 0.74. This instrument has been utilized extensively in a number of library anxiety studies.

Shoham and Mizrachi (2001) investigated the library anxiety phenomenon among undergraduate students in Israel. Shoham and Mizrachi (2001) however employed a modified Hebrew version of Bostick's (1992) which was referred to as the H-LAS. The H-LAS is a 35-item library anxiety scale which when tested for construct validity using exploratory factor analysis resulted in a seven factor solution with the following sub-scales: staff factor, knowledge factor, language factor, physical comfort factor, library computer comfort factor, library policies/hours factor and resource factor. Shoham and Mizrachi (2001) did not provide information about the percentage of total variance explained by all the factors. The sub-scales when examined for internal reliability estimates were found to have the following α reliability coefficients: staff factor, 0.75; knowledge factor, 0.76; language factor, 0.76; physical comfort factor, 0.60; library computer comfort, 0.51; library policies/hours factor, 0.45; resource factor, 0.52.

Van Kampen (2004) developed a multi-dimensional 53-item instrument to measure library anxiety. The instrument was administered to 554 doctoral students at an urban university in south eastern United States of America. Results of running an exploratory factor analysis yielded six factors which collectively explained 43.39% of the variance. Further, the six factors were found to have the following Cronbach's α reliability coefficients: barriers with staff, 0.73; comfort and confidence when using the library, 0.86; comfort level while inside the library building, 0.74; comfort level with technology as it applies to the library, 0.73; importance of understanding how to use the library, 0.79; information search process and general library anxiety, 0.87.

Anwar, Al-Kandari and Al-Qallaf (2004) investigated the library anxiety phenomenon among 145 undergraduate biological sciences students in Kuwait. The 34-item instrument was based on the Library Anxiety Scale developed by Bostick (1992). Exploratory factor analysis was used to determine the appropriate number of factors and statement groupings in each of these factors. The factor analysis yielded four

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(4) factors, which explained 47% of the total variance. The four factors were found to have the following Cronbach's alpha reliability coefficients: Staff approachability, 0.91; Feelings of inadequacy, 0.79; Library confidence, 0.78; Library constraints, 0.71.

Noor and Ansari (2010) administered a 49-item modified version of Bostick's (1992) Library Anxiety Scale to three hundred and sixty seven (367) undergraduate students in a Malaysian institution of higher learning. The instruments were administered during classroom hours using a self-reported questionnaire. This study attempted to evaluate the scale's psychometric soundness and stability among a population whose native language is not English. Results of running an exploratory factor analysis yielded five factors which collectively explained 39.56% of the variance. The sub-scales when examined for internal reliability estimates were found to have the following alpha reliability coefficients: barriers with staff, 0.91; comfort with library services, 0.73; affective barriers, 0.70; cognitive barriers, 0.81; comfort with library technology, 0.68.

Swigon (2011) developed the Polish Library Anxiety Scale (P-LAS) which based on Bostick's Library Anxiety Scale (LAS) and three other scales: Multidimensional LAS (MLAS), Hebrew-LAS (H-LAS), and Kuwait-LAS (KLAS). The instrument was administered to 100 participants comprising bachelor's level students, master's level students, doctoral level students, and faculty members at three Polish universities were studied. This 46-item library anxiety scale which when tested for construct validity using exploratory factor analysis resulted in a six factor solution with the following sub-scales: barriers with staff, (alpha = 0.75); affective barriers, (alpha = 0.80); technological barriers, (alpha = 0.73); library knowledge barriers, (alpha = 0.78); library comfort barriers, (alpha = 0.47) and resources barriers, (alpha = 0.75).

METHODOLOGY

This study employed a cross sectional correlational survey design for collecting data from respondents. For the purpose of this research, a self-reported questionnaire was designed to obtain data from the respondents. The questionnaire was divided into three sections. Section 1 elicits demographic information such as gender, nationality, native language and year of study. Section 2 elicits information on frequency of library visit, physical distance from library, previous library experience and prior medium of library instruction. Section 3 elicits information with regard to the library anxiety construct using a Malay Version of Bostick's (1992) Library Anxiety Scale (LAS). This scale consists of 46 items, anchored on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The scale comprise missing items negatively worded item were reversed scored to ensure high scores on each of the 46-item instrument to represent high level of anxiety whilst low scores would represent lower level of library anxiety.

The target population for this study was Bachelor of Medicine, Bachelor of Surgery (MBBS) at private University College Library. The sampling processes are; first, the target population for this study was 423 students pursuing their MBBS Degree. Second, after allowing for a plus/ minus five (5) percent error rate, one hundred and thirty (130) students were proportionately and randomly selected to participate in the study. Third, the participants were randomly selected using a table of computer generated random numbers by employing the Statistical Product Services and Solutions (SPSS) software.

Fourth, one hundred percent (100%) respond rate was achieved resulting in 130 fully completed usable questionnaires. The findings are based on responses from these one hundred and thirty (130) usable questionnaires.

Construct validity

To assess the construct validity of a Malay version of Bostick's (1992) Library Anxiety Scale (LAS), an exploratory factor analysis using principal component analysis as the method of extracting components was performed on the 46-item instrument. Using a Varimax rotation and a factor loading coefficient at 0.40 or greater as criteria for deeming a factor loading as practically significant resulted in a 14-factor solution that explained 70.8% of the variance in the library anxiety construct.

Out of the 46-items that were submitted to a test of construct validity, only 44 items were found to have loaded on the 14 factors (each factor having an eigenvalue more than 1.00). Two items did not load on any of these 14 factors since they had factor loading coefficients that were below 0.40. The results of running a principal component analysis also revealed that the bulk of the items (52%) were loaded on the first factor while the remaining factors were each found to have between 1 to 3 items loaded on them. A meaningful interpretation of the factor becomes a difficult task. Consequently, it was decided to submit the 44 items to a second run of the principal component analysis.

The second run of the principal component analysis also employed a factor loading coefficient of 0.40 as practically significant. In addition to this criterion, it was also decided to force the 44 items into 7-factors to enable a more meaningful interpretation of the items underlying each of the factors. The second run of the principal component analysis resulted in a 7-factor solution that explained 51.3% of the variance in the library anxiety construct. This second run of the principal component analysis further reduced the number of items from 44 to 41 items. Though factors 1 through 5 each has more than 4 items loaded on them, factors 6 and 7 have only 2 items loaded on them. The situation is far from satisfactory. Consequently, it was decided to perform another round of principal component analysis to enable a more meaningful interpretation of the items underlying each of the factors.

The 41 items were submitted to third run of principal component analysis. This time around the items were forced into 5 factors using the previous criterion as a cut-off point to retain items that are being loaded onto a factor. The third round of principal component analysis resulted in a 5-factor solution which explained 43.3% of the variance in the library anxiety construct. The findings revealed that the number of items is now reduced from 41 items to 37 items is spread more evenly among the 5 factors. However, factor 5 has only 3 items loaded onto it. In order to increase the number of items subsumed under each factor, the fourth round of principal component analysis was performed on the 37 items.

The fourth run of principal component analysis was carried out by forcing the items into 4 factors and by employing the previous criterion of 0.40 or more for a factor loading to be considered as practically significant. This resulted in a 4-factor solution that explained 38.9% of the variance in the library anxiety construct. After deleting items that cross-

load on other factors, the total number of items was reduced from 37 to 35. These 35 items were loaded onto 4 factors. However, a meaningful interpretation of the items underlying each of the 4 factors was still unsatisfactory. Consequently, it was decided to submit the 35 items to a fifth run of the principal component analysis to enable a more meaningful interpretation of the items underlying each of the factors.

The 35 items were submitted to fifth run of principal component analysis. This time around the items was forced into 4 factors using the previous criterion as a cut-off point to retain items that are being loaded onto a factor. The fifth round of principal component analysis resulted in a 3-factor solution which explained 41.6% of the variance in the library anxiety construct. The findings revealed that the number of item are now reduced from 35 items to 32 items. These 32 items were loaded onto 3 factors. Table 1.1 below describes the factors, the number of items loaded on it, the eigenvalue as well as the percent of variance explained by each factor.

Table 1.1: Description of three factors derived from the fifth run of principal component analysis.

Factor Description	No. of Items	Eigenvalue	Percent of Variance explained
Barriers with Staff	17	8.669	19.760
Affective barriers	7	3.505	11.550
Comfort with Library technology	8	2.384	10.282

Internal reliability

The first factor component had 17 items underlying it. A detail examination of the 17 items showed that they were examining an underlying concept that can be labeled as “Barriers with Services Providers”. All the 17 items seem to indicate service providers as a source of a component or dimension of the library anxiety construct. Before a sub-scale called “Barriers with Services Providers” was computed, the 17 item component was submitted to an internal reliability assessment using Cronbach's internal reliability coefficient alpha. The results of running an internal reliability assessment test using Cronbach's alpha revealed the 17 item component to have yielded an alpha value of 0.89 which is above the recommended value of 0.70 as suggested by Nunnally (1978). The findings also showed that dropping any of the 17 items would not raise Cronbach's alpha value to anything higher than 0.89. Subsequently all the 17 items were averaged to compute a composite variable called “Barriers with Services Providers”. This composite variable is a sub-scale of the overall library anxiety scale. The findings with regard to the internal reliability assessment for the 17 item component are shown in Table 1.2 below.

Table 1.2: Factor 1 - Barriers with Service Providers

Item 44	<i>Kakitangan perpustakaan tidak mempunyai masa untuk membantu pelajar kerana sering sibuk melakukan tugas lain.</i>	0.889
Item 28	<i>Kakitangan perpustakaan tidak mengambil peduli tentang pelajar</i>	0.889
Item 30	<i>Saya tidak faham bagaimana perpustakaan mengenakan denda bagi pulangan bahan yang tidak melebihi had masa</i>	0.893
Item 27	<i>Saya tidak dapat mencari maklumat yang saya perlukan di perpustakaan</i>	0.890
Item 42	<i>Kakitangan perpustakaan tidak mempunyai masa untuk membantu pelajar</i>	0.889
Item 26	<i>Perpustakaan tidak pernah ada bahan yang saya perlukan</i>	0.891
Item 47	<i>Saya tidak tahu tindakan selanjutnya apabila buku yang dikehendaki tidak ada di rak</i>	0.892
Item 41	<i>Kakitangan perpustakaan selalu membantu pelajar</i>	0.895
Item 38	<i>Saya sering tidak dapat tempat duduk di perpustakaan</i>	0.895
Item 55	<i>Kakitangan perpustakaan tidak mesra pengguna</i>	0.894

The second factor component had 7 items underlying it. A detail examination of the 7 items showed that they were examining an underlying concept that can be labeled as “Affective Barriers”. All the 7 items seem to indicate affective barriers as a source of a component or dimension of the library anxiety construct. Before a sub-scale called “Affective Barriers” was computed, the 7 item component was submitted to an internal reliability assessment using Cronbach's internal reliability coefficient alpha.

The results of running an internal reliability assessment test using Cronbach's alpha revealed the 7 item component to have yielded an alpha value of 0.80 which is above the recommended value of 0.70 as suggested by Nunnally (1978).

The finding also showed that dropping any of the 7 items would not raise Cronbach's alpha value to anything higher than 0.80. Subsequently all the 7 items were averaged to compute a composite variable called “Affective Barriers”. This composite variable is a sub-scale of the overall library anxiety scale. The findings with regard to the internal reliability assessment for the 7 item component are shown in Table 1.3 below.

Table 1.3: Factor 2- Affective barriers

Number	Scale Items	Factor loadings
Item 54	<i>Saya boleh menanya mana-mana kakitangan</i>	0.759
	<i>perpustakaan sekiranya saya tidak mahir</i>	
	<i>menggunakan sesuatu alat/perkakasan</i>	
Item 53	<i>Perpustakaan adalah sangat penting dalam proses</i>	0.745
	<i>pembelajaran saya</i>	
Item 51	<i>Saya rasa selesa berada di perpustakaan</i>	0.741
Item 25	<i>Perpustakaan adalah tempat yang selesa untuk</i>	0.739
	<i>belajar</i>	
Item 49	<i>Saya gembira belajar perkara baru tentang</i>	0.766
	<i>perpustakaan</i>	
Item 46	<i>Saya merasa keliru ketika berada di perpustakaan</i>	0.749
Item 12	<i>Saya tidak boleh mendapatkan bantuan di</i>	0.786
	<i>perpustakaan apabila ianya diperlukan</i>	

Table 1.4: Factor 3- Comfort with library technology

Number	Scale Items	Factor loadings
Item 13	<i>Katalog perpustakaan dalam talian (OPAC) mudah</i>	0.670
	<i>digunakan</i>	
Item 14	<i>Saya selalu menggunakan katalog perpustakaan</i>	0.695
	<i>dalam talian (OPAC) sebelum ke rak buku</i>	
Item 16	<i>Saya selalu menggunakan pangkalan data dalam</i>	0.682
	<i>talian apabila ingin mencari maklumat</i>	
Item 17	<i>Saya tidak tahu cara menggunakan perkhidmatan</i>	0.681
	<i>digital</i>	
Item 39	<i>Perkhidmatan internet di perpustakaan sangat</i>	0.690
	<i>perlahan</i>	
Item 40	<i>Perkhidmatan internet boleh digunakan bila-bila</i>	0.715
	<i>sahaja</i>	
Item 24	<i>Saya sering menggunakan self-check machine bagi</i>	0.723
	<i>proses pinjaman buku</i>	
Item 45	<i>Saya tidak pasti bagaimana hendak memalukan</i>	0.696
	<i>sesuatu kajian itu</i>	

The third factor component had 8 items underlying it. A detail examination of the 8 items showed that they were examining an underlying concept that can be labeled as "Comfort with Library Technology". All the 8 items seem to indicate comfort with library technology as a source of a component or dimension of the library anxiety construct. Before a sub-scale called "Comfort with Library Technology" was computed, the 8 item component was submitted to an internal reliability assessment using Cronbach's internal

reliability coefficient alpha. The results of running an internal reliability assessment test using Cronbach's alpha revealed the 8-item component to have yielded an alpha value of 0.72 which is above the recommended value of 0.70 as suggested by Nunnally (1978). The findings also showed that dropping any of the 8 items would not raise Cronbach's alpha value to anything higher than 0.72. Subsequently all the 8 items were averaged to compute a composite variable called "Comfort with Library Technology". This composite variable is a sub-scale of the overall library anxiety scale. The findings with regard to the internal reliability assessment for the 8 item component are shown in Table 1.4.

DISCUSSION

The purpose of the study was to evaluate the psychometric soundness of a Malay language version of Sharon L. Bostick (1992) multidimensional Library Anxiety Scale among medical undergraduate students in a private Malaysian institution of higher learning. Of the 46 items that were employed to assess the library anxiety phenomenon, only 32 items were found to have loaded on 3 interpretable factors. Hence, the findings resulted in a 3-factor solution with the following sub-scales: barriers with service providers (17 items), affective barriers (7 items) and comfort with library technology (8 items).

Each of 3 sub-scales was subsequently examined for internal reliability and was found to have met the criterion of 0.70 as recommended by Nunnally and Bernstein (1994). Further, each of the items in the 3 sub-scales was found to correlate significantly (at $p < .01$) with the total score of the respective sub-scales. The correlation coefficients for each of the item in the respective sub-scales reflect the factor loading coefficients that were yielded as a result as of running a principal component exploratory factor analysis. Hence, efforts to triangulate the findings on construct validation for the Malay language version of the Bostick's (1992) Library Anxiety Scale using item to total score correlation was successful.

The results of testing the soundness of a Malay language version of Bostick's (1992) multidimensional Library Anxiety Scale are somewhat consistent with previous empirical efforts to psychometrically evaluate the scales construct validity and internal reliability. Bostick's pioneering psychometric effort in developing a multidimensional Library Anxiety Scale resulted in a 5-factor solution that collectively explained 51.8% of the total variance in the library anxiety construct. The present study resulted in a 3-factor solution which explained only 41.6% of the variance in the library anxiety construct. Hence, the Malay language version partially supports that of Bostick's (1992) original study in that only 3 of the original sub-scales are supported in this study: barriers with service providers, affective barriers and comfort with library technology. While previous psychometric efforts to evaluate Bostick's (1992) multidimensional Library Anxiety Scale resulted in more than 4-factor solutions, this present study resulted in a 3-factor solution. The difference lies in the fact that the majority of these studies (Noor and Ansari, 2010; Van Kampen, 2004 and Anwar, Al-Kandari and Al-Qallaf, 2004) were modified English language version of Bostick's (1992) scale. The present study however was the first study to have employed a Malay language version of the Bostick's (1992) Library Anxiety Scale. Hence, it is not surprising that the findings revealed a 3-factor solution instead of a 5-factor solution (Noor and Ansari, 2010), a 6-factor solution (Van

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Kampen, 2004) and a 4-factor solution (Anwar, Al-Kandari and Al-Qallaf, 2004). Shoham and Mizrachi (2001) was the only study that employed a non-English language version of Bostick's (1992) scale that resulted in a 7-factor solution called Hebrew-LAS.

The present study is perhaps the only psychometric appraisal of Bostick's (1992) Library Anxiety Scale that resulted in the most number of items for the sub-scale 'barriers with staff'. It has 17 items subsumed under the sub-scale called 'barriers with service providers'. This finding lends incremental validity to the previous psychometric efforts in appraising Bostick's (1992) Library Anxiety Scale in that them it too also yielded a similar sub-scale but with a greater number of items subsumed under it. It is also consistent with previous findings in that the sub-scale, 'barriers with service providers' also yielded an internal reliability coefficient alpha value of more than 0.70.

The findings with regard to the second sub-scale, 'affective barriers' is consistent with previous psychometric appraisals of Bostick's (1992) library anxiety construct. This Malay Language version of Bostick's (1992) Library Anxiety Scale also yielded a subscale not unlike previous psychometric appraisal efforts such as those by Van Kampen (2004), Noor and Ansari (2010) and Swigon (2011). Additionally, the sub-scale 'affective barriers' also yielded an internal reliability coefficient alpha value of more than 0.70. Thus, the findings with regard to this sub-scale lend incremental validity to previous psychometric assessments of Bostick's (1992) multidimensional library anxiety scale.

The third sub-scale yielded by the Malay language version of Bostick's (1992) Library Anxiety Scale was 'comfort with library technology'. The findings with regard to the third sub-scale of a Malay language version of Bostick's (1992) Library Anxiety Scale is consistent with previous empirical efforts to evaluate the psychometric soundness of Bostick's (1992) Library Anxiety Scale. The findings support that of Bostick's (1992) previous psychometric effort that produced a sub-scale called 'mechanical barriers'. It also supports that of Noor and Ansari (2010) whose's psychometric evaluation of a modified version of Bostick's (1992) Library Anxiety Scale also yielded a sub-scale called 'comfort with library technology'. Further the findings with regard to the sub-scales also support that of Van Kampen (2004) and Swigon (2011). Additionally, the sub-scale 'comfort with library technology' also yielded an internal reliability coefficient alpha value of more than 0.70 which is consistent with previous studies (Bostick, 1992; Van Kampen, 2004; Noor and Ansari, 2010; Swigon, 2011).

CONCLUSION

The present study is probably the first attempt to empirically validate a Malay language version of Bostick's (1992) Library Anxiety Scale. The findings with regards to the psychometric properties of the Malay translated version of the Library Anxiety Scale somewhat supports previous validation efforts to cross-culturally assess the scale among non-native speakers of English. However, unlike previous cross-cultural validation efforts, this study employed a modified but translated Malay version of the scale which resulted in 3-factor solution. Hence, instead of a 4 or 5-factor solution, the present study yielded a 3-factor solution with the following sub-scales: barriers with service providers, affective barriers and comfort with library technology. Despite the reduction in number

of sub-scales from Bostick's (1992) 5 sub-scales to only 3 of the original sub-scales, the sub-scales were found to be internally reliable. Hence we tentatively conclude that despite the fewer number of sub-scales that was produced, the Malay language version of Bostick's (1992) Library Anxiety Scale is still a valid and reliable instrument. Psychometrically the scale has been shown to be a sound instrument.

We recommend more research be conducted to cross-culturally assess the Malay version of Bostick's (1992) Library Anxiety Scale across a spectrum of university library users since such efforts would lend incremental validity to the aforesaid instrument.

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The status of library automation in special libraries of Sri Lanka: The first sixteen years

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ABSTRACT

Library automation is a significant mechanism for enhancing the efficiency and effectiveness of the library operations. It plays a pivotal role for the functioning of library housekeeping operations such as acquisition, cataloguing, acquisition and serials control. The aim of the study was to investigate the status of library automation in special libraries in Sri Lanka up to the year 2009. The population of the study consisted of seventy six (76) special libraries. Random sampling method was used to select 50% of the population, resulting in thirty eight (38) libraries as the sample. A questionnaire was administered to the selected sample. It was found out that 57.14% of the special libraries have automated their library operations and services. Cataloguing was the highly automated operation and Web OPAC was the prominent automated library service in these libraries. In consideration to the use of operating system, Pentium IV and Windows XP were most popularly used. Special libraries in Sri Lanka were rarely experiencing the Core 2 Duo or Dual Core computer types and Windows Vista, Windows7, LINUX or UNIX operating systems. A total of 57.14% of the special libraries were using library management software. Of this usage, 50% of the special libraries were using WINISIS software package. Accordingly, special libraries were gradually moving towards using an integrated library systems. Insufficient funds, administrative policies and regulations, inadequate proper training programs and lack of proper plan were the most prevailing obstacles in the full automation of special libraries. Provision of sufficient fund allocations and infrastructure facilities, trained skilled manpower with high quality in-house and professional training, as well as provision of adequate awareness for administrators need to increase in order to cope with the library automation in the near future.

Keywords: Library; Special Libraries; Library Automation; Sri Lanka

INTRODUCTION

The different types of libraries such as national, university, school, public, special, and government are currently functioning in Sri Lanka. As information service organizations, the aim of these libraries is to collect, store, organize and make available information sources to their users. Today, in a dominant era of Information and Communication Technology (ICT), libraries are keen to the computerization of the functional requirement and library house-keeping operations such as acquisition, cataloguing,

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circulation and serials control. As a result, library automation is playing a prominent role to promote library operations in efficient and effective manner. Special libraries in Sri Lanka are playing important role in this context. A library established, supported, and administered by a business organizations, private corporations, professional associations and government agencies to meet the needs of its members or staff in pursuing the goals of the organization is named as Special Library (IFLA Multilingual Glossary for Art Librarians 1996).

The term library automation in the past is referred to the mechanization of the traditional library operations such as acquisition, serials control, cataloguing and circulation (Sonker and Jayakanth 2003). But today, it is being used to refer to computerization of not only traditional library activities but also those related activities as information organization, storage, retrieval and usage.

Library automation had been taking its first steps in America and Europe during 1940s; and its influence entered the scientific community in Sri Lanka too (Seneviratne 2013). As a result, the first mainframe computers were installed at the State Engineering Corporation and at the Ceylon Petroleum Corporation in 1967 (Smyth, Sittampalam and James 1982). Considering the history of library automation in special libraries, the Coconut Research Institute library was the first to adopt a mechanized system for its information analysis, store and retrieval using optical Coincidence Cards or Peek-a-Boo system' (Seneviratne 2013).

The first mini-computer named WANG MVP 2200 with 64KB memory and 10MB was installed for the first time in 1982, in the Sri Lanka Library and Information Science sector, at the Sri Lanka Science and Technical Information Centre (SLSTIC) of the Natural Resources, Energy and Science Authority (NARESA), presently known as National Science Foundation (NSF) (Yapa 1987; Talagala and Gamage 2002). Bibliographic data processing started in 1983. SLSTIC had to encounter a number of difficulties in bibliographic data processing after purchasing of the computer systems. The non-availability of library software, lack of skilled manpower, limitations of the acquired computer were identified as the major obstacles. However, SLSTIC was able to create UNICAST database and trained its staff in order to overcome the said obstacles.

In 1996, CDS/ISIS (Computerized Documentation System / Integrated Set of Information System) software was introduced by UNESCO, and in the subsequent year, SLSTIC became the national distributor for the text-retrieval software. Subsequently, ten librarians who worked in the scientific libraries were selected for the first training sessions on CDS/ISIS. Many libraries were able to obtain computers and software to develop automated library systems. MARGA (a private multidisciplinary research organization), International Irrigation Management Institute (IIMI) currently known as International Water Management Institute (IWMI), and the Ceylon Institute of Scientific and Industrial Research (CISIR) presently known as the Industrial Technology Institute (ITI) were among the special libraries that developed their in-house systems (Talagala and Gamage 2002).

Special libraries are pioneers of library automation in Sri Lanka, and this paper reports on their advances in library automation for the period 1983 to 2009, i.e. in their first sixteen years of development. Further studies will be carried out to find out the library

automation change and progress during the years 2010 to 2014. There has been no proper documentation or study regarding the library automation in Sri Lanka until 2009. Hettiarachchi (2001) and Sanjeewani (2012) on their comparative ICT studies reported the existence of little information about special library automation. Therefore in this study, we consider, is very important to find out the historical flow of special library automation of Sri Lanka.

A BRIEF LITERATURE REVIEW OF LIBRARY AUTOMATION IN SRI LANKA

In the absence of key studies carried on library automation in Sri Lanka, limited core researches have been identified. There has been no big differences identified in the period of 2001-2009 in the context of automating library operations in special libraries (Sanjeewani 2012 and Hettiarachchi 2001). However, it should be mentioned that over 50% of special libraries were using computers to automate their library operations and services in Special Libraries of Sri Lanka (Sanjeewani 2012 and Hettiarachchi 2001).

In considering the automated library operations, cataloguing was the highly automated library function in the special libraries (Sanjeewani 2012, Rathnabahu 2009, Wijayasundara 2005, Gamage 2002 and Hettiarachchi 2001). Among them, cataloguing books written in English was the most popular operation (Sanjeewani 2012 and Hettiarachchi 2001) while the Web OPAC appeared to be the most automated user service in the special libraries (Sanjeewani 2012). It was found later that special libraries automated their user services more than their library operations (Hettiarachchi 2001). Further, it was revealed that the library services such as Current Awareness Services (CAS), Selective Dissemination of Information (SDI), and Inter Library Loan (ILL) were automated more than special library operations such as cataloguing, circulations and acquisitions (Sanjeewani 2012). The highest available facility was browsing of CD-ROM in special libraries (Wijayasundara 1997).

CDS/ISIS, WINISIS, PURNA, INMAGIG, ORACLE, DBASE, LIBSYS and MS Word (for ILL, CDS/ISIS, and Reporting) were commonly used as the library automated software in special libraries (Hettiarachchi 2001). Apart from that, the Automated Online Library System (AOLS) was also used for library automation (Sanjeewani 2012). Technological, managerial, infrastructure, human, political and social factors were identified as crucial problems in library automation (Wijayasundara 2005).

RESEARCH DESIGN

There are seventy six (76) special libraries in the whole of Sri Lanka, according to the Statistics of Sri Lanka National Library (1994). Random sampling method was used to select 50% of the population, resulting in thirty eight (38) libraries as the sample. The study employed survey method using questionnaire as the data collection technique. Questionnaires were sent to the 38 special libraries via the post. Only 28 (74%) libraries responded to the questionnaires. Qualitative data were converted into quantitative data using a fixed value for each question numbered, and the MS-Excel spreadsheet application was used to analyze the collected data.

RESULTS

Key findings of the study are described under participation in training, availability of computers, operating systems, digital equipment, library automation status, automation of library functions and user services. Library software availability and problems pertaining to the library automation are discussed below.

Participation in Library Automation Training

A total of 71% of the special library staff have participated in local or international library automation workshops and training programs. The results revealed that the majority of the staff were participating in the continuous professional developments in order to acquire new knowledge and to gain practical experiences of library automation.

Availability of Computers

Table 1 shows the availability of different types of computers in special libraries of Sri Lanka. Results revealed that the majority of the special libraries (52%) were using Pentium IV computers compared to other system types. Twenty-five percent of special libraries were using Pentium I/II/III. Further, Table 1 shows that 396/486 types of computers were still in operation among 6% of the special libraries. Apart from that, about 7% of the special libraries were moving towards improvised versions like the Core2Duo or Dual Core computers. Further, 10% of the minimum percentage was using server computers in the libraries.

Table 1: Availability of Computers by Type

Types of Computers	Special Library (%)
396/486	06
Pentium I/II/III	25
Pentium IV	52
Core2Duo or Dual Core	07
Server	10

Availability of Operating Systems (OS)

Different types of Operating Systems (OS) were in use in the special libraries. Results indicated that the special libraries were still operating the DOS (3.57%), Windows 98 (3.57%), Windows 2003 Server version (14.24%) and Windows NT (3.57%) OS. Half of the respondents (50%) was using Windows XP OS. Special libraries were slightly managing with Windows Vista (7.14%) and Linux or UNIX (3.57%).

Availability of Digital Equipment

Taking into consideration the availability of digital equipment among the libraries, the majority of libraries had Compact Disk Players/ Writers (35.71%), Scanners (32.14%), DVD Players/ Writers (28%) and printers (25%).

Status of Library Automation

Figure 1 shows the status of library automation in special libraries of Sri Lanka. It shows that 57.14% of the special libraries automated their library housekeeping operations and

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user services. Another 42.86% of the special libraries were still providing services to their users in the traditional way.

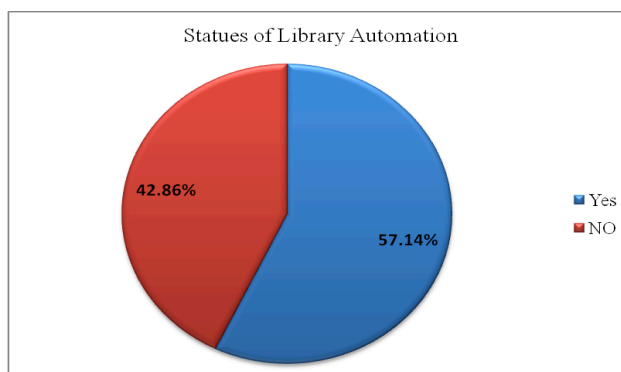


Figure 1: Status of Library Automation in Special Libraries

Automation of Library Functions

Of the total automated special libraries, 75% of the special libraries automated cataloguing of Sinhala books and 75% of English books, while 18.75% automated cataloguing of Tamil books. About 81.25% of the special libraries were not having any proper plan to automate cataloguing of Tamil books. Cataloguing was the key to the widely automated library function among the special libraries.

Subsequently, acquisition (43.75%) and serial control (43.75%) were the next functions of library automation, while 37.50% acquisition was staying in the planning stage. About 56.25% of the special libraries had no proper plan for serials control. Further, circulation function (31.25%) also was noticeably automated among the special Libraries. However, 56.25% of the special libraries did not have any plan to automate their circulation function. Table 2 details the findings.

Table 2: Automation of Library Functions

Library House-keeping Operations	Levels of Automation		
	Completed (%)	Planning Stage (%)	Has to be Planned (%)
Acquisition	43.75	37.50	18.75
Cataloguing-Sinhala Books	75.00	6.25	18.75
Cataloguing-English Books	75.00	6.25	18.75
Cataloguing-Tamil Books	18.75	-	81.25
Circulation	31.25	12.50	56.25
Serials Control	43.75	-	56.25

Automation of User Services

Table 3 shows the automation of user services in special libraries of Sri Lanka. With consideration of the automated library services, 50% of the special libraries automated and created Web Online Public Access Catalogue (Web OPAC) although 50% libraries were not planning to automate their Web OPAC. Apart from that, similar responses (43.75%) regarding services such as Current Awareness Services (CAS) / Selective Dissemination of Information (SDI) and Report Generating activities were automated. Small percentages of special libraries had automated budgeting (18.75%) and annual verification (18.75%) services. The results disclosed that as cataloguing was the highly automated operation, Web OPAC became the highly automated library service in special libraries.

Table 3: Automation of User Services

Services	Levels of Automation		
	Completed (%)	Planning Stage (%)	Has to be Planned (%)
Web OPAC	50.00	00	50
Inter Library Loan (ILL)	37.75	00	62.25
CAS/SDI Services	43.75	00	56.25
Report Generating	43.75	6.25	50.00
Budgeting	18.75	6.25	75.00
Annual Verifications	18.75	6.25	75.00

Automated Library Software

Figure 2 illustrates that the library automation software availability in the special libraries sampled. It shows that 57.14% of the special libraries were using library automation software.

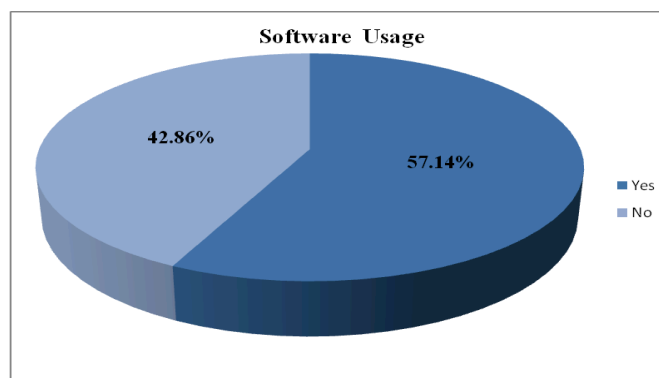


Figure 2: Usage of Library Software

On the usage of library software, the study indicated that 50% of the special libraries were using WINISIS package developed by the UNESCO for library automation. About 18.75% of the libraries were using PURNA. PURNA was developed by a Sri Lankan senior

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Librarian named Mr. N.U.Yapa in 1997 who was the Chief Librarian of International Water Management Institute-IWIMI), and the systems is inter-related with WINISIS. About 12.5% and 6.25% of the special libraries were using Alice for Windows (AFW) and Libsys commercial software respectively. Further, results indicated that 12.5% of the special libraries were using Automated Online Library System (AOLS) package. AOLS was developed by the Sri Lanka Institute of Information Technology (SLIIT).

Use of Library Automated Software for Library Operations and User Services

On the usage of Libsys (6.25%) library software, the entire library operations were automated, except for circulations and annual verification. These small number of special libraries were able to automate its operations and services noticeably using Libsys.

On the usage of Alice for Widows (AfW) software (12.5%), the libraries were able to fully automated cataloguing of English books and Web OPAC. Serial Controls, Inter Library Loan (ILL) and Report Generating were partially automated using AfW.

On the usage of PURNA library software (18.75%), 67% cataloguing of Sinhala Books was automated.

WINISIS software was used to automate the overall library function in substantial percentage. Cataloguing of Sinhala (88%) and English (75%) were the highest automated library functions using WINISIS software.

AOSL software was used for automation of acquisition function completely. All operations were partially automated other than cataloguing of Tamil books and annual verification using this systems.

Obstacles of the Library Automation in Special Libraries

The following major obstacles were identified and discussed:

(a) Insufficient funds and parent organization delay in purchasing computers and other peripheral equipment

Insufficient funds allocated to the libraries for purchasing computers and peripheral equipment had been identified as obstacles by 62.50% of the respondents. Proper equipment are most important for library automation programme. According to the findings, 66.07% of special libraries were facing difficulties with the parent organization's rules, regulations and procedures. As a result, libraries should have to take longer times to purchase computers and other equipment. This issue was badly affecting the library automation process.

(b) Laws and regulations

Laws and regulations of purchasing and maintaining ICT tools in the parent organization were also considered as a crucial difficulty among 65.18% of the special libraries. The majority of the special librarians declared that libraries had to procure the lowest price for equipment due to rules and regulations of the parent organization. These computing facilities may cause many problems within a short period of time, due to their lowest

specifications. This was directly having a distraught impact on the library automation process.

(c) Inadequate proper training programs

A total of 65.18% of the special libraries were identified to have lack of proper training in ICT throughout the country. However about 71% of the special libraries staffs were participating in local or international library automation workshops. It seems special librarians were in need of more training programs related to library automation.

(d) No plans to use IT tools within the library operations

A total of 64.29% of the special libraries were not having proper plan to use IT tools within the libraries' working environment. As a result, librarians were not flexible to handle library automated equipment.

(e) Time consumption for repair of instruments

A considerable 65.18% of special libraries were suffering from time-consuming matter. Parent organization took a longer process to repair library equipment such as computers, scanners and other peripheral devices.

(f) Lack of database management systems to support Sinhala

Special libraries (40.18%) were lacking of national language (Sinhala) software and this is another major obstacle. Special libraries were still using transliterate system for data entry of Sinhala books into the library system. The systems did not support Sinhala or any other languages except for English. Special libraries were only using commercial and semi-commercial software other than the Open Source Software (OSS) such as KOHA.

CONCLUSION

The majority of staffs had participated in local or international level workshops and training programs in library automation. It appears that special library staffs were very enthusiastic and keen in acquiring new technological knowledge into the libraries. Only a small percentage (19.64%) of the special libraries reported that they did not have qualified staff. It appears that special libraries trained their library staff to face the new technologies.

Special Libraries were still using outdated technologies while awaiting to acquire modern technologies into the libraries. For example 396/486 types of computers were still in operation in the special libraries instead of Pentium IV and Core2Duo or Dual Core computers. Further, Ms DOS OS was also functioning while Windows XP, Windows Vista and Linux or UNIX were also in use. Additionally, special libraries had their own small numbers of computer servers to their demands.

Taken into consideration of the library automated operations and services, cataloguing was the highly automated library function in the special libraries and the priority was given to the cataloguing of Sinhala and English books only. Only a small numbers of special libraries automated the cataloguing of Tamil language books. Acquisition and serial control were the next frequently automated library operations. Automation of

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circulation function was also noticeable. In the context of automated library services, Web Online Public Access Catalogue (Web OPAC) was the highly automated special library services in Sri Lanka. Apart from that, Current Awareness Services (CAS)/ Selective Dissemination of Information (SDI) and report generating services were also highly automated.

The majority of the special libraries were using WINISIS package developed by the UNESCO for library automation. PURNA, AOSL, LIBSYS and Alice for Windows were significantly in usage.

In conclusion, Sri Lankan special libraries are marching towards modern library systems in order to match with the global scenario. The pace of the changing atmosphere in special libraries in the country however could not meet the present user demands. Hence, the automation of library operations should be given priority by the parent organizations. Major challenges in library automation has been elaborated in the study, and special libraries have to be given more attention in the implementation of integrated library management systems. It is paramount to shift on to a common library software package for all special libraries within a decade. In this situation, open source based library automated system is the most viable and cost-effective. Proper training of staff must be looked into and most suited strategic planning should be envisaged and developed in the special libraries of Sri Lanka. Sufficient funds should be allocated to the special libraries for its future library automation development.

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Abuse of library materials in the main library at University of Peradeniya, Sri Lanka: An overview of the library staff

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ABSTRACT

The University of Peradeniya Library is the largest University Library Network in Sri Lanka. At present the cumulative book stock well exceeds one million mainly on Social Sciences and Humanities. The Main Library provides membership to a wide range of readers both in and outside the university. Abuse of the library materials is a serious issue for academic libraries. The abuse of library materials can be defined in terms of theft, mutilation, unauthorized borrowing and vandalism. Mutilating library materials by marking, underlining, removing pages or portions of pages, removing binding, removing barcodes, removing call number labels, damaging or defacing library materials, seriously affect the library. A survey was conducted to find possible solutions to protect the collection. The objectives of the survey were to identify various forms of abuse, to identify the reasons for the abuse and to identify the possible solutions to protect the library collection. The survey was conducted by using questionnaires with close and open ended questions. The staff of the Reader Services Division and all the senior staff of the main library were selected for this survey. A total of 32 questionnaires were distributed to the above staff and 25 (78%) of them responded. In respect of abusing of library materials, about 80% of the respondents were of the opinion that the main forms of abusing library materials were tearing pages away, writing notes inside textbooks, highlighting/underlining pages, mutilation and hiding of books. With regard to physically damaging the library books, 80% agreed that it was underlining, scribbling and creasing pages, while 60% agreed that it was the use of tippex (whitening). At least 60% also agreed that there are structural damages to books. Rare materials not being allowed to be photocopied as well as inadequate number of copies were also reasons for the abuse of library materials. The study recommends that a proper orientation be given to library users. The number of copies of rare books should be increased, library photocopying services should be improved, introduce an electronic checking system such as a CCTV camera, and recruit well trained security officers. Campaigns against abuse of library material should be launched. Posters containing warning against theft and mutilation should be conspicuously displayed on notice boards inside and outside the library.

Key words: Abuse of library material, Mutilation, Malpractices of readers

INTRODUCTION

Abusing of library materials by marking, underlining, removing pages or portions of pages, removing binding, removing barcodes, removing call number labels, damaging or defacing library materials seriously affect the library.

The library of the University of Peradeniya, Sri Lanka, originated in 1921 as the library of the Ceylon University College. The Library was shifted to Peradeniya in 1952 and was moved to the present premises in 1960. After moving to Peradeniya, the library developed into a library network comprising of the Main Library and seven other branch libraries namely; Agriculture, Science, Medical, Engineering, Veterinary Medicine, Allied Health Science and Dental libraries. The ninth library is attached to the sub-campus, Faculty of Agriculture in Mahailuppallama. The branch libraries are located in their respective faculties.

The mission of the library is to provide a comprehensive and user focused resources with high quality library services in support of teaching, learning and research needs of the university community; through developing collections, providing relevant infrastructure facilities and user guidance to encourage teaching learning and research in an intellectually stimulating university environment.

The threat to intellectual property through theft, mutilation and other forms of abuse has posed a tremendous challenge to the library profession worldwide. The abuse of library materials can be defined in terms of theft, mutilation, unauthorized borrowing and vandalism. This is not a new experience for any library in the world. According to Kesler (1977) - "As a result of mutilation of its books, the library spends its already limited funds for replacements rather than for the purchase of needed new items. The cost of library loses is not measured only by the price of the discrete replaced item, staff time and effort required for searching, recording, processing and rebinding plus the frustration caused the library users (who discover that the needed article is ripped out) must be included in the entire picture".

Abuse of library materials seriously affects the library. The University of Peradeniya Library is the largest University Library Network in Sri Lanka. The library provides open access to most of the resources except for few special collections. The Main Library provides membership to a wide range of readers both in and outside the university with varying degree of facilities. Abusing of library materials is a serious problem for academic libraries. According to stock count carried out in 2008, 35 books (out of 3360) which were highly abused were removed from the Arts and Archaeology collection in the Main Library. There is a tremendous challenge to protect the collection. Therefore this survey was conducted to find possible solutions to protect it.

LITERATURE REVIEW

Anoyaobi and Akpoma (2012) have done a study on abuse of library materials in Delta State Polytechnic Library, Oyawasi-Uku, Nigeria. They found that the abuse of library materials in libraries is a menace that persisted, and the worsening state of libraries in Nigeria appears to have aggravated its intensity and the consequent detrimental impact.

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Abuse of library materials has become a common occurrence in academic libraries in Nigeria as well as in other parts of the world and if this is not investigated and checked, it will create a serious threat to Nigerian libraries' collection and preservation. Disappointment is arising from inability of library users' to locate materials from shelves due to users' behavior of hiding materials and tearing out some pages in particular texts. Senyaha, and Lamptey (2011) describe that book theft and mutilation may concern the personal security and safety of library staff as matters of personal security and safety in a library have much to do with rules and regulations relating to the building, the library collection, the staff and users.

Tefera (1996) stated that the following factors constitute user delinquency in the library:

- Throwing out books and other information resources through windows at night during power outage.
- Carrying books and other information resources out of library without getting them properly charged out.
- Tearing off pages of books and other information resources.
- Using chemicals to clean off library ownership stamps in books and removing date due slips.
- Removing the jacket cover and preliminary pages of books so that those books cannot be identified.
- Stealing other registered library user borrowers' tickets and using them to borrow books.
- User borrows a book legally, goes out of the library, removes the date slip comes back to the library with it. Then, removes the date slip of the book intended to be stolen. Uses gum to affix the date due slip from the book borrowed onto the book intended to be stolen, to create the impression that it is a legally borrowed book and takes the stolen book out of the library. Several library materials could be stolen this way.
- Library staff at times assisted users to borrow books legally and destroy the records later.

Akussah, and Bentill (2010) in their study of abuse of library materials in academic libraries conducted at the University of Cape Coast main library, showed that there is no doubt that for as long as library materials are physically and intellectually explored, there is bound to be some form of abuse or the other. The results of the study have clearly indicated that the documents of the University of Cape Coast main library are under the threat of abuse. They suggested that many thefts occur in libraries because of difficulties faced by the users in getting access to materials. The library should provide multiple copies, adequate facilities for photocopying and liberal lending policy to allow number of copies to be borrowed.

RESEARCH DESIGN

Objectives

The objectives of the survey were to identify various forms of abuse of library materials, to identify the reasons for the abuse of library materials, to identify the possible

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solutions to protect the library collection, and to identify library staff's suggestions to protect the library collection.

Methodology

The survey was conducted by using questionnaires with close and open ended questions. Physical observation of any abused library materials was also used for this survey.

Population of the study

All the senior staff at the main library and the library staff of the Reader Service Division (Library Assistance and the Library Attendants) were selected for this survey. A total of 32 questionnaires were distributed to them and 25 (78%) of them responded.

RESULTS

As shown in table 1, the answers rating *strongly agree* and *agree* were over 60%. The forms of abusing of library materials mainly include tearing away pages, writing notes inside text books, and highlighting and underlining pages. At least 50% of staff members agreed that hiding of books is also a grave issue. It is indicated that tearing away pages, writing notes inside textbooks, highlighting/underlining the pages are the main forms of abusing library materials.

Table 1: Forms of abusing library materials

Forms of abusing the library materials	SA	A	D	SD
Tearing away pages	13	04	04	04
Writing notes inside textbooks	05	10	07	03
Highlighting/underlining the pages	03	11	07	04
Hiding of books	03	13	03	06

*SA= Strongly Agree A=Agree D=Disagree SD=Strongly Disagree

For the question on the physical damage of library materials, 65% agreed that it was tearing and removing of covers and figures. 60% agreed that it was the use of tippex (whitening) and creasing of books. More than 50% opined that underlining words or scribbling and creasing as the reasons. At least 40% cited marks and stains in documents and tearing and removing of covers. According to these figures, most of the physical damage was in the form of tearing and removing of covers and underlining of words or scribbling.

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Table 2: Physical damage on library materials

Physical damages on library materials	SA	A	D	SD
Underlining words or scribbling	03	09	04	09
Marks in documents, Stains in document	09	02	11	03
Books with torn or removed covers / figures	12	05	06	02
Creased books, Use of Tipex (Whitening)	03	13	05	04
Structural damage	02	11	04	08

According to table 3, the staff are very satisfied with the existing photocopy service in the main library. It also indicated that less than 20% agreed with the statements of “strict library rules” and “lack of support from the library staff”. It is a positive response which shows that the library staff is much helpful to the readers. The staff gave a neutral response to the statements of, strict library rules, lack of support from the library staff and, lack of proper shelving. It shows that the library staff is very supportive of the students.

Table 3: Inadequacies of library services that might contribute to the abuse of library materials

Statements	SA	A	D	SD
Lack of photocopy services in the library	02	01	02	20
Strict library rules with regard to rare collection	02	01	07	15
Lack of support from the library staff	01	01	03	10
Shelving of books	02	03	04	16
Lack of adequate library orientation programmes for new library users.	10	10	03	02
Inadequate copies of popular library materials.	07	04	10	04
Inadequate copies of recommended texts in the library	06	09	09	01

It should be mentioned that the inadequate number of copies of recommended texts in the library is a serious issue for the readers. Lack of adequate library orientation programs for new library users is also a factor which should be seriously considered.

According to table 4 there are various reasons for the abuse of the library materials. The main reasons given for the abuse of the library materials are certain materials being rare and not being allowed to be photocopied. Unavailability of copies and high cost of photocopying are also another reason for the abuse of the library materials.

Table 4 : Reasons for abusing library materials

Reasons for abusing library materials	SA	A	D	SD
Rare materials not being allowed to be photocopied	21	02	01	02
Inadequate number of library materials	09	03	06	07
High cost of photocopying	07	07	09	02
Rare materials – Unavailability of copies	06	05	10	04

Disciplinary measures are essential for any institute for effective management. It is essential for the library as an institute for dissemination of information, to have disciplinary measures. According to table 5, 20 staff members agreed to the charging of full cost of the abused material. 10 agreed to exhibit the offenders’ photos with names. The other measures were the cancellation of membership and suspending the membership for a few weeks.

Table 5: Maintaining of disciplinary measures

Maintaining disciplinary measures	SA	A	D	SD
Charging of the full cost of the abused material	20	02	02	01
Cancellation of membership	11	06	05	03
Exhibiting the offenders’ photos with names	10	04	06	05
Suspending the membership for a few weeks	09	08	04	04

According to the staff views of the protection strategies, the following suggestions were made. The respondents agreed to the all the suggestions such as user education, awareness seminars, library constantly displaying mutilated books with names of the reader, encouraging users to protect the collection and developing the collection ownership attitudes.

Table 6: Strategies for the protection of the collection

Protection strategies	SA	A	D	SD
User education or awareness seminars	22	03	00	00
Library must constantly display mutilated books with names of the reader	09	11	02	03
Encourage users to protect the collection	19	01	02	03
Develop the collection ownership attitudes	20	03	02	00
Installation of security cameras	21	02	01	01
Provide electronic resources	19	04	02	00
Fining system according to the damage	12	06	06	01

From the statements given in the Table 7, most of the staff members (80 -100%) agreed with the all statements given. They also highlighted that it is very essential to improve

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supervision, provide enough library materials, introduce electronic checking system and conduct regular library orientation programs, regular supervision of users; books should be examined after returning by the reader. It is believed that these suggestions are very important for policy makers to implement them in future.

Table 7: Suggestions to protect the library materials

Suggestions to protect the library materials	SA	A	D	SD
Improve supervision	18	4	3	0
Conduct regular library orientation programs	16	7	1	1
Provide enough library materials	13	8	2	2
Digitization on rare materials	12	8	3	2
Regular supervision of users	13	9	1	2
Improve competence in security officers	15	7	4	0
Books should be examined after returning or using by the reader	13	9	2	1
Introduce a huge fine system for abusers	12	7	6	0
Make electronic accessible copies as far as possible	15	4	3	3
Ban bringing blades, tipex, bottle of water, file covers, highlighting pens. etc. to the library	14	8	1	3
Introduce electronic checking system	22	2	1	0

The following open ended questions were answered by the staff:

What are the roles of library staff in reducing abuse of library materials?

- The library staff who works in the shelf area and the reading rooms should frequently visit and observe this area
- Show readers that the staff members are vigilant and that they pay attention to the book shelves areas and observe user behaviors
- Books should be examined by the counter staff when they are returned by the user
- Punish library staff if they are careless in protecting the books

What are the measures the library should take to reduce the abusing of library materials?

- Install security cameras in the library
- User registration number should be mentioned on the date label below the return date, when issuing a book
- Books should be examined at the return counter at the time of returning. If it is not feasible, returned books should be kept for certain period at the counter for checking
- Security camera system (CCTV) for regular checking of rare, important places in the library

CONCLUSION AND RECOMMENDATION

The study was mainly concerned with the examination of the abuse of library materials in the main library, University of Peradeniya, Sri Lanka. There is no doubt that for as long

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as library materials are physically handled and intellectually explored, there is bound to be some forms of abuse or the other. The results of the study have clearly indicated that the documents of the University of Peradeniya Library network are considerably abused by the users in the form of; tearing away pages, writing notes inside textbooks, highlighting/underlining the pages, and hiding of books. Abuses of library materials are higher among print materials than the non print materials. This indicates that print materials are used more often than the non print materials. The library awareness program is a very important factor to the users. Students who underwent frequent library instruction and orientation, understand better the value of borrowing and returning library materials and that will help to avoid abusing the library materials.

The following recommendations are hereby given based on the identified problems. Library staff working in shelf areas and the reading rooms should frequently visit and observe those areas. Show readers that the staff members are vigilant and show reader that they pay their attention to the areas of book shelves and observe user behaviors. Punish library staff for their carelessness in protecting the books and provide adequate staff in the library. Should introduce motivational and punishable guidelines for library staff who are responsible for the collection.

Furthermore, multiple copies of textbooks in demand should be made available in the circulation section. Constantly educating users to protect the collection and identifying the high demand books and acquire enough copies and digitizing of more rare materials are other solutions. Not issuing already damaged books is another way. Conducting user awareness programs to make students understand the importance of protecting library material. Discussion with student union leaders, library staff, and top managerial staff on how to reduce the abuse of library materials. Technical and physical improvement of the library also will be an asset to protect the collection such as installing a security camera system (CCTV) for regular supervision of the library.

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A survey of college library systems in Khyber Pakhtunkhwa, Pakistan

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ABSTRACT

This paper discusses the current status of government college libraries in Khyber Pakhtunkhwa, Pakistan. The major areas covered are: total collection of the college libraries with percentage of collection used per annum, the annual budget allocated to libraries, visits of the library users' per day, number of colleges in which library science is being taught as an optional subject and attitude of the librarians towards library automation. The paper also highlights the views of librarians about various limitations in government college libraries of the province. It is concluded that the standard of government college libraries in Khyber Pakhtunkhwa is not up to the mark. The rate of flow of users to the libraries is very alarming. The collection used per annum is minimal. There is acute shortage of basic resources like collection, finance, human resource and space. The situation can be improved by taking some serious steps towards the betterment of libraries in colleges.

Keywords: College Libraries- Pakistan; Library system-Khyber Pakhtunkhwa

INTRODUCTION

Generally there are two types of colleges in Pakistan: general education colleges and technical education colleges. A general college is an educational institution where two years (intermediate), four years Bachelor of Science (BS), two years Bachelor (BA/BSc) and post graduate courses (MA/MSc) are offered to the students. The library providing to such a college is called college library. A college library is considered as an integral and dynamic part of curriculum. The motto behind the existence of a library is to make the learners of various categories able to cope with the challenging needs of modern era. The learners' community of a college is composed of intermediate, graduate, and post graduate level students, teachers, ministerial and other supporting staff. The libraries attached to professional colleges contain collections on specific subjects mostly relevant to the curriculum of the institution. These include Law college library, Engineering college libraries, Agriculture and Forest college libraries, Elementary college libraries, Polytechnic and Commerce college libraries.

In Pakistan, a Government college is affiliated to a degree awarding institution / university but it has no authority to award a degree on its own. The college provides teaching, accommodation and co-curricular facilities to the students and the university conducts examinations and awards degrees. There are two types of government colleges in Khyber Pakhtunkhwa: degree colleges and post graduate colleges. These

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colleges vary in size, strength of students, staff members and facilities. There are separate male and female colleges. They fall under the thumb of Ministry of Higher Education, Archives and Libraries, Government of Khyber Pakhtunkhwa. During the last decade or so, government colleges in Khyber Pakhtunkhwa have undergone a mushroom growth due to increasing awareness among the public and which raised the graph of literacy.

The college library in Pakistan especially in Khyber Pakhtunkhwa has not yet become the hub of educational activities. The students and teachers make little use of library resources and services. The basic reason for this being lack of library culture and user education. Most of the colleges' principals are not aware of the academic role and value of the college library in supporting the teachers and students in achieving educational goals and objectives. There is a dire need to educate the teacher community along with students.

In a developing country like ours, where students and teachers are unable to buy personal books and reference materials, the role of college library is becoming more challenging and important.

Objectives of the study

1. To calculate the ratio of library users with the total strength of the college
2. To assess the total collections of these college libraries
3. To examine the annual allocated budget
4. To determine the number of colleges involved in teaching of library science
5. To know the attitude of librarians towards automation of college libraries.

METHODOLOGY

The survey method had been adopted to accomplish the objectives of the study. A questionnaire was designed and distributed to 196 librarians of government college libraries of Khyber Pakhtunkhwa for data collection. Phones, Short Message Services (SMS) and emails were used as follow-up tools. Being a part of College Library system (librarian) in Department of Higher Education, Archives and Libraries, Government of Khyber Pakhtunkhwa, it was painless for the researcher to contact the librarians as most of the respondents were personally known to the writer. As a result, 165 questionnaires were returned. The response rate was recorded as 84%. The collected data were tabulated and processed. The inferences were drawn from the analyses. Conclusions were made based on the results of analyses.

LITERATURE REVIEW

Many printed and online sources were consulted for the review of related literature. These include library and information science journals published in Pakistan and abroad,

e-journals, Pakistan Research Repository (PRR), HEC Digital Library and search engines such as Google, Yahoo and Vista.

There is a dire need for changes in the selection and recruitment policies of the college librarians (Qutab and Shafique, 2011). Libraries are built to acquire, preserve, process, access, retrieve and disseminate information to their patrons. It is also stated that no change has occurred in the objectives of the libraries (Gopinath and Pathak, 2001). Majority of the college libraries suffer from grossly inadequate book stock, annual library budget, unsatisfactory physical facilities and lack of recognition of their important academic role (M.Bavakutty, 1986). The success of any library depends on the quality and quantity of its resources and services (Rani, 2008). The high ups, principals and librarians of the colleges must initiate automation in order to facilitate the users in effective manner. Librarians also need to improve their skills in a far better way to cope with modern challenges (Bansode and Perier, 2008). There is acute shortage of library halls and big reading rooms in most of the colleges in India. There is no proper system of lighting and cross ventilation in college libraries (Kumar, 1978). Lack of clerical workers is a great issue in college libraries. A lot of time and energy of the librarians are wasted in performing clerical duties (Rowland, 1963).

ANALYSIS OF DATA

There are 196 government colleges in the Department of Higher Education, Archives and Libraries, Government of Khyber Pakhtunkhwa. The gender-wise distribution is as under:

Table 1: Gender-wise distribution of government colleges

College type	Total	Male	Female
Degree Colleges	176	111	65
Post Graduate Colleges	20	15	05
Total	196	126	70

The analysis of Table 1 indicates that there are 176 (90%) degree colleges and 20 (10%) postgraduate colleges in Khyber Pakhtunkhwa. It is also shown that 126 (64%) are boys' colleges while 70 (36%) are reserved for educating the girls. About two third of the population are imparting education to the male community of the province. It is reflected that more attention is needed for the promotion of the female education at college level.

Library users are important asset to the college library system as the whole library setup is built for the facilitation of library users. For better library services, it is necessary to know the existing flow of library clientele. These facts and figures will be useful tool for the further improvement of the system. For this purpose, librarians are asked to provide a daily user statistics.

Table 2 presents the percentage ratio of potential library users with total strength. It was computed that majority 155 (94%) out of 165 respondents have given the figure,

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the average result (5.5%) of which lies in the percentage ratio 1-25. Only 6% have provided the data which exhibits the ratio lies in 26-50.

Table 2: Ratio of library users with total strength of the colleges

Ratio in percentage	No. of colleges
1-25	155
26-50	10
51-75	00
76-100	00

Table 3: Total collection of the college libraries

Collection	No. of colleges	Percentage
Below 5000	127	77
Between 5000 and 25000	30	18
Between 25000 and 50,000	08	5
Above 50,000	00	00

Library collection means all the learning resources available for reference. These include books, journals, reference materials, newspapers, text books, maps, CDs, material in digital format and other non-book material. The standard of a library can be determined from the quality of their collection. The respondents were asked to report about the quantity of the resources available in the library.

The analysis of Table 3 reflects that majority 127 (77%) out of 165 government college libraries have less or equal to 5000 library collection. A total of 30 (18%) out of 165 libraries have more than 5000 and less than 25000. Only 8 (5%) college libraries claimed more than 25000 library books.

The collection of the library is said to be standard and up to the level of the readers if it has a reasonable usage. For this information, the librarians were given a question "collection being used per annum". The responses of the librarians were recorded in Table 4.

Table 4: Collection being used per annum

Collection used (%)	No. of colleges	Percentage
1-20	135	82
21-40	30	18
41-60	00	00
Above 60	00	00

Table 4 shows collection being used by the college libraries per annum. A total of 135 (82%) out of 165 college librarians reported that only 13% of the total collection being used by the users per annum. Only 30 (18%) of the libraries reported between 21 to 40 % of the total collection used per annum. The analysis shows a crucial situation of collection not being used by the readers.

Table 5: Allocation of budget per annum

Allocation of budget per year	No. of colleges	Percentage
Below 50,000	22	13
Between 50,000 and one lac	00	00
More than one lac	00	00
Irregular	143	87

Table 5 reveals that majority 143 (87%) out of 165 college librarians reported that there is no regular system of reservation of annual budget for government college libraries in Khyber Pakhtunkhwa. A few 22 (13%) were of the opinion that they receive less than Rs 50,000/- annual budget for building the collection of their respective libraries.

Finance is the backbone of any institution. A question was asked from the librarians “whether they are satisfied with present allocation of budget to college libraries or not?”. They were also given the query to opt for annual budget. The responses of librarians in this connection were recorded in Table 6.

Table 6: Satisfaction with present allocated budget

Attitude of librarian	No. of colleges	Percentage
Satisfied with present budget	03	02%
Not satisfied	162	98%

Table 6 elucidates that majority 162 (98%) of the college librarians are not satisfied with the present allocation of library budgets. They preferred a regular average 100,000/- (0.1million) annual budget for the collection.

Teaching of Library Science in colleges

Teaching of library science in colleges provides a base to the students to know their libraries’ services and resources in depth. The librarians were asked to report “whether the subject of Library Science is being taught in colleges or not?” The feedback of this query was tabulated as follows.

Table 7: Teaching of Library Science in Colleges

Status of library science	No. of colleges	Percentage
Yes	40	25
No	125	75

Table 7 reported that only 40 (25%) out of 165 college librarians were teaching the subject of library science at intermediate level. Majority 125 (75%) of them have not yet started the teaching of library science at their colleges. A good number of the librarians reported that they are teaching other subjects to the students.

Attitude of Librarians towards library automation in colleges

Library automation is the cry of the day. The situation regarding automation in college libraries in Khyber Pakhtunkhwa is dismal. There is acute deficiency of this trend. An effort was made to know the attitude of librarians toward library automation in colleges. The responses are recorded in Table 8.

Table 8: Attitude of Librarians Towards Library Automation in Government Colleges

Attitude towards library automation	Yes	No	%
In favour of Library automation	165	00	100
No need of this practice	00	00	00
I don't know about automation	00	00	00

Table 8 shows that all college librarians were in favor of library automation. They stressed that modern facilities in college library is very important for the fulfillment of changing demands of the users.

Response of college librarians towards an open ended question

The respondents were given an open ended question for the expression of their views about college libraries. The suggestions and demands of the college librarians can be summed up as follows:

- The post of Library Assistant/Clerk may be introduced in all colleges of the province.
- Periodic refresher courses/trainings on modern library technologies may be conducted
- Separate library building with appropriate reading rooms is also the demand of a good number of college librarians.
- Librarians may be given the status of teaching faculty of the colleges.

Findings of the study

1. The ratio of library users with total strength of the college is 5.5%.

2. Majority of the college libraries have less than 5000 library collections. Only 13% of the total collection is being used per year.
3. A large number of respondents reported that there is no regular annual budget for college libraries. The college librarians were not satisfied with allocation of budget for college libraries by Higher Education Department, Government of Khyber Pakhtunkhwa.
4. Majority of the college librarians are not involved in the teaching of the subject of library science at college level.
5. All respondents were in favor of library automation.

CONCLUSION AND RECOMMENDATIONS

The standard of government college libraries in Khyber Pakhtunkhwa is not up to the mark. The rate of flow of users to the libraries is very alarming. The collection used per annum is minimal. There is acute shortage of basic resources like collection, finance, human resource and space. The situation can be improved by taking the following suggestions into consideration:

- Introduction of user education program for the students, teachers and other supporting staff. This practice will create library awareness among the users. As a result, rate of potential library users and use of collection will be increased.
- The provision of library budget may be enhanced. There is a dire need of regular budget for this important segment of colleges. It is demanded that Rs 100,000/- may be allocated per year regularly for the purchase of library materials with a reasonable increase.
- Refresher courses, trainings, workshops, seminars and conferences should be arranged to equip the college librarians with latest trends in librarianship. Pakistan Library Association (PLA), Higher Education Commission (HEC), Higher Education Department, Government of Khyber Pakhtunkhwa and eminent library scientists of the province can play a leading role in this chain.
- The post of library assistant should be created for each college library because there is no attendant and assistant in most of the college libraries in the province. It is also suggested that college librarians should be given the status equivalent to a college teacher.
- The subject of library science should be introduced at all levels of college education. There is a great demand by the students to start this subject at degree and Bachelor of Science (BS) level as well. For this purpose, Department of Library and Information Science University of Peshawar (being the mother institution of the subject) should take the initiative and can play a vital role in this direction.
- To cope with modern challenges, library automation is the need of the day. The libraries of government colleges should be provided necessary technology-based infrastructure to facilitate their users in a more effective way. Networking of all college libraries should also be established to share their resources and services. Internet connections should also be provided to the college libraries to access e-resources, HEC digital library and other online databases.

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