INFORMATION OVERLOAD AND RESEARCH PRODUCTIVITY OF LIBRARIANS AT UNIVERSITY OF ILORIN LIBRARY

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ABSTRACT

The study investigates information overload and research productivity of Librarians at University of Ilorin Library. A descriptive survey research design was adopted with 24 academic librarians as the population of the study in which a total enumeration sampling technique was used and questionnaire was the major instrument used in collection data. Data collected were analyzed using simple percentage and frequency count. Based on the analysis made, the study found that the majority of academic librarians can identify the need for information, evaluate and access the sources of information. The project reveals the effect of information overload and research productivity of Librarians at University of Ilorin Library in which majority agrees that information overload leads to research difficulty, decreases decision accuracy, leads to research duplication and improves research quality. The study found the major causes of information overload are too much of information and multiple sources of information. The study also found the major challenges of librarians in accessing information at University of Ilorin Library which are: lack of ICT skills, lack of information retrieval skills and insufficient training education. The findings of the study reveal that information overload improves their research literacy, broaden their knowledge, gives them variety of choice and enhances their research output. The study discusses more on the harms of information overload and the need for information literacy skills to evaluate relevant information from irrelevant. The study recommended that effort should made by academic librarians towards acquiring standard information literacy skills, proficiency in ICT and developing a virtual reference search gateway (blog/website) that make available current information materials virtually to researchers.

INTRODUCTION

1.1   Background Of The Study

The growth of information and the dependency on it has paved the way for the information society and subsequently the knowledge society. Information has always been a prime factor for the development of society and is often regarded as a vital national resource. Information in the digital age has been indispensable to every aspect of discipline in the world. Information has its way and act of ensuring all and sundry in nooks and crannies of life to be aware, informed, guided and directed in their various disciplines. The world of knowledge is the world of information. Information is life and paramount to mankind as information leads to knowledge. The present world we are revolves around information. Information has become important part of lives and should be available when needed. The advent of information technology is a primary reason for the abundance of information with which humans are inundated, due to its ability to produce more information more quickly and to disseminate this information to a wider audience than ever before. It is no longer news that Information and Communication Technologies (ICT) are having pervasive influence on all sectors of the global economy. The emergence of ICT has in one way or the other revolutionized traditional approach to information access. Technology enabled to information at your fingertips which has duly caused the amount of information to grow increasingly (Manjunathan, 2007).

Information Communication Technology (ICT) has played a pivotal role for the emergence of information overload. The study estimates that almost 800 megabytes of stored information are produced per person per year (Lyman & Varian 2003).

We now live in the era of information explosion and the digital revolution that changed a lot in the world has seen in recent years major changes as a result of rapid technological developments in

different aspects of life, where they become dependent on information technology and knowledge (Essays, UK 2018).

Information explosion is a term that describes the rapidly increasing amount of published and the effects of this abundance of data (Wikipedia 2008) as the amount of available data grow, managing and accessing information becomes difficult. Information overload has implications on the environment in which we live especially in academic world.

Christian et al (2003) agrees that as a result of information explosion, we are experiencing a state of "Information Overload". When there is too much information to digest, a person is unable to locate and make use of the information needs. Information Overload can therefore be seen as a state in which the volume of information available hinders its usefulness to the individual.

Information Explosion has and will continue to greatly impact on schools and the society in a more negative than positive way. This is so because as Badke (2010) agrees that students are limiting themselves to finding the easiest rather than finding the best information for their research. When a student or researcher, types in their search word or topic in Google and receives 97,500,000 results. Do they go through all? No! Most if not all start with the ones they see, first, and most times stop right there. So much information slows down a student, worker, researcher etc. because it is proven wearisome to go through the abundance of material. Badke also states that Information explosion hampers creativity as persons quickly can source something on the net and duplicates it due to laziness and the availability of it. On the other hand Information explosion gives us a variety of choice.

Odediran (2001) pointed out that research is a science of knowledge through investigation that is concerned with the systematic way of finding information on an issue, subject, or object. Research

is said to be continuous in nature that students are expected to be conversant with the systematic approach to investigating an issue.

Basically, Productivity is the relationship between quantities of output and quantities of input. (Phillips 1990).

Today, there so many research articles and scholarly publications which has in one way or the other negatively or positively influences research output or productivity of researchers. The amount of information available to us is growing exponentially. At the Techonomy Conference in August 2010, Eric Schmidt, CEO of Google at the time, said that people are nowadays generating as much information in just two days. In mid-2008, Google announced that the number of unique URLs in its databases had exceeded one trillion. There is a rapid increase in the production rate of new information and ease of duplication and transmission of data across the Internet which causes information overload and either positively or negatively influences research productivity. Satisfactions derived from the numerous information gotten are highly rated or not. Hence, information filtering and evaluation of relevant information becomes a stress or problem as it also gives room for researchers to have choice of selection varieties of information available. The study tends to examine the positive and negative factors attached to information overload o n research output of researchers.

1.2   Statement Of The Problem

The exponential amount of information in circulation today has caused information overload. There is a daily explosion of information and challenges of using, accessing and evaluating effective and quality information for good research output. This research investigates the lack of information literacy skills and how it affects the research quality, research productivity of Librarians at University of Ilorin Library. The study also highlighted the influences, effects and

challenges of information explosion on research quality. The study concluded by discussing possible solutions to various challenges of information overload on research productivity.

1.3   Objectives Of The Study

The main objective of this study is to investigate the influence of Information Overload on Research Productivity of Librarians at University of Ilorin Library. The Specific Objectives are to:

I.   To determine the level of Information Literacy Skills of Librarians at University of Ilorin Library.

II.   To access the effects of Information Overload on Research Productivity of Librarians at University of Ilorin Library.

III.   To investigate the causes of Information Overload of Librarians at University of Ilorin Library.

IV.   To determine the currency of Information Researched by Librarians at University of Ilorin Library.

V.   To determine the challenges faced by Librarians in accessing Information at University of Ilorin Library.

VI.   To determine the Satisfaction derived from Information Overload by Librarians at University of Ilorin Library.

1.4   Research Questions

I.   What are the Level of Information Literacy Skills of Librarians at University of Ilorin Library?

II. What are the effects of Information Overload on Research Productivity of Librarians at University of Ilorin Library?

III. What are the causes of Information Overload of Librarians University of Ilorin Library?

IV. How current are Information Researched by Librarians University of Ilorin?

V. What are the Challenges faced by Librarians in accessing information at University of Ilorin Library?

VI. What are the Satisfaction derived from Information Overload by Librarians at University of Ilorin Library?

1.5   Significant Of The Study

Result of this study could educate Librarians and Students on Information Literacy Skills to determine the effective information for good research productivity. The study also reviewed the need for effective use of relevant electronic resources, information technologies, databases as best tools for Librarians to use in assisting educational researches and students in this age of information overload. The result of this study could equally serve as useful guide for Library and Information Science Researchers to determine current and up-to-date information to better derive optimal satisfaction from information overload for good quality research of Librarians at University of Ilorin Library.

1.6   Scope Of The Study

This study is limited to Academic Librarians at University of Ilorin Library in other to facilitate an in-depth study and examination of Information Overload and Research Productivity of Librarians at University of Ilorin Library.

LITERATURE REVIEW

There are many definition of information overload. Information overload happens when a person receives too much information and the information load confuses them, affects their ability to set priorities, or make prior information harder to recall. When the quantity of relevant and potentially useful information exceeds personal information processing capacity and becomes a load rather than boon, we are talking about information overloading. As the role of information grows beyond anyone's reckoning, it grows to be too much. So people deals with information fatigue, anxiety or glut. (Gleick, 2011).

Due to the abundance of information all around us, we have developed shorter attention spans, shallow thinking, memory difficulties and multitasking, and that doesn't always increase productivity (Carr, 2011), (Purcell et al, 2012).

According to Renu Arora (2017) Information overload refers to an excess of incoming information that forces one to be selective in the information received and retained. With the advent of modern technologies, the ability to create, duplicate and access vast amounts of information has created information overload for the information organisations and information users.

Information overload has been blamed for the current problems facing librarians and information scientists in handling and utilizing the information. Modern information technology has made it possible to place much of the accumulated knowledge of the human race within reach of a man's fingertips, so to speak. But the capacity of executives, scientists, and scholars to absorb information has not increased. Therefore, as the amount of available information grows, there is a parallel need for a more precise capability to retrieve specific data in any area of interest. The

academic world is now confronted with having not too little but too much information available. Librarians and archivists are also feeling the effects of the publication explosion. They are overwhelmed with book catalogs and ever growing size of *Publisher's Weekly*. Most of the library and information science literature tends to concentrate on handling the flood rather than damming (damning) it. One factor that provides evidence that the explosion is really not a flood of *new* information is the extent to which much of what is written is redundant (Henry Voos, 2018).

In the early years Information Overload began to be noticed as major problem. From a system point of view, information overload (IO) takes place when the amount of input to a system exceeds its processing capacity. It may be perceived as when the flow of information is more than what can be managed effectively. In other words, IO occurs when one is presented with an amount of information that exceeds one's cognitive capacity. The causes of Information Overload are multiple and complex. We receive a tremendous amount of information everyday ultimately leading to an extremely shortened attention span due to information overload. Our average attention span decreased from 12 seconds by 2000 to 8 seconds. This is very alarming; it is currently less than the 9 second attention of an average goldfish (Maybin, 2017).

Information overload is shaping people's thoughts and affects their capacity for concentration constraining them to absorb information altogether. Therefore, users develop coping mechanism to consume as much information in as little time as possible (Carr, 2008).

Recent technology has facilitated the exponential rate at which information is generated, and has also allowed us access to much of it. However, there are other reasons for experiencing information overload. Obviously, Information Overload is caused by too much information and has been categorized differently as the amount of information one has to deal with daily is vast and

enormous. it is important to remember that information overload is usually the result of a combination of overlapping factors and not a single one.

Information Literacy (IL) is the process of knowing when and why information is required, where to find it, and how to evaluate, use and communicate it in an ethical way. It is the combination of all the skills that are required for the effective and maximum use of information. The term information literacy has been used as collective term covering all or several of literacy's, viz., computer literacy, digital literacy, hyper-literacy, information technology literacy, interactive literacy, Internet literacy, library literacy, media literacy, multiple literacy, network literacy, oral literacy, and visual literacy etc. These illiteracies need to be developed and maintained throughout life, not only by information users, but also by librarians and other information workers.

This information explosion has implications to the environment in which we live, to the work place, the academic world, and our own peace of mind. Christian et al. (2003) agrees that as a result of information explosion, we are experiencing a state of "information overload". When there is too much information to digest, a person is unable to locate and make use of the information one needs. Information overload can therefore be seen as a state in which the volume of information available hinders its usefulness to the individual.

Information overload has adverse effects on the individual. Winkle (1998) has identified the following problems associated with information overload: Damaged health; Bad judgment; Information anxiety.

According to Winkle (1998), studies have linked both decreased vision and cardiovascular stress to information overload. Besides, overconfidence in information sources or the opposite has resulted in bad judgment, not being able to discern truth from fact. Moreover, information anxiety

is produced by the ever widening gap between what one understands and what one thinks one should understand. It happens when information does not tell one what one wants or needs to know (Wurman, 1989).

The findings of the study reveal that there are challenges such as for example, lack of proper knowledge on how to use information retrieval skills, insufficient training education, lack of computer knowledge, Information Communication Technology (ICT) in accessing information in the library (Mahwasane, 2016)

LACK OF PROPER KNOWLEDGE ON HOW TO USE INFORMATION RETRIEVAL SKILLS: Information retrieval is concerned with retrieving documents that are likely to be relevant to a user's information need as expressed by his request (Fordjour, Badu and Adjei, 2010). Information retrieval skills are very crucial in this information age where many individuals, especially researchers rely on electronic sources to retrieve information to satisfy their research needs. However, researchers' efforts to successfully retrieve information relevant to their needs may be limited due to lack of skills.

INSUFFICIENT TRAINING EDUCATION: Librarians are faced the challenges of insufficient training education on necessary skills of information access. In this new world of information age, Some Librarians lack required training on how to evaluate, access and determine relevant information need amidst numerous information available in print and non-print.

LACK OF COMPUTER KNOWLEDGE: Computers are an essential part of the information age, yet traditional librarians and researchers lack adequate computer vocational education and facilities. Proficiency in computers is an absolute requirement for success in today's technology-driven environment.

RESEARCH METHODOLOGY

The research design adopted for this study was descriptive survey design and conducted through the use of questionnaire because the researcher is interested in finding out information overload and research productivity of librarians at University of Ilorin library, Ilorin. The population of this study consist of academic staffs at University of Ilorin Library. The study population comprises of 24 academic staffs at the University of Ilorin Library, Ilorin. A total enumeration sampling technique will be used to sample the 24 academic librarians at University of Ilorin Library since the population is small and a manageable size. The instrument used for collection of data for this study is a questionnaire developed by the researcher. A draft copy will be given to the supervisor for validity and his corrections will be incorporated with the final draft. Also, the reliability will be carried out to know the degree of consistency of the test instrument measuring what it has claimed to measures. Simple percentage and frequency counts will be used to analyze data pertaining to the research questions. A total of 24 copies of the questionnaires were distributed to academic librarian in university of Ilorin, out of which all were completed and retrieved. Resulting in a response rate of 100%.

DATA ANALYSIS AND DISCUSSION

Demographic information

Table 1   Frequency distribution of respondent by gender

Gender	Frequency	Percentage
Male	11	44.7

Female	13	55.3
Total	24	100.0

Table 1 shows that larger ratio of the respondent were female 13(55.3%) while the remaining 11(44.7%) were male.

Table 2 Frequency distribution of respondent by age

Age	Frequency	Percentage
20-25	2	11.7
26-30	2	11.7
31-35	6	22.3
36-40	11	38
41 above	3	13.3
Total	24	100.0

The table 2 revealed the distribution of the respondents by their age and the largest percentage of the respondents for this study are of the age range of 36-40years follow by 31-35 years.

Table 3 Frequency distribution of respondent by Qualification

Qualification	Frequency	Percentage
BLIS	6	26.0

PGD	3	17.0
MLIS	14	48.7
PhD	1	8.3
Total	24	100.0

Table 3 shows that the largest percentage of the respondents for this study is MLIS 14(48.7%).

Table 4   Frequency distribution of respondent by job title

Job Title	Frequency	Percentage
Assistant Librarian	2	16
Librarian II	10	30.7
Librarian I	4	21
Senior Librarian	7	24.0
Principal Librarian	1	8.3
Deputy University Librarian	0	0.0
University Librarian	0	0.0
Total	300	100.0

Table 4 shows that the largest percentage of the respondents for this study is librarian II (30.7%) followed by senior librarian counterparts.

4.3 Analysis of the data on research questions, interpretation and discussion of findings

Research Question 1: What are the levels of information literacy skills of Librarians at University of Ilorin Library?

Table 5: The level of information literacy skills of Librarians at University of Ilorin Library

STATEMENTS	SA	A	D	SD	$\bar{x}$	S.D
I can identify the need for information	12 43.3%	6 33.7%	4 18.0%	2 5.0%	3.15	0.89
I can develop a successful search strategies	7 35.3%	11 41.3%	4 15.7%	2 7.7%	3.04	0.90
I can access sources of information	8 36.3%	9 37.7%	4 18.0%	3 8.0%	3.02	0.93
I can evaluate information	9 38.3%	7 34.3%	4 18.7%	3 8.7%	3.02	0.96
I can use information	4 14.0%	4 14.0%	9 37.7%	7 34.3%	2.92	1.02
I can formulate question based on information needs	7 35.3%	11 41.3%	4 15.7%	2 7.7%	3.04	0.90

Table 5 show the level of information literacy skills of Librarians at University of Ilorin Library, the following results were obtained by using percentage scores indicated on Table: majority of the respondents 12(43.3%) indicated I can identify the need for information. In a related study Kazi Mostak, 2014 who posited that Information is easy to be created, disseminate or shared with others. With the help of the internet, everything seems to be easy. In this information age, it is a cliché that we are all drowning in too much information.

Research Question 2: What are the effects of information overload on research productivity of Librarians at University of Ilorin Library?

Table 6: The effects of information overload on research productivity of Librarians at University of Ilorin Library

STATEMENTS	SA	A	D	SD	$\bar{x}$	S.D
It improves my research quality	9 38.3%	7 34.3%	4 18.7%	3 8.7%	3.15	0.89
It decreases my research quality	4 15.7%	2 7.7%	7 35.3%	11 41.3%	3.04	0.90
It leads to research duplication	8 36.3%	9 37.7%	4 18.0%	3 8.0%	3.02	0.93
It leads to research difficulty	18 66.3%	6 33.7%	-	-	3.02	0.96
It leads to confusion	4 14.0%	4 14.0%	9 37.7%	7 34.3%	2.92	1.02

	SA	A	D	SD	$\bar{x}$	S.D
It affects information literacy	7	11	4	2	3.04	0.90
	35.3%	41.3%	15.7%	7.7%		
It decreases decision accuracy	11	7	4	2	3.15	0.89
	39.3%	35.7%	20.0%	5.0%		
It leads to memory difficulties and multitasking	4	4	9	7	2.92	1.02
	14.0%	14.0%	37.7%	34.3%		
It slows down my research	4	2	7	11	3.04	0.90
	15.7%	7.7%	35.3%	41.3%		

The data in table 6 show the effects of information overload on research productivity of Librarians at University of Ilorin Library, the highest number 18(66.3%) of respondents indicated that it leads to research difficulty. In a related study by Renu Arora (2017) submitted that with the advent of modern technologies, the ability to create, duplicate and access vast amounts of information has created information overload for the information organizations and information users.

Research Question 3: What are the causes of information overload of Librarians?

Table 7: The causes of information overload of Librarians

STATEMENTS	SA	A	D	SD	$\bar{x}$	S.D
Too much information	12	6	4	2	3.15	0.89
	43.3%	33.7%	18.0%	5.0%		
Multiple sources of information	11	7	2	4	3.04	0.90

| | | 41.3% | 35.3% | 7.7% | 15.7% | | |

ITEMS	SA	A	D	SD	$\bar{x}$	S.D
Difficult to manage information	9 37.7%	8 36.3%	3 8.0%	4 18.0%	3.02	0.93
Irrelevance or unimportance of information	4 18.7%	3 8.7%	9 38.3%	7 34.3%	3.02	0.96
Lack of time to understand information	4 14.0%	4 14.0%	9 37.7%	7 34.3%	2.92	1.02

Table 7 show the causes of information overload of Librarians, the following results were obtained by using percentage scores indicated on Table: majority of respondent 12(43.3%) indicated Too much information as the cause of information overload. This study is in line with Dudczak(1997) submitted that one of the main causes of overload is the sheer amount of data available far exceeds the amount of information that we can effectively process and therefore it is processed ineffectively.

Research Question 4: How current are the information researched by Librarians?

Table 8: How current are the information researched by Librarians

ITEMS	SA	A	D	SD	$\bar{x}$	S.D
Very Current	10 38.3%	7 34.3%	4 18.7%	3 8.7%	3.15	0.89
Current	4 14.0%	4 14.0%	9 37.7%	7 34.3%	3.04	0.90

Average	9	8	4	3	3.02	0.93
	38.3%	36.3%	16.7%	8.7%		
Out-dated	2	11	4	7	3.02	0.96
	5.0%	43.3%	18.0%	33.7%		

Table 8 shows How current are the information researched by Librarians, it was revealed that majority of the respondents 10(38.3%) indicated very current while other received otherwise. This study is in line with (Edmunds & Moris 2000,) suggested that information overload is a terrible problem for professionals who are obliged to keep up with advances in the knowledge and techniques of their profession.

Research Question 5: What are the challenges faced by Librarians in accessing information?

Table 9: The challenges faced by Librarians in accessing information

ITEMS	SA	A	D	SD	$\bar{x}$	S.D
Lack of ICT skills	16	6	2	2	3.15	0.89
	61.3%	28.7%	5.0%	5.0%		
Insufficient training education	14	4	4	2	3.04	0.90
	55.7%	18.3%	18.3%	7.7%		
Lack of information retrieval skills	16	6	2	2	3.15	0.89
	61.3%	28.7%	5.0%	5.0%		
Database subscription	4	4	9	7	3.04	0.90

	14.0%	14.0%	37.7%	34.3%		
Information overload	9

38.3% | 8

36.3% | 4

16.7% | 3

8.7% | 3.02 | 0.96 |

Table 9 shows the challenges faced by Librarians in accessing information, majority of the respondents 16(61.3%) revealed Lack of ICT skills as the main challenges faced by Librarians in accessing information. This study is in line with (Mahwasane, 2016) who submitted that there are challenges such as for example, lack of proper knowledge on how to use information retrieval skills, insufficient training education, lack of computer knowledge, Information Communication Technology (ICT) in accessing information in the library.

Research Question 6: What are the satisfactions derived from information overload by Librarians?

Table 10: The satisfaction derived from information overload by Librarians

ITEMS	SA	A	D	SD	$\bar{x}$	S.D
It improves my research literacy	18

66.3% | 6

28.7% | 2

5.0% | - | 3.15 | 0.89 |
| It gives me variety of choice | 11

47.5% | 11

47.5% | - | 2

5.0% | 3.04 | 0.90 |
| It broaden my knowledge | 14

55.7% | 4

18.3% | 4

18.3% | 2

7.7% | 3.04 | 0.90 |

It gives me access to wide range of information	10 38.3%	7 34.3%	4 18.7%	3 8.7%	3.02	0.96
It improves my comprehension	4 14.0%	4 14.0%	9 37.7%	7 34.3%	2.92	1.02
It enhances my research output	10 38.3%	7 34.3%	4 18.7%	3 8.7%	3.02	0.96

Table 10 shows the satisfaction derived from information overload by Librarians, majority of respondents 18(66.3%) revealed that information overload improves their research literacy. The study is in line with Christian et al. (2003) agrees that as a result of information explosion, we are experiencing a state of "information overload". When there is too much information to digest, a person is unable to locate and make use of the information one needs. Information overload can therefore be seen as a state in which the volume of information available hinders its usefulness to the individual.

DISCUSSION OF FINDINGS

The findings of this research study are manifold. This study revealed that information overload has implications on the environment in which we live especially in academic world and with the advent of modern technologies, the ability to create, duplicate and access vast amounts of information has created information overload for the information organizations and information users. Many experts are of the view that more access to information will not actually help us but will lead to information overload. Information overload has been blamed for the current problems facing librarians and information scientists in handling and utilizing the information. From the analysis and discussion of findings, the following findings were achieved:

I.   The level of information literacy skills of Librarians at University of Ilorin Library and majority of the respondents indicated they can identify the need for information.

II.   The effect of information overload on research productivity of Librarians at University of Ilorin Library and majority of the respondents agrees that it leads to research difficulty.

III.   Majority of the respondents indicated that too much information is the major causes of information overload.

IV.   Majority of the information researched by Librarians at University of Ilorin Library are very current.

V.   Challenges faced by librarians in accessing information which are majorly lack of ICT skills and lack of information retrieval skills.

VI.   Majority of the respondent agrees that Satisfaction derived from information overload by Librarians is that its improves their research literacy.

CONCLUSION

Information overload also have some positive effects on research productivity as it helps give options to select relevant information among numerous information available but information overload today has done more harm than good. Information literacy is one essential skill a Librarian should possess in this 21st century of Information Overload as it will help them to digest and evaluate relevant information from irrelevant.

The study shows that information overload leads to research difficulty and decreases decision accuracy as it also improves research quality of some Librarians too and also concludes that Information Communication Technology (ICT) has played a pivotal role for the emergence of information overload. Technology enabled to information at your fingertips which has duly caused the amount of information to grow increasingly.

Information Overload has and will continue to greatly impact on schools and the society in a more negative than positive way. This is so because researchers are limiting themselves to finding the easiest rather than finding the best information for their research.

Satisfactions derived from the numerous information gotten are highly rated or not. Hence, information filtering and evaluation of relevant information becomes a stress or problem as it also gives room for researchers to have choice of selection varieties of information available.

Nowadays, we live in the information age as we are surrounded by technology. Information nowadays is like water which is easy to be spread with the help of devices such as a smart phone, tablet, laptop, and so on. Information is easy to be created, disseminate or shared with others. With the help of the internet, everything seems to be easy thereby either improving or decreasing research quality. Hence, information literacy skills are seen paramount in evaluating relevant information from numerous information.

RECOMMENDATIONS

The study tends to examine the positive and negative factors attached to information overload on research output of researchers. However, this project recommends as follows:

I. Academic Librarians should acquire standard information literacy skills as it can curb information overload that militate against optimum and relevant research productivity. Information literacy is the set of skills needed to find, retrieve, analyze and use information.

II. Librarians should acquire necessary skills and training to improve and develop their knowledge on information access and evaluation. Librarians' training is especially urgent in libraries because of the challenges posed by modern technology and the resulting

information explosion. Technological advancement has rendered old skills obsolete. Training is necessary to update obsolete skills and pave the way for higher productivity.

III. Training should be relevant especially on Information Communication Technology (ICT) as proficiency in ICT is an absolute requirement for success in today's technology-driven environment.

IV. Academic librarians should educate other researchers on the need for information, motivate the use of information, new knowledge and new ability.

V. Developing a virtual reference search gateway (blog/website) that make available current information materials virtually to researchers and also render an online selective dissemination information through a live support to ease the stress of the researcher and present only relevant information to researcher. Thereby, curb information overload of irrelevant materials online to improve research quality.

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