Journal of Information Technology and Library Science

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Aims and Scope

This journal covering all area of library Science, technology, information and interdisciplinary research. The library science is an interdisciplinary field that applies the practices, perspectives and tools of management, information technology, education and other areas to libraries. The collection, organization, preservation, and dissemination of information resources; and the political economy of information are also included in library science.

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Contents

Knowledge Management as an important tool in Library Management

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A B S T R A C T

This article approaches as Knowledge Management as an important tool which can help libraries to better adapt to the new requirements of the digital age and meet users needs. Academic Institutions have significant opportunities to apply Knowledge Management practices to support every part of their mission.

Keywords: Knowledge Management, Organizational culture, Academic libraries, KM, KMS

Introduction

In recent years, the importance of KM has been widely recognized as the foundations of industrialized economies shifted from natural resources to intellectual assets. Since 1995 there has been an explosion in the literature surrounding the developing concept of KM. In library and information science, Ranganathan (2011) was the first to advocate that a universe of subjects is synonymous to a universe of knowledge and therefore proposed the concept of knowledge management in libraries. To prove their relevance and value, academic libraries must strive to provide the right amount of information to the right clientele at the right time with a right expense of financial and human resources. Academic Institutions have significant opportunities to apply knowledge management practices to support every part of their mission.

What is Knowledge and Its Types

• Information is visible, independent from action and decision, different in format after processing, physical product, independent from existing environment, easily transferable, and duplicable.
• Knowledge is invisible, closely related to action and decision, different in thought after processing, spiritual product, identified with existing environment, transferable through learning, and not duplicable.

Origin of Knowledge

As early as 1965, Peter Drucker already pointed out that „knowledge" would replace land, labour, capital, machines, etc. to become the chief source of production. His foresight did not get much attention back then. It was not untill 1991 when Ikujiro Nonaka raised the concept of "tacit knowledge and "explicit" knowledge as well as the theory of "spiral of Knowledge" in the Harward Business Review that the time of "knowledge-based competition" finally came.

In the business world, two types of knowledge have been noted. They are explicit knowledge and tacit knowledge. Jan Duffy defines explicit knowledge as "knowledge that is documented and public; structured, fixed-content, externalized, and conscious" and tacit knowledge as "personal, undocumented knowledge; context-sensitive, dynamically-created and derived, internalized, and experience based; often resides in the human mind, behavior, and perception. "This set of definitions can be applied to all other human endeavors and intellectual activities.

Researchers have now come to agree that knowledge management is more than   storage and

manipulation of information, but a process that requires the commitment to create and disseminate knowledge through the organization (Marshall, Prusak, & Shpilberg, 1996; Parikh, 2001).

In today"s movement towards knowledge management, organizations are trying to best leverage their knowledge internally in the organization and externally to their customers and stakeholders. They are trying to capitalize on their organizational intelligence to maintain their competitive edge. "

Concepts of knowledge management

• **To create knowledge repositories,** which store both knowledge and information, often in documentary form.

• **To improve knowledge access and transfer.** Here the emphasis is on connectivity, access and transfer.

• **To enhance the knowledge environment** so that the environment is conductive to more effective knowledge creation, transfer and use. This involves tackling organizational norms and values as they relate to knowledge.

• **To manage knowledge as an asset** and to recognize the value of knowledge to an organization.

Importance of Organizational Culture in Knowledge Management

Knowledge is increasingly being viewed as a critical component for organizations. It is largely people based and the characteristics of groups of individuals, in the form of organizational cultures, may play a key role in the factors that lead to either the acceptance or rejection of Knowledge Management Systems (KMS).

Organizational culture is unique for every organization. It is extremely difficult to change and is directly related to the leadership style. Organizational culture is primarily exhibited by the manager or head of the organization or department. Roman, Ribiere, and Stankosky (2004) found that knowledge management projects implemented in a hierarchy culture had a lower rate of success than knowledge management projects implemented in clan, market, and adhocracy cultures. The researchers also found that organizations having stronger cultural values at the organizational and department levels had greater success with knowledge management efforts.

As knowledge is increasingly viewed as a critical activity for decision making (Markus, Majchrzak, & Gasser, 2002; Miranda & Saunders, 2003), organizations are becoming more receptive to using technologies to facilitate knowledge management (Schultze & Leidner, 2002). While it is widely recognized that information technologies have the potential to facilitate knowledge management, the management of knowledge-based systems is an intricate process that involves a complex interplay of technical and social factors.

Knowledge, which is information that exists in the minds of individuals, is inextricably linked to knowledge management systems. The emphasis on this human component may not be as prominent in other information systems, and suggests that we incorporate constructs, such as organizational culture, to match the nature of this technology.

Knowledge Management & Academic libraries

Knowledge Management is a process aimed at creating, identifying, sharing and using knowledge at the level of an organization. Knowledge management in Academic Institutions can be applied in five key areas such as research, curriculum development, alumni services administrative services and strategic planning (Kidwell et al. 2000).

According to Townley (2001), librarians have developed and applied many KM principles in the provision of library services. Reference, cataloging, and other library services are designed to encourage the use of scholarly information and thus increase the amount of academic knowledge used in higher

education.

Academic libraries are part of the university and its organizational culture. Whatever affects universities has an impact on academic libraries. As a result, role of academic libraries is voluminous to provide the competitive advantage for the parent organization. The success of academic libraries depends on their ability to utilize information and knowledge of their staff to better serve the needs of the academic community. Academic Libraries are pinched on both sides: reduced budget and increased demand from faculty and students. It is, therefore, paramount for academic libraries to operate more efficiently with reduced financial and human resources.

Knowledge Management is considered as one of the most useful solutions for academic libraries that can be adopted in order to improve their services to become relevant for their parent institutions in the present competitive and challenging environment (Wen, 2005; Thanuskodi, 2010). This is especially true of countries like India with a rapidly developing economy. Knowledge Management is a viable means in which academic libraries could improve their services in the knowledge economy.

Knowledge Management Tools For Academic Libraries

The continuing education through professional training courses or workshops plays a significant role in the implementation of knowledge management in all contemporary organizations (Sanchez, 2001). Libraries are no exception, especially as in their case the pace and the volume of changes which they have to deal with is doubled by the complexity which satisfying the information needs and requests of users through up to date products and services (Octavia-Luciana Porumbeanu 2010).

A community of practice was defined by Stewart (1997) as a „group of professionals within a corporation who are informally bound to one another through their exposure to a common class of problems and common pursuit of solutions. Members within the community of practice freely exchange knowledge which creates an even greater resource base of knowledge.

Information Technology (IT) serves as a powerful enabler and provides effective and efficient tools for all facets of knowledge management including capturing, sharing, and applying knowledge (Gandhi, 2004). New technologies have dramatically transformed the library world too. It can also support knowledge sharing by facilitating people to locate as well as communicate each other (Roknuzzaman et al. 2009).

Knowledge Management in an academic library therefore is to ensure an all-round improvement of library staff‟s capacity; promotion of relationships between libraries and library users; it promotes knowledge innovation, strengthening knowledge internetworking and quickens knowledge flow. Other objectives are highlighted below.

Implementations of Knowledge Management in Academic Libraries

A knowledge management initiative in libraries becomes imperative in order to harness the wealth, wisdom, expertise, and experiences embedded in the heads of such employees before they leave the library. This can be achieved through brainstorming, open discussions, and provision of fertile ground for creativity, sharing of ideas, organizing workshops, conferences, mentoring, web archiving, digitization, and identification and collectively addressing problems and finding solution.

Therefore there are a number of approaches that academic librarians should follow and harvest the tacit and explicit knowledge of workers to the full advantage of the library. These include acquisition of modern tools, updating skills and standardization, knowledge creation, knowledge capturing, knowledge sharing, andskills in ICT.

Conclusion

Library professionals believe that professional education and training programs, community of practices, information technology and knowledge sharing are the important tools of knowledge management for academic libraries. Lack of knowledge sharing culture, top management commitment, incentives and rewards, financial resources and IT infrastructure are the major constraints for the implementation of knowledge management in academic libraries. Libraries, with limited budget and human resources, should utilize the current management structure and technology to implement Knowledge Management, either bottom-up or top-down. With a concerted effort, Knowledge Management will help to increase libraries'' operational efficiency and cater to the ever-increasing needs of our clientele.

As knowledge workers, they must extend their expertise beyond collection management to knowledge acquisition and management. They have to extend their expertise in selecting, organizing, and preserving information. They must be willing to move outside the walls of the traditional library and work assiduously with technologists, faculty, and students. This means that librarians are no longer merely custodians of information; rather, they will act as knowledge managers who will work with users in collecting and analyzing strategic intelligence, act as trainers and consultants to transfer knowledge throughout the organization. It is therefore essential for management in organizations to look for means to gain, maintain, and leverage knowledge to achieve a lead to higher levels of success for organizations.

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Library Content Management System

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A B S T R A C T

A Content Management System (CMS) is a combination of large database and file system which are used to store and later retrieve huge amounts of data. At the college level, the Library Content Management System stores and manages the college's electronic documents, journals, magazines and other resources so that the students and faculty members of the college can reuse the information across different applications. It is used to organize and facilitate collaborative content creation. The basic idea behind a Library CMS is to separate the content management from design. Page designs are stored in templates while the content may be stored in a database or separate files. The benefits a Library CMS offers are both for website administrators and authors. A Library CMS allows students and professors to easily and quickly access the resources. A Library CMS establishes defined publishing processes and specific publishing rights to various individuals. These entire facilities make the users save the time for training, facilitate more people to access the resources whenever and wherever they want.

INTRODUCTION

A Content Management System (CMS) is a system used to manage the content of a Web site. Typically, a CMS consists of two elements: the content management application (CMA) and the content delivery application (CDA). The CMA element allows the content manager or author, who may not know Hypertext Markup Language (HTML), to manage the creation, modification, and removal of content from a Web site without needing the expertise of a Webmaster. The CDA element uses and compiles that information to update the Web site. The features of a CMS system vary, but most include Web-based publishing, format management, revision control, and indexing, search, and retrieval.

The Web-based publishing feature allows individuals to use a template or a set of templates approved by the organization, as well as wizards and other tools to create or modify Web content. The format management feature allows documents including legacy electronic documents and scanned paper documents to be formatted into HTML or Portable Document Format (PDF) for the Web site. The revision control feature allows content to be updated to a newer version or restored to a previous version. Revision control also tracks any changes made to files by individuals. An additional feature is indexing, search, and retrieval.

A CMS system indexes all data within an organization. Individuals can then search for data using keywords, which the CMS system retrieves.Library Content Management Systems (LCMS) is a Web Content Management System. A web content management system (web CMS) is a bundled or stand-alone application to create, manage, store and deploy content on Web pages. Web content includes text and embedded graphics, photos, video, audio, and code (e.g., for applications) that displays content or interacts with the user. A web CMS may catalog and index content, select or assemble content at runtime, or deliver content to specific visitors in a requested way, such as other languages.

The Library Content Management software will allow for the digitalization and archiving of magazines, digital video and audio materials so that the users may annotate, analyze, evaluate and share materials.

And as it a Web CMS thus it have an online interface and thus can be accessed anytime and anywhere in a system that have internet connection.

This Library Content Management System project is exclusively designed for a university or college library wherein the main objective is storing of the scanned copies of all the magazines, journals, video tutorials, etc. which are subscribed by the library and then these scanned copies of the magazines will be made available to the students for accessing and reading, online on a dedicated Library Website for this known as LCMS website.

BASE IDEA.

This Library Content Management System project is based on the management of the contents and resources of a library. This Library Content Management System Software has been designed and developed to fulfil all the requirements and needs for archiving the resources of a library. Content Management System (CMS) is a computer program that allows publishing, editing and modifying content as well as maintenance from central interface. This Library CMS is used to run the official Library Content Management System website which will contain the articles, news, blogs and notifications about the library and its resources. This website enables the Library to avoid the need of hand coding and support it for specific elements or entire pages. It will enable the preservation of books and resources, provides security in case of disaster, as well as includes functions such as Web Based Publishing, Format Management, Revision and Version Control, indexing, searching and retrieval. The Library Content Management software, as a final product, will allow for the digitalization and archiving of magazines, digital video and audio materials so that the users may annotate, analyse, evaluate and share materials. It can be accessed anytime and anywhere

SYSTEM ARCHITECTURE

Use Case Diagram :
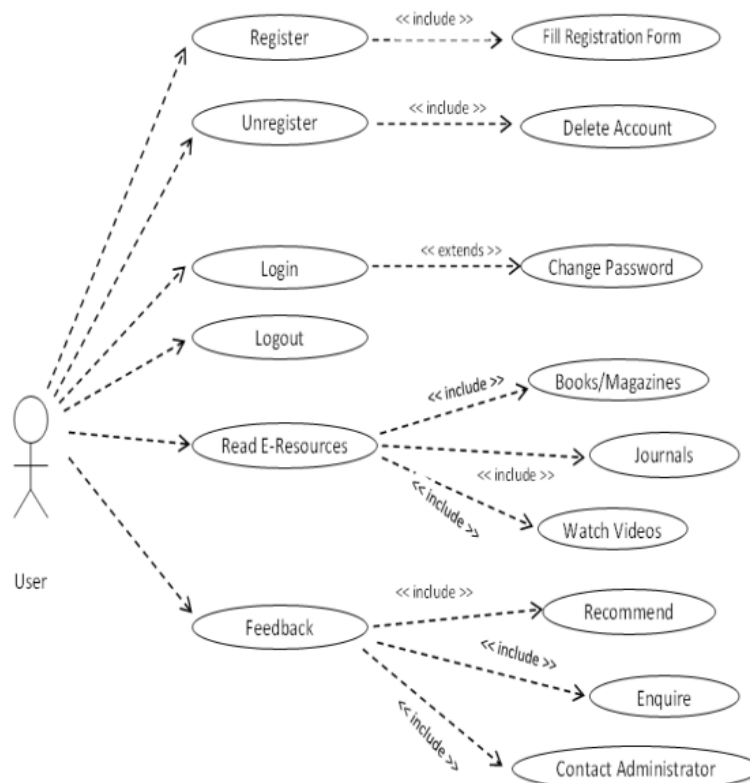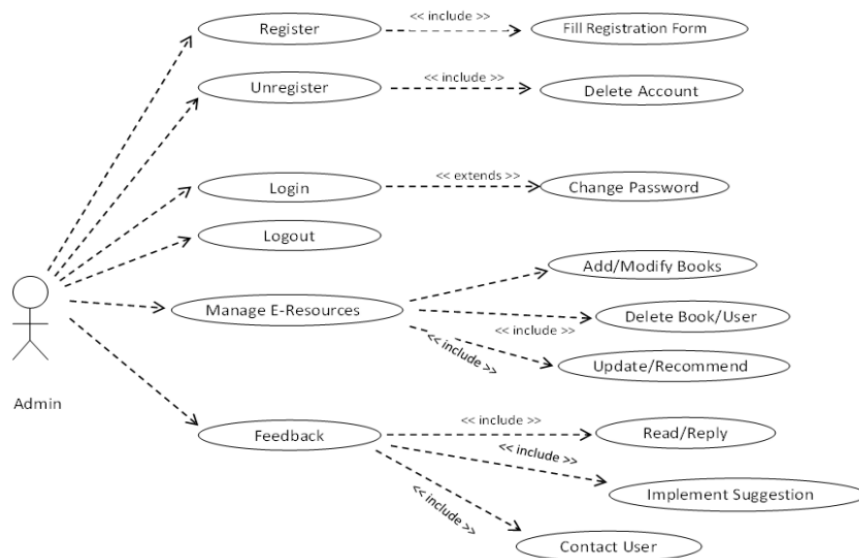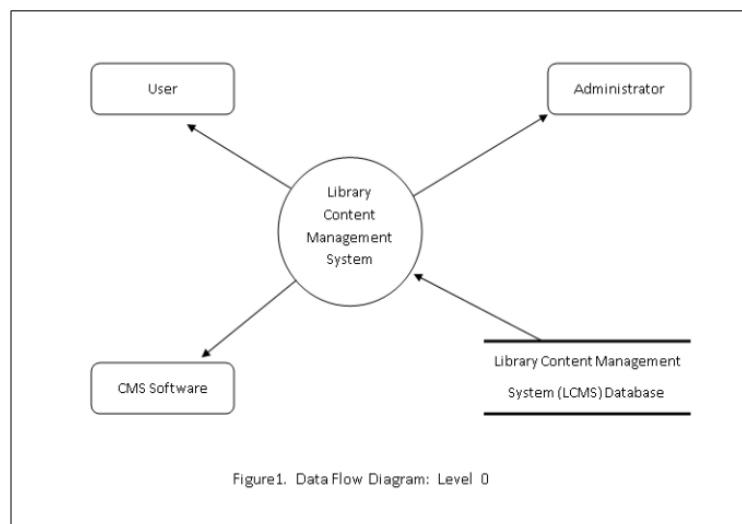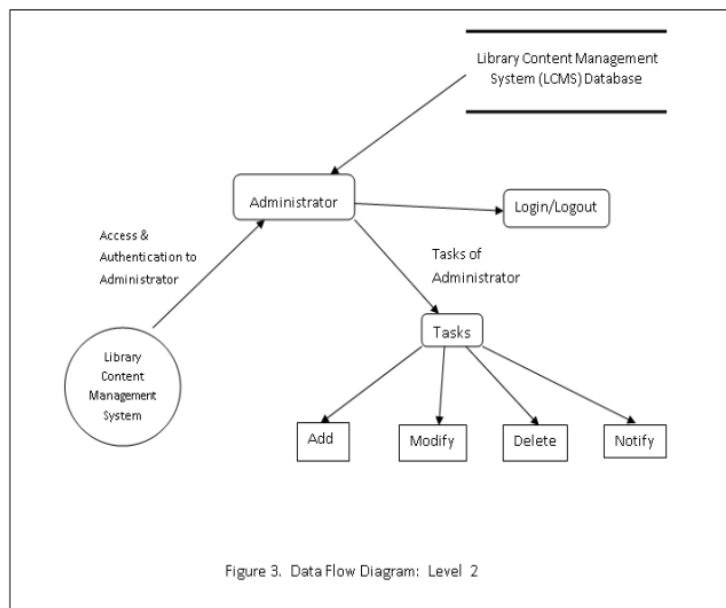

Figure : Use Case Diagram: User

Figure : Use Case Diagram: Admin

Data Flow Diagram:

Figure1. Data Flow Diagram: Level 0

Figure 2. Data Flow Diagram: Level 1
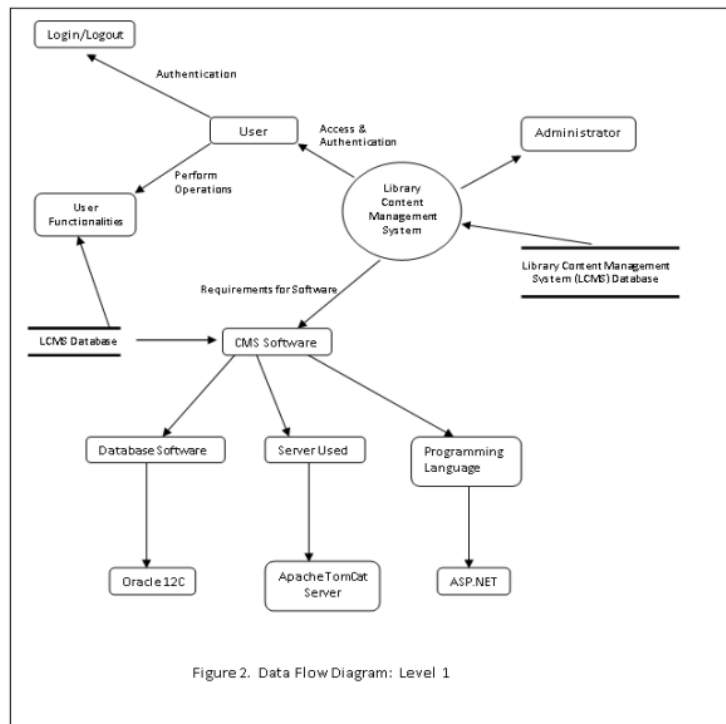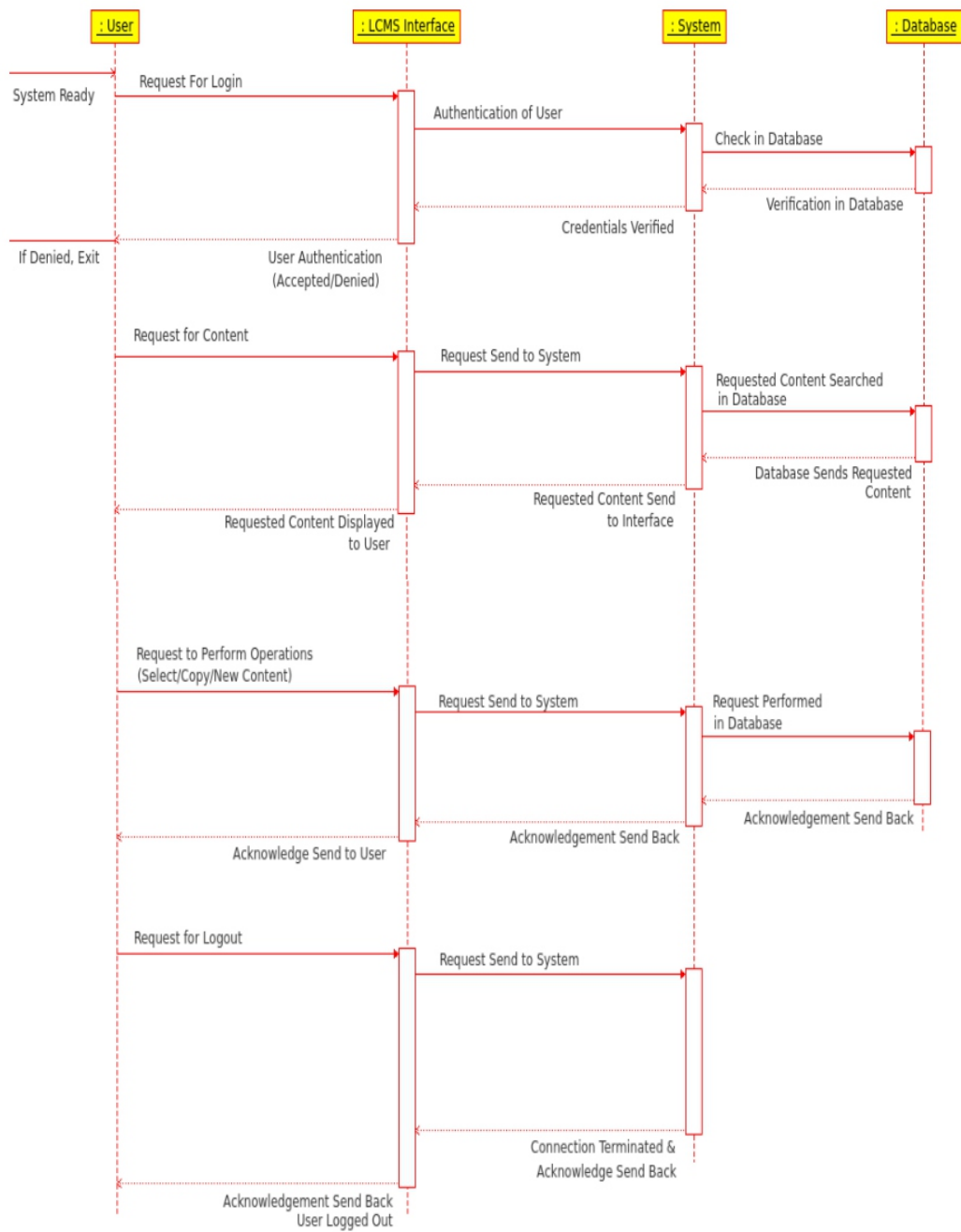

Figure 3. Data Flow Diagram: Level 2

Sequence Diagram:

:

Server side

The application needs centralized database for the purpose of location sharing. SQL Server was used for the database and C# was used for implementing server functions to modify these data as user demands. First we fulfil this need by using local server on Personal computer (PC) .For this purpose we used software named Microsoft SQL Server In this application, once a client sends its request over the network to the server, it is then up to the server to interpret the request and generate an appropriate response. The application's receiving end on the server is a ASP.NET page which is a regular HTML page with two elements added: First, the file's name ends with the ".aspx" extension, so that the web server knows that it should be interpreted specifically. Second, the file includes some server-side code instructions, such as getting the current date that the server should perform before sending the page to the client side. In the application's main menu shown to the user, lists of available layer names are displayed for the user to select. Once the user makes his selection, the client connects to the server and transmits the user's request parameters using GET/ PUT method, which fires the C# code execution on the server. The C# code is used to reach the database and form a dynamic HTML page with the data pulled out from the database. In the application, C# code mostly contains SQL statements to make the queries in the database. The resulting data is then sent back to the client. The communication with web server takes place over the TCP/IP protocol.

User Interfaces

Logic interface:

In case the user is not registered yet, he/she can enter the details and register. If he/she is already registered then it will ask for username and password. If the user either entered the username or password incorrectly, then an error message occurs.

Search:

The user can search the article or a particular magazine or journal according to the date of issue, particular article title, or the journal title, etc.

Admin Control Panel:

This particular panel will allow the admin to add the journal and magazine, confirm, add or delete members

CONCLUSION

Library Content Management Software will be a Web Content Management System and thus will provide an online and easy access to all the library for the users wanting to access the resources that are stored online.

Thus Library Content Management System Software has been designed and developed to fulfill all the requirements and needs for archiving the resources of a library.

Thus it will allow the digitalization and archiving of magazines, digital video and audio materials so that the users may annotate, analyze, evaluate and share materials.

It will enable the preservation of books and resources, provides security in case of disaster, as well as includes functions such as Web Based Publishing, Format Management, Revision and Version Control, indexing, searching and retrieval.

The students and professors will no longer have to face unavailability of resources and thus they can get an easy access whenever they want.

It will also come handy when the resources are used elsewhere for supervised learning as the user can

copy/print the desired articles/resources. Thus the users can save the articles of their area of interest for learning and research purposes. Library Content Management System will thus help the students and professors to a great extent.

By successful implementation of Library Content Management System, it will be very beneficial for those students who want to read magazines or journals but are unable to do so because of the unavailability of the same.

It will remove the main problem of unavailability of resources as all the resources will be made available online and the user can access the magazines anywhere and anytime provided he/she has a valid account.

FUTURE WORK

The scope for future work is wide open for the Library Content Management System. As the content management systems have a wide range of applications, we can implement these features of CMS to this Library Content Management System.

- In future we can expand this LCMS software and include wide range of features like:
- More features like advanced menu management, polls management, graphics modification tool, users' management
- Variety of content types like videos, polls, user management, text, blogs, podcasts, statistics, and others.
- Advanced users management
- Advanced Administration
- Features like blogging, sharing, recommendations.
- Features like uploading from user side.
- Development of Mobile and Android application for this LCMS

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Measurement of Performance through Selected Measures with Reference to Management Institution in Bangalore

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A B S T R A C T

Today, many libraries and information centers are operated like commercial organizations. it is very common in business corporations to evaluate their employees using quantity standards, that is, by measuring the number of tasks they finish within a certain period of time. Libraries serve as social and cultural institutions in the community. People tend not to see libraries as any ordinary commercial organizations. Performance Appraisal (PA) in this study refers to the process of evaluating the performance of academic libraries both conceptually and practically. PA has been a management topic covered by mainly library educators, personnel staff and library administrators. Its wide application in libraries and its influence on library employees, however, has made it a common concern of not only administrators but also librarians in general. The specified mechanism, including the evaluation objectives, participants, procedures, criteria, and rating scales etc., used to guide and regulate the evaluation, other terms used interchangeably with PA in the literature and this article include appraisal, evaluation, and review.

INTRODUCTION

In majority of management institution libraries are not having a exclusive libraries ore sharing the library services with main library of the institution and lack of staff members or staff with multiple duties is common in most of the libraries and some of the libraries are lacking in systems, automation. OPAC and others and moreover evaluation of library services is another complicated task since it is quantitative and qualitative task. So in this research the researched has made Ernest efforts to study the best performance measurement practices in management institutional libraries. Effective performance appraisal system is essential to ensure good management and good job performance, to assist in organizational personnel planning, to assess an employee's future and potential progress, to maintain control of staff productivity, to help with personal growth, to be an effective system of motivation, to assess an individual's strengths and weaknesses objectively, and to identify areas that need improving.

Libraries have initially tried to measure their performance by getting feedback from the students that is the customers in order to justify their existence and prove their value. However of late there has been a sea change among the librarians to provide the best possible services by keeping a renowned and well accepted librarary in the near vicinity of their respective institutions. It is in this context that the researcher has idenentified the statement as examining the work process and productivity of the a management institutional library against that of other libraries in order to enhance the performance by adopting or adapting the performance practices followed in the best

LIBRARIAN ROLES AND RESPONSIBILITIES

Positions and duties

Specific duties vary depending on the size and type of library. Olivia Crosby described librarians as

"Information experts in the information age". Most librarians spend their time working in one of the following areas of a library

I. Public service librarians work with the public, frequently at the reference desk of lending libraries. Some specialize in serving adults or children.

II. Reference or research librarians help people doing research to find the information they need, through a structured conversation called a reference interview.

III. Technical service librarians work "behind the scenes" ordering library materials and database subscriptions, computers and other equipment, and supervise the cataloging and physical processing of new materials.

IV. Collections development librarians monitor the selection of books and electronic resources.

V. Systems Librarians develop, troubleshoot and maintain library systems, including the library catalog and related systems.

VI. Archivists can be specialized librarians who deal with archival materials, such as manuscripts, documents and records, though this varies from country to country, and there are other routes to the archival profession.

VII. Electronic Resources Librarians manage the databases that libraries license from third-party vendors.

VIII. School Librarians works in school librariesand perform duties as teachers, information technology specialists, and advocates for literacy.

IX. A Young Adult or YA librarian serves patrons who are between 12 and 18 years old. Young adults are those patrons that look to library services to give them direction and guidance toward recreation, education, and emancipation..

X. "Media Specialists" teach students to find and analyze information, purchase books and other resources for the school library, supervise library assistants, and are responsible for all aspects of running the library/media center.

XI. Outreach Librarians are charged with providing library and information services for underrepresented groups, such as people with disabilities, low income neighborhoods, home bound adults and seniors, incarcerated and exoffenders, and homeless and rural communities.

XII. Instruction Librarians teach information literacy skills in face-to-face classes and/or through the creation of online learning objects. They instruct library users on how to find, evaluate and use information effectively. They are most common in academic libraries.

Additional Responsibilities
Experienced librarians may take administrative positions such as library or information center director. Similar to the management of any other organization, they are concerned with the long-term planning of

the library, and its relationship with its parent organization (the city or county for a public library, the college/university for an academic library, or the organization served by a special library). In smaller or specialized libraries, librarians typically perform a wide range of the different duties.

Representative examples of librarian responsibilities:
a. Researching topics of interest for their constituencies.
b. Referring patrons to other community organizations and government offices.
c. Suggesting appropriate books ("readers' advisory") for children of different reading levels, and recommending novels for recreational reading.
d. Facilitating and promoting reading clubs.
e. Developing programs for library users of all ages and backgrounds.
f. Managing access to electronic information resources.
g. Building collections to respond to changing community needs or demands
h. Creating pathfinders
i. Writing grants to gain funding for expanded program or collections
j. Digitizing collections for online access
k. Answering incoming reference questions via telephone, postal mail, email, fax, and chat.

RESEARCH DESIGN
The population is therefore made up of the 100 management institutional libraries. The sampling is enumerative as all members of the population were taken as subjects for this study. A five point Likert type questionnaire was used for data collection. Reactions to each item in the questionnaire were indicated by ticking one of the options in the category strongly agree, agree, neither agree nor disagree, disagree and strongly disagree. The scales were given values of 5, 4, 3, 2 and 1 respectively, however scoring was reversed for negatively worded items. The scores of the items were later added up to yield an individual's score.

The following techniques are used to derive the result
a. The simple percentage method
b. Weighted average score method
c. Average weighted average score method

Was used for data analysis. A total of 100 questionnaires were sent out to the respondents, out of which 0 were returned thereby representing a response rate of 100%. The research has following objectives such as understand the Growth of management institutional libraries, measure the performance appraisal practices at management institutional libraries and identify the best practices at libraries. The scope of the study is limited to the process adopted in management institutional libraries in Bangalore capital city of Karnataka State, and may not be applicable to other libraries. out of total management institutions in Bangalore offering BBM,BBA, MBA and other post graduate programmes in management areas has taken in to consideration and survey has conducted during June 2015 to January 2016

OBJECTIVES
1. Measure the preference of library services
2. Determine the accessibility to OPAC
3. Measure the OPAC ranking
4. Determine the Hardware availability in libraries

ANALYSIS
Preference about Library Services

Preference about Library Services

Sl.No	Library Services	Ranking					Total	WAS	Ranking
		1	2	3	4	5			
1	Circulation of documents	42	38	15	3	2	100	4.15	5
2	Reprographic services	35	32	13	10	10	100	3.72	10
3	Inter-Library Loan	36	34	15	10	5	100	3.86	9
4	Reference service	61	14	15	5	5	100	4.21	3
5	SDI Services	48	22	13	9	8	100	3.93	8
6	On Demand Literature Search	55	24	11	6	4	100	4.2	4
7	Access to e-journals/e-books	65	17	9	6	3	100	4.35	2
8	CD-ROM / On-line Database	67	23	5	3	2	100	4.5	1
9	News Clipping Service	61	22	9	7	1	100	4.35	2
10	Table of Contents	45	25	20	7	3	100	4.02	6
11	User Education/Information	44	24	20	8	4	100	3.96	7

Source: Primary Data

Preference about Library Services
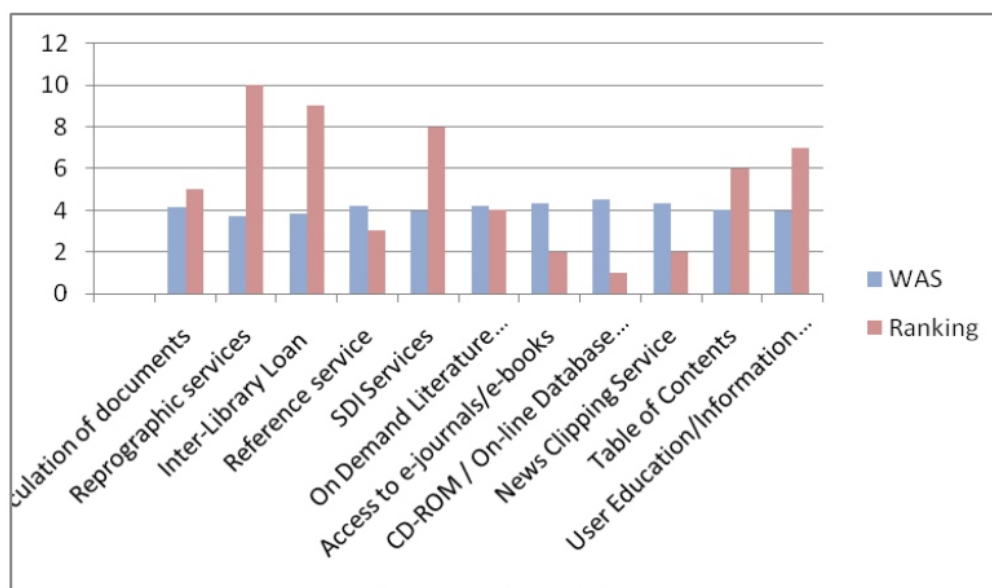
Source: Primary Data

Analysis and Interpretation : From the above table and graphs represents weighted average score and Ranking of the respondent's response on Preference about Library Services ,in which CD-ROM / On-line Database ranked first , Access to ejournals/e-books and News Clipping Service ranked second and where as Reprographic services ranked least out of total 11 services.

Access to OPAC

Sl.No	Library Services	Ranking					Total	WAS	Ranking
		1	2	3	4	5			
1	Access to your Library OPAC	51	20	9	16	4	100	3.98	6
2	Table of contents of journals	54	16	8	17	5	100	3.97	9
3	News Clipping Service	53	20	7	16	4	100	4.02	5
4	Gateway for giving access to e-journals	65	25	5	3	2	100	4.48	2
5	Inter-Library Lending Service	64	24	6	4	2	100	4.44	4
6	Documents recommendation for acquisition	65	23	7	3	2	100	4.46	3
7	FAQs	69	22	5	3	1	100	4.55	1
8	Documents Acquisition Leasts	45	25	15	10	5	100	3.95	10
9	Least of Current Journals/Holdings	46	24	15	11	4	100	3.97	8
10	Links to Documents Selection	47	23	14	12	4	100	3.97	7
11	Others	40	25	20	10	5	100	3.85	11

Source: Primary Data

Access to OPAC
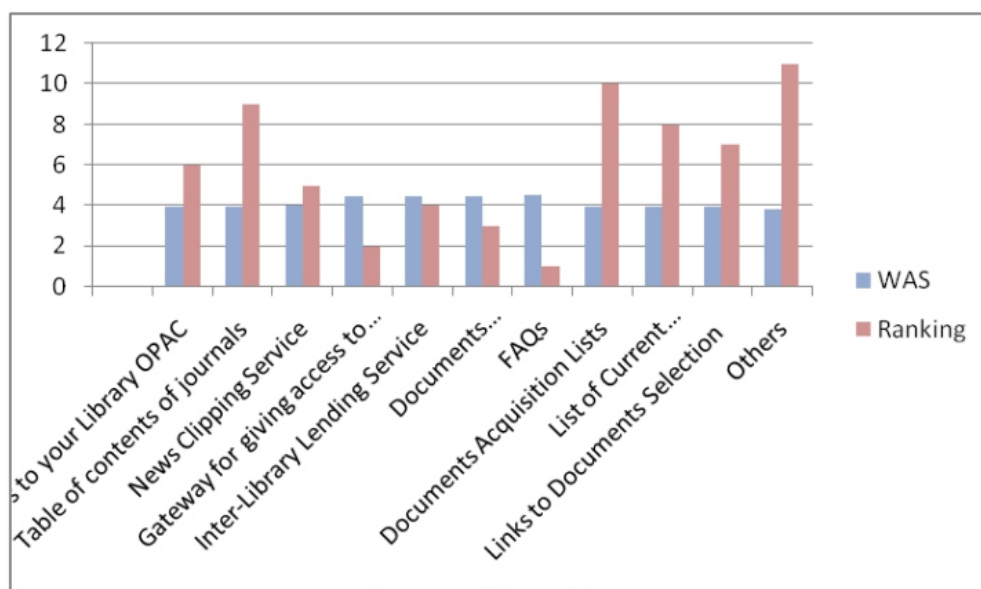
Source: Primary Data

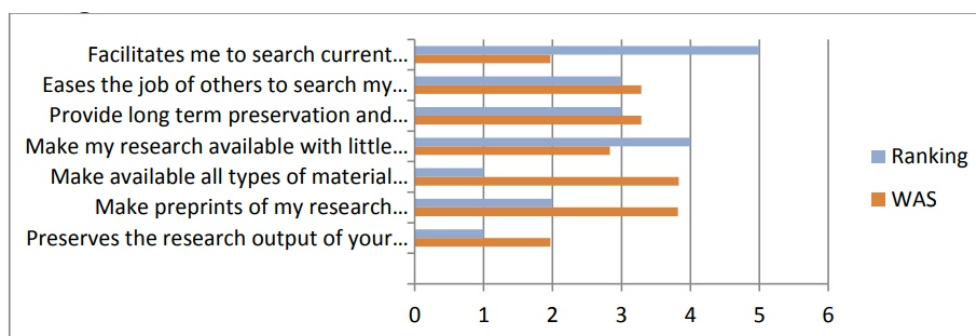**Analysis and Interpretation**

The above table and graphs represents the ranking of libraries services by respondents on web enabled information services in which FAQs ranked first with WAS of 4.55 and Documents Acquisition Leasts ranked 10 among the groups its shows that majority prepares FAQ services.

Rating of OPAC services

Sl.No	Database	Ranking					WAS	Ranking
		1	2	3	4	5		
1	Preserves the research output of your institute	34	20	10	10	7	1.97	5
2	Make preprints of my research available worldwide traditional publishers	20	37	23	16	4	3.82	2
3	Make available all types of material like datasheets, audio, video, images, etc	23	41	23	4	9	3.83	1
4	Make my research available with little effort from my	41	31	15	10	3	2.83	4
5	Provide long term preservation and access to my research	23	28	20	20	9	3.29	3
6	Eases the job of others to search my research publication	23	28	20	20	9	3.29	3
7	Facilitates meet to search current research	34	20	10	10	7	1.97	5

Source: Primary Data

Rating of OPAC services

Source: Primary Data

Analysis and Interpretation

The above table and graphs represents the ranking of Rating of OPAC services by the respondents based on above mentioned services of library, in which Make available all types of material like datasheets, audio, video, images, etc ranked first with WAS of 3.83 where as Facilitates me to search current research and Preserves the research output of your institute and thesis ,conference papers and standards ranked least among the other services.

Hardware availability in library

Sl.No	Activity System	No.of.Respondents	
1	Computer System	Pentium -I	10
		Pentium –II	15
		Pentium –III	25
		Pentium -IV	65
2	Total Computer systems		400
3	Servers		69
4	Driver	CD	94
		CDV	86
5	Printers	Dot matrix	24
		Inkjet	64
		Lasers	61
6	Total no of Printers		**149**

Source: Primary Data
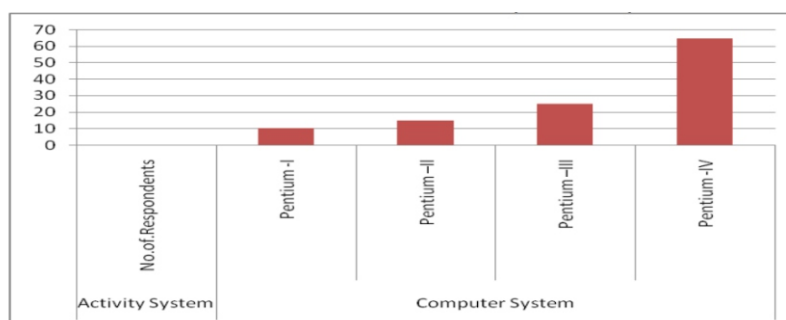
Hardware availability in library

Source: Primary Data

Hardware availability in library

Source: Primary Data

Analysis and Interpretation

The above table and graphs represents the response on Hardware availability in library In which 115 computer systems are available with following configuration like Pentium –I, Pentium –II, Pentium –III and Pentium –IV .

Observations:

1. 89 percent are having the Library committee and only 11percent of respondents are not having a committee in there libraries, it's clear that majority of them are having a library committee.

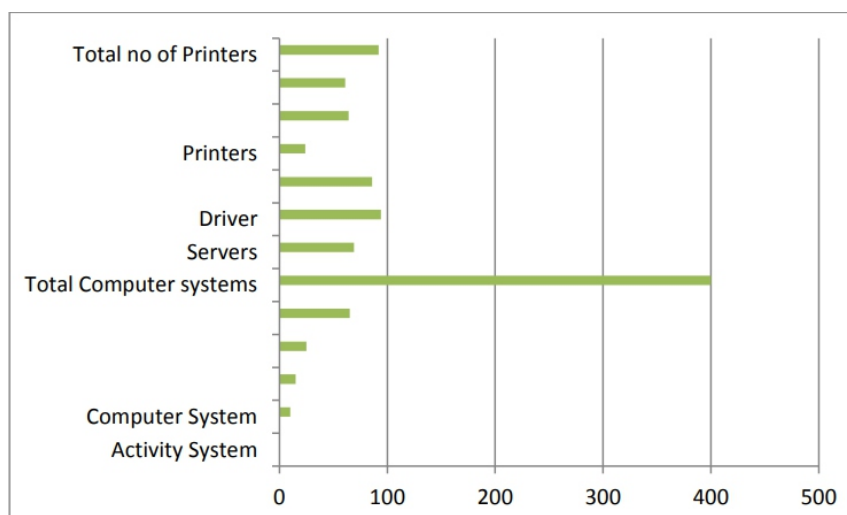2. respondents preference of resources by the type of documents shows that Books ranked first with 89% followed by Reports and Current periodicals/journals ranked 2nd and 3rd ranks respectively and other information sources ranked least with 25% response. Response on sources of library as per AIICTE and UGC norms ,in which 92 are having resources as per AICTE norms and 89 are having resources as per UGC norms so its understood that majority of respondents are having the library resources as per UGC or AICTE norms.

3. 40% HOD, 25% Faculty,10% each from Books selection committee and University authority and only 5% each from Research scholars and others .Acts as a Recommendation of Sources.

4. Regarding Journals 80% of respondents are purchase through Publishers in which 62% of Indian journals and 18% of Foreign Journals and only 20 % are purchasing from vendors.

5. In weighted average score and Ranking of the respondent's response on Frequency of Usage , shows that Daily Usage ranked first with WAS of 4.51 and Rarely usage ranked least with a WAS of 3.27and other resources like,Once a week, Once fortnightly, the response on materials interested for contribution shows that 30% of respondents prepares Reprints and 15%,11%,10%,5%7%,7%,9%,5%1% of respondents prepares Eprints,

Technical Reports, Lecture / Presentation, Images, Scholarly Publication, Conference Papers, Course materials, Data Sheets and others respectively.

6. 61 % of respondents are known to Open Access Journals and 29% are unknown to Open Access Journals and 71%,45% and 47% are known to respondents and 29%, 55%and 53% respondents are unknown to services like Archives, E-print Archives and Institutional Repository services respectively.

7. The ranking of Comments / Concerns about E-Resources by the respondents shows that Lack of infrastructure ranked first with WAS of 3.29, where Lack of expertise date base ranked least with a WAS of 1.97.

8. The ranking of Prefer to Search by the respondents shows that Other repositories ranked first with WAS of 3.29, Open Access Journals ranked least with a WAS of 2.65. 97..

9. The response on Library Automation in which 89% of respondents says that Library Automation work Started at their libraries and 11 % says that Automation work not yet started in their libraries.

10. The response on Year of commencement of above mentioned activity in library in which majority of activities are started during 200 to 2010 and where as around 20% of activities are commenced after 2010.

11. The response on OPAC Service in which out of 100 respondents 97% respondents had OPAC and only 3%respondents doesn't had OPAC services.

12. Time taken for processing book in which out of 95 respondents 57 respondents need 1 week , 28 need 2 week,7 need 3 week and 3 need 1 month time for processing books ..

13. Out of 100 respondents only 91% libraries had Photocopying services in which 94% are charging for the Photocopying services and 94% of respondents had Internet service/ wi-fi services out of which 99% are allowed to the users ,and 86% of respondents are providing Users education /orientation programmes.

14. The availability of Database search services in library shows that out of 100 respondents only 91%

libraries had Database search .

15. The frequency of Stock Verification services in library, shows that out of 97 respondents only 81 respondents verify the stock once a year.

16. Out of 100 respondents 82 are planning new services in libraries and 18 are not planned any new libraries.

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Praxis of Light Fidelity (LI-FI) and their Applications in Digital Library System: a Conclusive Approach

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A B S T R A C T

The prime objective of communication is the exchange of information. Due to the advent of nascent technology, we can easily explore new ideas and notions, these ideas have been implemented in different system design and format. Li- Fi serves as an alternative to WI- Fi in term of less expensive and more traffic handling capacity. Simple we can say that it is a new technique of transferring secured data using lights. Li-Fi provides transmission of data through illumination by sending data through an LED light bulb..Day-to-day routine, one of the most important activities in libraries is the transfer of data from one place to another and search information on the internet. In this article, author's tried to find out and exhorted the feasibility and applications of LI-Fi in digital library system.

Keywords: Li-Fi Transmission, Wi-Fi, RFID Tags, Light-emitted diode (LED)

CONCEPTUAL FRAMEWORK:

In library user come and want their needed information get soon, but everything is not available in print form so the user needs internet to search their required information. If users want to store and download all of our files, including documents, articles, scholarly work, movies, music, and pictures in a few seconds, the more they will need high bandwidth and tremendous speed. The use of the visible light spectrum for high speed data communication is enabled by the emergence of the light emitting diode (LED) which at the same time is at the heart of the next wave of energy efficient illumination. Li-Fi is a wireless optical networking technology that uses light-emitting diodes (LEDs) for data transmission. Li-Fi is designed to use LED light bulbs similar to those currently in use in many energy-conscious homes and offices.

However, Li-Fi bulbs are outfitted with a chip that modulates the light imperceptibly for optical data transmission. Li-Fi data is transmitted by the LED bulbs and received by photo receptor.(Suganya & Subhalakshmipriya, 2015). Light Fidelity (Li-Fi) is the latest 5G technology in wireless communication. It is currently becoming more popular as it overcomes the demerits of Wi-Fi and is more energy-efficient. The WiFi radio frequency range is insufficient as the number of users is increasing day by day. To meet this growing demand, the visible light frequency band is used in Li-fi. It makes use of LED (Light Emitting Diode) lights in order to transmit data at a much faster rate than through Wi-Fi that means, it uses visible light, instead of radio waves, from the electromagnetic spectrum and hence it is termed as visible light communication (VLC). VLC uses rapid pulses of light, which cannot be detected by the human eye, to transmit information. So it is very important technology for researchers and library users to save their time and download anything in a nanosecond through wireless communication as a form of Li-Fi. Li-Fi is similar to Wi-Fi. Unlike Wi-Fi, which uses radio waves as transferring medium, here we use visible light as the medium to transfer data. The most important problem in Wi-Fi is the security and data breaching in case of high secured data transfer there are various limitations like, one to one communication or need one authorized person to validate the secured data and is time consuming (Gowthami, 2017). Imagine a world where every one of the billions of light bulbs in use today is a

wireless hotspot delivering connectivity at speeds that can only be dreamed of with Li-Fi.

FEASIBILITY OF LI-FI TECHNOLOGY IN 21TH ERA:

A new era in wireless communication is soon going to hit the world that is Li-Fi technology which means light fidelity. This technology was proposed by Prof. Harald Hass, a German scientist, along with his team, including Dr. Gorden Povey, Dr. Mostafa Afgani at the University of Edinburgh. Hass, who discovered a method to transfer data through illumination which he called it as D-light (or LI-FI). LI-FI which is a very advanced version of WI-FI is, basically light fidelity which uses visible light communication instead of radio wave communication as in WI-FI. As speed of light is way faster than radio waves hence it can be used with a speed of around 250 times more than any high speed broadband (Sowbhagya & et al., 2016). "The scientist Harald Hass referred this technology as "Data through illumination". As compared to general broadband connection, this technology provides higher data speed than 10 Mbps which is much faster. Li-Fi is an OWC (Optical Wireless Communication) system which uses light from LED (light Emitting Diode), acts as a medium to deliver networked, and mobile, high-speed communication similar to Wi-Fi. Both Wi-Fi and Li-Fi transmits the data over the electromagnetic spectrum only difference is that WiFi utilizes radio waves whereas Li-Fi utilizes visible light. As the velocity of light is much large, hence due to this the rate of data transmission is more as compared to WiFi which uses radio waves for data transmission (Shrivas, 2015).
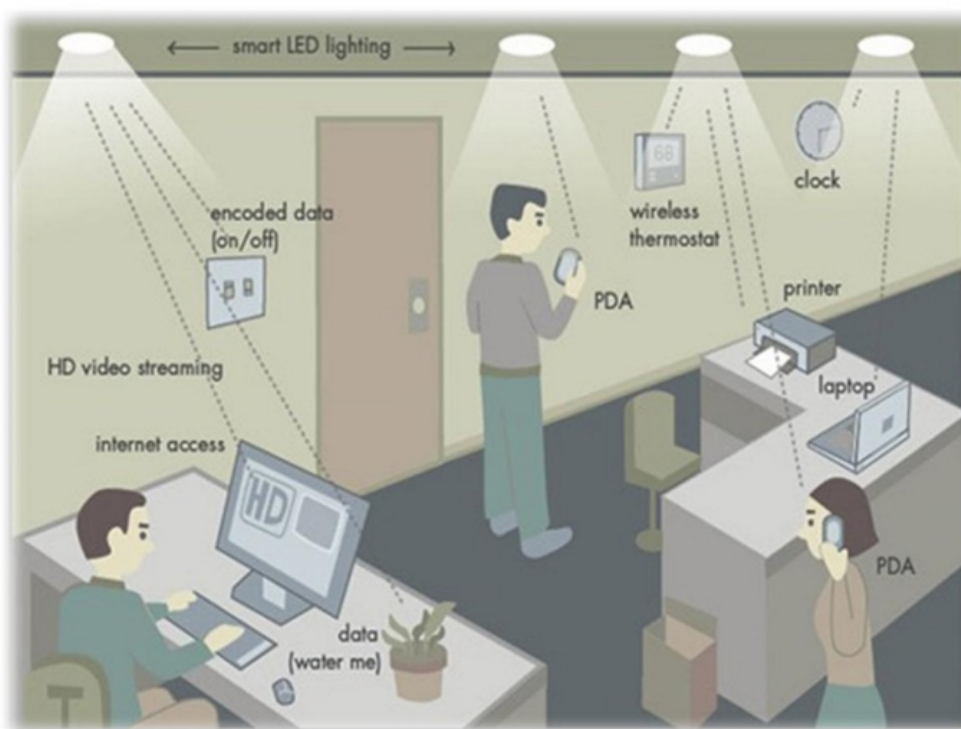
Diagram of Smart Li-Fi technology effect on various devices
(Source:http://ijariie.com/AdminUploadPdf/Review_Paper_on_Li_Fi__Light_Fidelity__ijariie2056.pdf)

EFFICACY OF LI-FI TECHNOLOGY IN DIFFERENT AREA:

Keeping in the view of Li-Fi and its applications, it is better use for including directional lighting, energy efficiency, intrinsic security, high data rate capability, signal blocking by walls and integrated networking capability. Each artificial light source in the application environment becomes a separate

data channel. These channels can supply different data into each separate pool of light, delivered at the full rated download speed for that channel (Shrivastava, 2016). Li-Fi can be used indoors for high density, more security, free unlicensed spectrums with a high level of radiofrequency (RF) noise and interference in the environment, such as, casinos, malls and coffee shops.

HOW IT WORKS
An overhead lamp fitted with an LED with signal-processing technology (*below*) streams data embedded in its beam at ultra-high speeds to the photo-detector. A receiver dongle then converts the tiny changes in amplitude into an electrical signal, which is then converted back into a data stream and transmitted to a computer or mobile device.
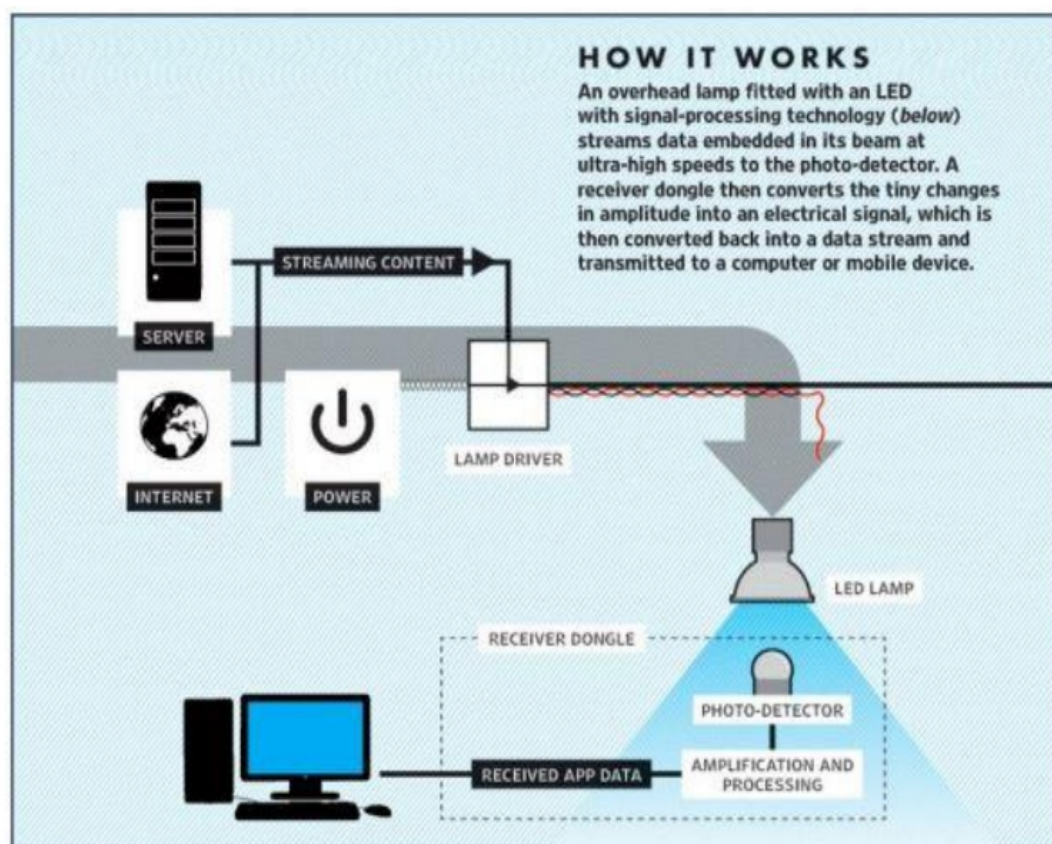
Li-Fi can be used in hospitals, particularly for new medical instruments, as Li-Fi is noise and interference free. Light sources are installed in aircraft cabinets in abundance; therefore, Li-Fi can be used for smarter aircrafts, where this technology will never affect or interfere with the navigational system of the aircraft. Li-Fi works perfectly well underwater unlike Wi-Fi. Therefore, it is possible to use it in underwater remote operations vehicle for rescues and exploring. As a pair, Li-Fi can be used for military operations in the underwater world.(Yuvaraj, 2016).

MAJOR PITFALL OF LI-FI TECHNOLOGY:
Despite its many advantages, Li-Fi like any other technology also comes with a number of limitations and disadvantages. These are enumerated below:

1) The main problem is that light cannot pass through objects, so if the receiver is inadvertently blocked in any way, then the signal will immediately be cut out. If the light signal is blocked one could switch back over to radio waves.

2) High installation cost of the systems can be complemented by large-scale implementation of VLC though adopting this technology will reduce further operating costs like electricity charges, maintenance charges etc(Sowbhagya & Al., 2016).

3) The services of Li-Fi can be availed only in the presence of direct light source since visible light acts as a data carrier here.

4) Light coming from other sources other than the intended light source will disrupt the signal. This is one of the major drawbacks. Even sun rays coming from outside will affect the communication (Chakraborty

& et al., 2017).

5) One of the major disadvantages is that the artificial light cannot penetrate into the wall and other opaque materials which radio waves can do. Hence, we cannot transfer the data from one enclosed room to another one. Li-Fi is not able in the works in direct line of sight(Shrivas, 2015).

APPLICATIONS OF LI-FI IN DIGITAL LIBRARY SYSTEM ENVIRONMENT:

In the digital library we have seen that collection of data that are globally available through network computer, but sometimes books are mangled in a library and not properly arranged in a systematic manner. If we use Li-Fi technology in the libraries, then all the work will be easy and fast because the speed of Li-Fi is relatively hundred times faster than the standard Wi-Fi download speeds. Li-Fi works by trapping the intensity of light for communication and the light is diffused so fast that it is not noticed by the human eye. Keeping in the view of Li-Fi technology, books can be assigned with a transceiver of LI-Fi which is operated by the phone and gives all the details of the book such as price, ISBN, author name, place, publisher. The user just has to stand near the section of the book and type the book name, the book transceiver will automatically give details of the respective book.This blatant method can also used to track some misplaced books in a library and reduced time and manpower. Some other LI-Fi applications are high data capability, energy efficiency, intrinsic security, integrated network capability, Disaster management, Traffic management. Apart from that Li-Fi can be used for smart library building in future and ERNET india has initiated Li-Fi pilot project and explore development of open source general purpose platform.

Li-Fi has awesome potential in case of circulation desk. LED light bulb will able to scan particular details through binary codes instead of RFID tags. Li-Fi technology can be used such that instead of going into the seminar halls for parents meeting and other purposes, the information will be directly sent by use of Li-Fi technology to the parents or the particular person.(Shah & et al., 2017). Li-Fi technology that it will be accessible to the common citizens in near future. It will be beneficial to most of the research works, underwater/underground research and communication, medical science and even in military sectors for its aid in secured communication. A great change in daily life on every aspect will happen if Li-Fi technology replaces Wi-Fi and other broad band networks.(Chakraborty & et al., 2017).

CONCLUDING REMARKS:

No doubt smartphones and data centers will be the most damaging information and communications technologies for the environment, but we are availing with the recent development of information technology and used in our system. We are advancing in technology and adapting to a new life style. Li-Fi is the best option and we should replace with Wi-Fi technology. RFID system is to carry data in suitable transponders, generally known as tags and to retrieve data, by machine readable means, at a suitable time and place and to satisfy particular application needs. Li-Fi is rapidly emerging as a powerful wireless networking and it will be help in tracking of books in stock verification process. Technology world we admitted that there are so many technical hitches, but we tried to explore the new ontology based system and theory. In concluding remarks we should not be dejected and believe the theory of the survival of the fittest.

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The Identification of Student's Behaviours of Digital Amnesia Syndromes and Google Effect in the Department of Library Sciences, State Islamic University of Ar-Raniry – Indonesia,

Nazaruddin Musa1 and Mohd Sobhi Ishak2

A B S T R A C T

Scope: The rapid change of 21st century information and communication technology has influenced the behavior of information seekers among the Internet generation. This change has revolutionized the way businesses are operated by using internet applications that unconsciously produce high dependency. This dependence is believed to have a connection with the emergence of Google Effect and Digital Amnesia syndrome. In academic practice, where information technology is an important component, technology has also changed user behavior and interaction. Therefore, this trend invites deeper research to investigate the effects and behavior of this new technology-culture phenomena.

Objective: This case study was conducted to determine the behavior of students' syndromes due to Digital Amnesia and Google Effect as a result of long exposure to technology in their studies in the Library Science Program at Ar-Raniry State Islamic University, Indonesia.

Method: This paper presented the results of a survey study that identified 110 behavior syndrome students from digital Amnesia and Google's effects. To understand how the syndrome radically affects student learning; the data presentation was in the percentages distribution from the statistical application of SmartPLS3.2.9, quantitative data analysis commonly used in quantitative study.

Finding: Results revealed that the Google and Digital Amnesia Effect syndrome were experienced by the majority of participants. The majority of students (70%) claim to be more dependent on smartphones than ever before. About 84.5% of students use a smartphone as a reminder while 70.9% state that by transferring their memory to a smartphone. They feel their concentration is more increased when the device is with them. Then 78.2% of students stated that smartphones can help them understand lessons better, and 51% of students felt more motivated to answer questions and 59% expressed more confidence to discuss new things when smartphones existed. Interestingly, even though 73.6% of students felt confused with too much information and 78.9% were annoyed with many hyperlinks. Therefore, the authors still believe that the phenomenon of dependence on Internet use in the form of Google Effect and Digital Amnesia syndrome is a normal phenomenon in the technological-cultural era, respectively 69.1% and 88.1%.

Conclusion: These findings indicate that the Google Effect syndrome, and Digital Amnesia are global syndromes that occur every millennial generation that has a significant influence on studying such high dependency. So this finding is very useful for those who see technology with an impact on learning, especially universities

Keywords: Digital Amnesia, Google Effect, Syndromes, and Information Seeking

INTRODUCTION

The adaptation of digital technology in 21st century learning practices has not only revolutionized educational goals such as gaining certain core competencies but has also influenced various psychological behaviors of students (Collins & Halverson, 2018; Brynjolfsson & McAfee, 2011; De Freitas, Morgan & Gibson, 2015) . This digital technology makes it possible to revolutionize learning

learning practices from conventional use to digital. Therefore, this technology is increasingly popular among students who are born and live as digital natives. This happens because learning in

this digital day is mostly done in various models of information technology such as social media, network games, mixed media, and smartphones (Kuss & Griffiths, 2017). Using social media for example, learning is now more fun because it connects more people with more information even globally. As a result, more and more social media users are engaging themselves with opportunities to enhance their learning with people who have the same interests and priorities in learning.

More education institutions are now aware that the important of effective media to improve learning results as they are allowing students to access a large numbers of contents using handy technology. This is in line with online literacy promoting the sophisticated strategic ability to find information, organize and manage, and creating new knowledge. Apart from positive results, many studies have proven that too much exposures a screen it also can result technology-culture syndromes such as vision problem, strained, eyes, neck and others (Lourenco, 2019). Other recent studies revealed that a huge influences on multiple impacts on digital generations especially the one that rely the memory to online technology (Anderson & Rainie, 2012).

Therefore, this phenomenon is not only resulting efficiency but also effecting syndromes that can even drop the academic achievement.Because digital technology services are created for many purposes, users need to know not only positive things but negative results. It should be made aware that the digital generation, technology is not only to enjoy luxury, infotainment, build relationships, social networks, but also to produce increased information and knowledge. When these functions are not properly communicated, dependency on this online network device can potentially be unhealthy behavior. In other words, applications cannot be handled carefully, their presence can affect psychological disorders. As a result, further research needs to investigate digital native experiences when exposure is high with internet tools. For this reason, the aim of this project is to identify student behavior from digital amnesia and Google's syndrome effect using technology during their studies.

At present, the majority of academics who are actively involved in digital utilities are higher education students. They instantly become a digital generation that is constantly working on big data on the Internet that enriches their learning. Then gradually they become individuals who depend on free online information (Van Deursen & van Dijk, 2014). Meanwhile, Ahn, Jun, & Kim (2015) believe that this dependency is to have a connection with the emergence of Google Effects and Digital Amnesia Syndromes. Although in business practice this phenomenon is considered harmless or as a consequence of life in the technological-cultural era. However, in an academic context where technology is a vital component, the behavior of this syndrome is seen as something that gets serious attention.

Techno-cultural phenomena usually experienced can be seen in two aspects; digital amnesia which refers to information that is ignored by storing it on a digital device provided or the information can be accessed again through an online network whenever needed (Kaspersky, 2015) and the phenomenon of Google's effect is that users do not store information in the device in their own memory because they believe that they will always be on Google search whenever needed (Sparrow et al., 2011b). The phenomenon of memory transformation is actually not new in the history of human life. The behavior of sharing memory with close people or partners has long been practiced, which is scientifically known as the Transactive Memory Theory developed by Wegner. The premise of transactive memory is effectiveness and efficiency. In other words, this theory believes that it is impossible for people to remember everything they need to share memory with a device (Wegner, Raymond, & Erber, 1991).

In addition, high confidence in technology also has implications for the decline in human memory, especially for smartphones. Previous studies to test the impact of people's trust in technology where participants were tested to read and remember questions easily remembered. Some participants were asked to save facts on the computer while others were told that their notes could not be saved. Some

participants from each group were asked to recall the information. The result is that participants who believe in computers have saved their work but experience worse memory loss than participants who believe data is not stored on the computer (Sparrow, Liu, & Wegner, 2011b).

To this day, dependence on smartphones is also increasing. (Han, Kim, & Kim, 2017). conversely the level of anxiety of people getting higher if away from smartphones with some negative effects and addictions. Therefore, this phenomenon of technoculture is increasingly gaining global attention on how the syndrome resulting from Digital Amnesia and the Google Effect is suffering from millennial students at the university. Because this is a global trend due to excessive use of smartphones, more studies on including Indonesia have not been able to show more anticipatory hazard characteristics, so it is deemed necessary for this study to identify the effects and syndromes of both information and communication technology applications in modern times.

METHOD

The Library Science Department Students of State Islamic University of Ar-Ranirry were involved in online survey using the Whatsapps application group. They were about 110 people (17%) of students registered to answer the question on their behaviors of digital amnesia syndrome and Google effect and how the they perceived this phenomenon. The sampling technique was carried out by random for 5 days. After survey was completed, the data was analyzed using the statistical application AMOS under quantitative method. To illustrate how student's behaviors andsyndromes after radically exposed in today's techno-cultural learning in higher educational environment, the case study presented identifying students behaviors.

RESULT

• Digital Amnesia among Students

The syndromes of smartphone owning among students are very high proving by 96.4% of participants bringing smartphone at all the times for communication and information purposes. They answered survey question, "I take my smartphone with me wherever and whenever I go to access whatever information I need instantly"

Key findings: up 70% students were highly dependent on their smartphones for study and

96.4% always carry smartphones, 84.5% of smartphone is for reminders, 70.9% is for memory saving and concentration, 73.6% was confused with content overload, 78.9% disturbed concentration with hyperlinks, 51% felt more motivated to study, 59% felt so confident in discussion, 78.2% helped understand learning material, and 59.1% perceived those digital syndrome and effect as a normal phenomenon.

The next trend is smartphone dependency phenomenon. These psychological aspects among students were also reised up with 39% of students felt panicked as their smartphones are lost with data stored in. In contrary, there is 10.7% felt calm over losing the smartphone as they put that information in their own brain. About 39% students choose question "I am more depends on smartphone now...While 34% students choose survey question as, "I depend more on smartphone now". The rest participants (24, 5%) choose the question, "I am okay before and now".

This findings revealed that having smartphone for students do not only for communication and information reason but also as smart friends for transactive memory (Cherkaoui & Gilbert, 2017). The tendency to store memory digitally is generally for effectiveness and efficiency option as its capacity for memory storage and information recall whenever needed. Refer to data obtained, 89% of students put

trusted on their smartphone for helpful reason of memory in wide range of information. These 89% students put their option on this survey question, "I trust my smartphones to store data that I cannot do with my own memory"

• Google effect among students

The fact that Google has taken important part in modern education in enhancing educational efficiency, effectiveness, and productivity benefiting all academic communities (Chen et al, 2011). However, when the information is a big amount and learner memory may decrease as the Google risk. Such this negative influence on the learning brain, Durodolu (2016) supported that the Studies done on the Google negative impact done by the British Research Commission Library was also noted that the input heavily with large information is a major problem on students learning memory lowing achievement.

Today's academic has integrated digital technological information into their course so that can accessed content from the Google search engine for various purposes. Due to the high quality and credibility of information is difficult for academic to assess; the Google Effect symptoms are quite high among students. The bar chart shows how these symptoms are experienced by students in my workplace. There was 44.6% put option of survey question was searching the information directly on the Internet. About 41% tried to recall their memory. The rest 8.9% consulted with trusted friends, and only 5.4% preferred library.

When asking students' perceptions about their involvement in new technology for learning, The answer is increasing compared to before. This trend is a consequence of the development more applications useful for learning. They generally consider their involvement in new media technology in the digital era as normal. In fact, Google Effect and Digital Amnesia are ordinary phenomena that are relatively harmless. The description of this question can be seen from the perception of students (62.1%) stated that phenomenon is normal. While the students' perception on the Google Effect phenomenon is slightly lower than the Digital Amnesia phenomenon, which is 74.1%.

DISCUSSION

In business context, the phenomena of digital amnesia are considered normal, it only brings impact to business rather to people. However, in learning context, it seem so complex that needs a deeper identification as it can effect motivation and ending up low achievement such as high dependence on technology can weaken the students brain and taking action independently. This syndrome of using much technology becoming students needs for information and communication supporting their courses.

Therefore, it will be the problem when uncontrolled utilizing of the technology ranging from problems of addiction, abuse, to dependency.Even there is no specific evidence of the correlation between too much use of technology and the level of literacy drop, the report done by Global Education Census 2018 survey was that Indonesian academics have brought smartphone and other devices in courses higher than many other academics. Other evidence also mentioned that more students are the top uses of ITC higher education courses (M. Q & Hussin (2010). This evidence is important to review as there is a contradiction between the high level of internet penetration by adolescents and the low level of literacy in Indonesia's digital generation.

CONCLUSION

Although these findings indicate that the syndromes of Google effects, and digital amnesia are global phenomenal, not harmful, further longitudinal research needs to be done to assess long- term effects, especially to assess whether high dependence on smart technology will strengthen or weaken students learning ability of the their brain and taking action dependently because the brain and memory are rarely

activated.

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