

"Transition from Print to Electronic Era: A Study of Impact on College Libraries and its Users in South Goa"

Dissertation submitted in partial fulfillment of the requirements of Goa University for the degree of Master of Library and Information Science

By

Vishal Babani Khandeparkar

Enrollment number

22P034019

Under the supervision and guidance of

Mr. Rohan Parab



*Submitted for viva-voce
28/4/2023*

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Library and Information Science Programme

Goa University, Taleigao Plateau, Goa

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CERTIFICATE

This is to certify that the dissertation entitled “**Transition from Print to Electronic Era: A Study of Impact on College Libraries and its Users in South Goa**” submitted by Vishal Babani Khandeparkar in partial fulfilment of the requirements of the degree of Master of library and information Science of Goa University is his original work carried out under my guidance and worthy of examination.

Shri. Rohan L. Parab
Guide and Assistant professor,
Library and Information Science Programme,
Goa University

DECLARATION

I state that the present dissertation “**Transition from Print to Electronic Era: A Study of Impact on College Libraries and its Users in South Goa**” is my original contribution and the same has not been submitted on any occasion for any other degree or diploma of this university or other University/Institute. To the best of my knowledge, the present study is the comprehensive work of its kind from the area mentioned. The literature related to the problem investigated has been cited.

Date:

Place: Goa University

Vishal Babani Khandeparkar
Library and Information Science Programme
Goa University

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This dissertation bears the touch of many people and I am enormously grateful to each one of them.

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This work would have not seen the light of day without the sincere efforts and cooperation of the librarians of academic college libraries from South Goa who participated collectively in order to facilitate me in completing this study.

My sincere gratitude to the staff of Goa University library for helping me whenever I was in need of them.

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List of Tables

Sr. No.	Items	Page No.
1	Frequency of respondents visiting the library	25
2	Frequency of frequently visit to the library	26
3	Frequency of time spend in the library on weekly basis	27
4	Frequency of getting help from library staff in locating resources	28
5	Frequency of ratings as per experience in usage of resources	29-30
6	Frequency of difficulties faced for accessing information resources	31
7	Frequency of overall facilities and services rating	32
8	Frequency of sources through know about e-resources	33
9	Frequency of factors made to choose e-resources over print	34
10	Frequency of using electronic resources	35
11	Frequency of mode to access e-resources	36
12	Frequency of access to e-resources on weekly basis	37
13	Frequency of strategies for searching e-resources	38
14	Frequency of years in usage of e-resources	39
15	Frequency of downloaded full text articles are read or not	40
16	Frequency of perception about the working of the library staff	41
17	Frequency of satisfaction level towards the facilities	42

18	Frequency of resources those are recommend to the library	43
19	Frequency of electronic resources can replace print resources	44
20	Mode for accessing e-resources	45
21	Frequency of e-resources access on daily basis	46
22	Frequency of respondents in accessing e-resources	47
23	Frequency of respondents download full text resources in month	48
24	Frequency of respondents towards e-resources available in library	49
25	Perception about the library staff	50
26	Frequency of respondents to the facilities provided by the library	51
27	Subscribe both print and electronic resources in library	52
28	Frequency of respondents those problems faced by librarians regarding e-journals	53
29	Reasons for preferring e-content by library	54

List of Figures

Sr. No.	Items	Page No.
1	Frequency of purpose for visiting library	25
2	Frequency of frequently visit to the library	26
3	Frequency of time spend in the library on weekly basis	27
4	Frequency of getting help from library staff in locating resources	28
5	Frequency of ratings as per experience in usage of resources	29-30
6	Frequency of difficulties faced for accessing information resources	31
7	Frequency of overall facilities and services rating	32
8	Frequency of sources through know about e-resources	33
9	Frequency of factors made to choose e-resources over print	34
10	Frequency of using electronic resources	35
11	Frequency of mode to access e-resources	36
12	Frequency of access to e-resources on weekly basis	37
13	Frequency of strategies for searching e-resources	38
14	Frequency of years in usage of e-resources	39
15	Frequency of downloaded full text articles are read or not	40
16	Frequency of perception about the working of the library staff	41
17	Frequency of satisfaction level towards the facilities	42

18	Frequency of resources those are recommend to the library	43
19	Frequency of electronic resources can replace print resources	44
20	Mode for accessing e-resources	45
21	Frequency of e-resources access on daily basis	46
22	Frequency of respondents in accessing e-resources	47
23	Frequency of respondents download full text resources in month	48
24	Frequency of respondents towards e-resources available in library	49
25	Perception about the library staff	50
26	Frequency of respondents to the facilities provided by the library	51
27	Subscribe both print and electronic resources in library	52
28	Frequency of respondents those problems faced by librarians regarding e-journals	53
29	Reasons for preferring e-content by library	54

Sr.No.	Table of content	Page No.
	CHAPTER 1 - Introduction	
1.1	Introduction	2
1.2	History of print to electronic	3
1.3	Effect from print to electronic	3
1.4	Migration from print to electronic	4
1.5	Reasons for shifting from print to electronic	4
1.6	Transitioning the Librarians role from print to electronic	5
	CHAPTER 2 - Review of Literature	7-17
	CHAPTER 3 - Research Methodology	
3.1	Need for the study	19
3.2	Scope of the study	19
3.3	Objectives	19
3.4	Hypothesis	20
3.5	Methodology	20
3.6	Sample size	20
3.7	Limitations of the study	20
3.8	Tools for the study	20
3.9	Data analysis	21
3.10	Reporting	21
	CHAPTER 4 - Print to electronic at National and International level	
4.1	Print to electronic at National level	23

4.2	Users perceptions of print to electronic at International level	23
	CHAPTER 5- Data analysis and interpretation	25-53
	CHAPTER 6- Findings, hypothesis testing and suggestions	
6.1	Findings	55
6.2	Hypothesis testing	56
6.3	Suggestions	56-57
	CHAPTER 7- Conclusion	
7.1	Conclusion	59
7.2	Bibliography	60-62
7.3	Questionnaires	63-68

Chapter 1

Introduction

1.1 Introduction

Libraries were the only repositories of information, primarily in print, before the advent of information and communication technologies. The introduction of electronic resources and digital libraries has had a significant impact on how print resources and traditional libraries are used. Different disciplines have different reading habits and use of print and electronic resources. The feature of e-content is an even more attractive reason why users of academic and public libraries are being encouraged to read electronic versions of publications. The technical ability for a single copy to be made available to multiple users, their durability, their use in preservation, the fact that they never go out of like demand, their ability to support distance learning, and their potential to give users access 24 hours a day are all benefits of electronic resources and databases for libraries.

Recent user statistics speaks about the decline in number of users in traditional libraries and usage of print media. User preference towards e-content as compared to print. Factors responsible for shift for e-content are lack of time, convenience, simultaneous usage, no risk of damage or loss or theft etc. Individuals, groups, and organizations must constantly deal with change in order to survive. Progressive changes in people's attitudes and behaviours are required for global acceptance. Nonetheless, change is frequently associated with modern information technologies and management issues for library and information science (LIS) professionals. The nature of the library environment and mode of service has changed dramatically over the last few decades.

Modern libraries are being reimagined as places where individuals can gain limitless access to knowledge in a variety of forms and sources. They are understood to extend beyond the physical walls of a building by including material accessible via electronic means and by assisting librarians in navigating and analyzing vast amounts of information using a variety of digital tools.

Information technology has changed the world and has become one of the most important tools for information retrieval. Electronic information resources have absorbed a significant portion of library collections. Beginning from the year 2000, it became clear that the shift to electronic resources had altered reading and usage patterns, particularly for scholarly articles and journals. The shift to electronic journals was accompanied by a

decrease in personal subscription reading, an increase in reading from library provided e-journals, and an overall increase in the average number of articles.

1.2 History of print to electronic

Printing technology, including the invention and use of western typography, was a watershed moment in the history of human communication. Gutenberg combined paper manufacturing, ink development, and woodblock printing technology. Mechanical movable type printing technology, as well as other printing technologies, spread quickly throughout Europe. It had resulted in a significant increase in printing activities. People quickly reproduced and spread information. In the Digital Age, where people are so accustomed to online-social-mobile communication technologies. A social network is a way for people to interact with one another by creating, sharing, exchanging, and commenting on content in virtual communities and networks. The internet's unique feature is that it is a space, a platform that allows people to connect and communicate freely. It bridges the physical, economic, social, and educational divides between people.

1.3 Effect from print to electronic

Previously people relied heavily on newspapers to keep up with what was going on around them. However, as technology advanced, smartphones occupied their space, and news-related apps were developed. This reduced people's interest in newspapers. The study looked into how digital media platforms such as Facebook, Twitter, Instagram, and others have affected printed media. To save time when accessing news, the youth in India prefer the interactive behaviour of new media (social media). Youth newspaper reading time has now dropped to half of what it was previously.

1.4 Migration from print to electronic modes

As a source of access to educational, literary, and recreational materials as well as serving as a repository of information for future generations, libraries have traditionally purchased printed books and periodicals. As libraries no longer have the same kind of control over the content, more digital information resources globally endanger this role. With the advent of the internet and the ability to provide resources to people who may never visit a physical building but use resources heavily at home or at work, libraries have undergone a significant transformation.

1.5 Reasons for shifting from print to electronic

The desire for immediacy is a primary driver of consumer consumption of digital resources. Many people also prefer to read online because it is more convenient. This is particularly true for shorter pieces of content like news or magazine articles. However, due to the ease of accessing books from anywhere on digital devices, there is an increase in e-books and e-textbooks consumption as well. The main driver in the shift from print to digital publishing has been a decrease in consumer demand for print publications and an increase in demand for digital publications. Another factor driving digital's popularity over print is the ability to reach a larger audience. Another justification for migrating from print to digital is the cost of library maintenance. Though digital libraries are currently less expensive than traditional print libraries, maintaining digital libraries with the current state of the market will be less expensive in the near future because digital errors have a number of back-ups, the digital content can be replicated in the event of an error or loss. It is incredibly simple to share resources or materials for collaborative work. It is very simple to identify the content or materials that the user is interested in since the metadata can be identified with ease. Digital collections aid in information or annotation because they are sourced from any location, so they will be useful when referencing virtual materials.

1.6 Transitioning the Librarians Role from Print to Electronic

According to the current state of the electronic environment, librarians will have to exert themselves a lot. They ought to be aware of the tests given to each user and keep expanding their knowledge of the electronic resources available in libraries. They must routinely monitor the various electronic resources accessible to libraries. Libraries occasionally need to implement user orientation programmes to ensure that all users have access to electronic resources like books, journals, databases etc. They must have additional aptitudes, experience, knowledge, and abilities such as, proficiency with the use of emerging new technologies, help users find, store, and transfer electronic information resources, services, and instructions across a variety of applications, databases, networks, platforms, and systems using an academic library of electronic information commons. Libraries, leadership, and institutions should assess their identities in light of the models for the creation and dissemination of knowledge as well as the academe and communities they serve. Academic libraries and universities should take the lead in guiding information seekers and completing their tasks by providing the correct information to the correct users at the correct time and if at all possible, with the correct personal guidance.

Chapter 2

Review Literature

1. (Pal, 2016) “From Print to Electronic Resources in Libraries: A Managing Shift and changing role of librarians” this article discusses about print to digital migration. It

also provides information regarding the usability and longevity of the library resources. The expenditure to protect print resources is more as compared to electronic resources. Digital collections have many benefits over print collections. Library maintenance is another reason for shifting from print to digital. Shifting to digital content have more advantages and content can be changed against any error or loss. Information needs have been changed from asking for a book or a journal to an article or a topic with the provisions of e-resources.

2. (Chauhan, 2012) “Dynamic shift from print to electronic resources” this article discusses about the libraries having traditional collection of books, printed journals to provide access to academic library and act as a repository of the library materials. This article gives an idea about the levels of knowledge on internet among subjects. The article also elaborates on awareness of availability of e-resource, OPAC, internet and computer systems. The author says that most libraries have shifted from print catalogue to online catalogue OPAC and analyzed the availability of e-resources and their relevance for learning, teaching and research.
3. (Garg RG, 2014) “Utilization of Electronic-resources by the postgraduate” this article gives an idea about the use of e-resources by the library users. It also highlight the most preferred journals, awareness of e-resources etc. It aims to draw attention to the alert services provided by the library, the most popular journal format, awareness of e-resources, the value of e-resources, and the efforts made by the library to provide their users with improved e-services. The most sought-after modern library holdings for meeting the many demands of students, teachers, and researchers with the least amount of risk and time are electronic resources. The world has altered because of information technology, which has emerged as a crucial instrument for information retrieval. A sizable amount of library holdings has been transferred to electronic information sources.

4. (Zha, Zhang, & Yan, 2014) “Exploring the effect of individual differences on user perceptions of print and electronic resources” this article states that an individual differences are important in determining how different people think and behave. The goal of this paper is to investigate the impact of individual differences on users' perceptions of print and electronic resources in terms of ease of use, usefulness, and usage, with the hope that a better understanding of these effects will assist Chinese university libraries in meeting the diverse information needs of their users more specifically and appropriately, thereby closing the second-level capability divide and third-level outcome divide of library information resources.
5. (Pandita & Singh, 2016) “Collection building trend among the institutes of higher learning in India: a preferential race between print and electronic resources” this research article highlights the current study aims to assess resource procurement preferences among India's leading academic libraries of institutes of higher learning. The study also discusses concerns about e-resource subscriptions and the reasons for a shift in interest among Indian academicians toward print resources. Because of the readership priorities of library clients, as well as some advantages that e-documents have over print, institutional libraries are compelled to acquire more electronic documents. Both print and electronic documents have their own readership, but that does not mean that the type of information source consulted or not consulted by a specific group of people does not make them more or less informed. The acquisition of e-documents in academic libraries across India.
6. (Ritchie & Genoni, 2007) “Print vs. electronic reference sources: implications of an Australian study” this article states to investigate the changing balance between using print and electronic sources to answer reference questions. The reference librarian and the user investigate how various modes of electronic communication have transformed reference services and significantly altered a relationship that had been relatively stable for many decades. The source of the information used to answer reference

queries has received less attention. Of course, the parallel literature of collection management has tried to deal with the transition from print to electronic sources. Surprisingly little research or commentary has been published in the professional literature on the various consequences of the shift from print to electronic reference. As previously stated, reference work is an inherently personal skill, and researchers and commentators have been unable or unwilling to thoroughly investigate why reference librarians choose specific sources.

7. (Zimmerman, 2010) "Periodicals: print or electronic" the author states that the purpose of this paper is to explain however the tipping purpose could be reached with relevancy the transition of periodicals between print and electronic. From the machine to non-public computers to the worldwide internet, we have a tendency to square measure combining print with electronic resources and, by doing thus, we have a tendency to square measure spreading the world's content to college, students and to everybody else that wants data. The computers are getting additional and additional moveable, and also the electronic networks square measure currently widespread enough that you simply will, with the right instrumentation, do your analysis virtually anyplace. Libraries can presently need to decide, supported budget, what's reasonable in terms of periodicals. Vendors square measure integral to the current method and libraries got to negotiate skillfully with them for prices in line. Electronic resources can serve researchers well, since they supply simple computerized access to materials antecedently solely found in print.
8. (Haapanen, Kultamaa, Ovaska, & Salmi, 2015) "Reducing library space can promote the shift from storage of print-collections towards a learning-center without limiting the access to information" this article states that libraries have changed due to many things, one of them being the shift from printed to electronic resources. Libraries become learning centers, providing more space for customers and less for stacks. Though information seeking habits have changed, especially students need places for

studying and group work. In the case of Kuopio University Hospital Medical Library the shift has been influenced by space requirements for other hospital functions. The reduction of current physical space has led to revised collection policy that is now taking its final steps when the library is preparing to move to a new space. Libraries have changed due to many things, one of them being the shift from printed to electronic resources. Libraries become learning centers, providing more space for customers and less for stacks. Though information seeking habits have changed, especially students need places for studying and group work. In the case of Kuopio University Hospital Medical Library the shift has been influenced by space requirements for other hospital functions. The reduction of current physical space has led to revised collection policy that is now taking its final steps when the library is preparing to move to a new space.

9. (Chen, 2019) “Exploring the use of electronic resources by humanities scholars during the research process” this article states that libraries have changed due to a variety of factors, one of which is the shift from printed to electronic resources. Libraries are transforming into learning centres, with more space for customers and less for stacks. Though information seeking habits have changed, students, in particular, require study and group work spaces. Space requirements for other hospital functions influenced the shift at Kuopio University Hospital Medical Library. The reduction of current physical space has resulted in a revised collection policy, which is now in its final stages as the library prepares to relocate. The purpose of this paper is to discuss these issues.

10. (Shah & Mustafa, 2016) “A Journey from Print to Electronic Resources: Experience from Aga Khan” states that the library's patrons have responded very positively to the transition from print to electronic resources and are very comfortable using them. As a result, we have shifted from print to electronic subscriptions, but we are keeping both versions of books in the library to honour the traditional practice of reading print

books, and it is the requirement of the Pakistan Medical and Dental Council to keep stock of multiple copies in print for recommended textbooks.

11. (Chavali & Gundala, 2022) “The Textbook Dilemma: Digital or Print? Evidence from a Selected US University” says that the rising cost of textbooks has a global impact on students of higher education. E-textbooks are becoming increasingly popular with students at all levels of education, particularly at the university level. Students' reading habits and preferences are shifting toward e-textbooks. This growing trend has prompted researchers to collect data on students' experiences, attitudes, and perceptions of using e-textbooks, as well as their impact on the learning process. This study polls undergraduate students at a small mid-western university in the United States. Cost, learning and engagement in interactive exercises, convenience, and flexibility are the primary factors influencing the adoption of e-textbooks over print textbooks. The study suggests some initiatives that educators, technology experts, designers, and universities can implement to encourage more students to use digital textbooks to solve the issue of affordability.

12. (Maleki, 2022) “OCLC library holdings: assessing availability of academic books in libraries in print and electronic compared to citations and altmetrics” this article states that on average, electronic holdings outnumber print holdings seven to one, and the ratio is increasing significantly for more recent books; there is a consistent downward trend in average print book holdings, implying that library print holding data are cumulative in nature and statistically comparable to formal citations; however, acquisition of electronic books in libraries is inconsistent in distribution plot as well as over time. The descriptive findings in this study about the characteristics of library print and electronic holdings suggest that another study is needed to identify the relationship of print and electronic holdings with other research metrics in order to broaden our understanding of library holdings as a significant indicator for book impact assessment.

13. (Landøy & Gastinger, 2019) “Print or Electronic Course Readings: Implications for Library Space and Information Literacy Programmes” this article mentions that there has been some discussion about digital vs. print study materials. According to the Academic Reading Format International Study (ARFIS), students in Norway and many other countries prefer paper. These preferences have ramifications not only for collection development decisions, but also for academic library space availability. The availability of study literature in digital format has numerous advantages. It is not only more widely available, but it also allows physical libraries to free up much-needed floor and shelving space. It also cuts the time and effort required to handle physical literature, from acquisition to re-shelving.
14. (Moffat, 2019) “A Research Guide to Psychology: Print and Electronic Sources” this article states that prior to the introduction of information and communication technology (ICT), academic libraries were the sole custodians of information, which was mostly in print. Changes brought about by ICT were necessitated by new information packaging. Academic libraries are challenged to acquire the necessary skills for managing hybrid resources (print and electronic). Furthermore, electronic information is challenging academic libraries' monopoly as the sole source of information. Nonetheless, academic libraries can maintain their position by providing access to both print and electronic resources. The purpose of this paper is to discuss the nature of academic libraries in the digital age, including resources, the concept of universal access, and the role of in providing universal access to print and electronic resources. It also presents and describes a resource access conceptual model for academic libraries in developing countries.
15. (Mane & Panage, 2015) “Development of Library Portal– In Print and Non-Print Era” this article states that to meet the information needs and expectations of their modern users, libraries are rapidly changing and expanding to web-based delivery of content

and related access services. One approach is to design and develop multi-tiered architectures with an integration layer that provides program level services for user-level applications such as a portal. The library portal is a tool for organising information resources and services to meet the needs of users. LIS professionals, on the other hand, should be knowledgeable about portal technology, its applications in academia, and the usability of a portal that is built on an effective content management system. The library portal is essential to knowledge; it is a powerful tool for Web-enabled information services.

16. (Tenopir, King, Christian, & Volentine, 2015) "Scholarly article seeking, reading, and use: a continuing evolution from print to electronic in the sciences and social sciences" this article states that many academic libraries support e-preferred or even policies for their journal collections, and the number of open access e-journals reached 9,925 in October 2013. Tenopir and King's previous studies from 1977 to 2005 revealed consistent changes in the way academic scientists and social scientists in the United States seek and read articles. It became clear that the shift to electronic resources had altered reading and usage patterns, particularly for scholarly articles and journals. The significant, if unavoidable, shift toward electronic journals was accompanied by a decrease in reading from personal subscriptions, an increase in reading from library-provided e-journals, and an overall increase in reading.
17. (ŠPIRANEC, GRGIĆ, & ZORICA, 2008) "Print vs. Electronic - Student Information Behavior in a Fuzzy Information Universe", this article states that the information environment that students face at the start of their academic careers becomes more complex and diverse. The print era's continuum of information experience has shrunk in the electronic age. The identification of patterns in the information preferences and behaviour of students belonging to the generation of "digital natives" could be an important indicator of necessary changes in university educational and information policies. In order to remain competitive and relevant in the eyes of a new and relatively

homogeneous generation of digital native students, institutional systems and information services must find ways to connect to, integrate with, and push their content into these newly formed and popular learning spaces.

18. (Dafiaghor, 2012) "Problems and prospects of electronic resources usage in Nigerian academic libraries" this article says that addressed the issues and prospects of electronic information resources in Nigeria. The review revealed that the use of e-resources in Nigeria is fraught with difficulties. It was noted, among other things, that acquisition and maintenance costs, availability of electronic information resources gadgets, spare parts, and experts, and erratic power supply are major issues impeding the effective use and usability of e-resources. It was also discovered that, while there are numerous problems plaguing the use of e-resources in Nigeria, there are also numerous positive prospects; with emphasis on the fact that the use of e-resources will increase enormously; possibly, e-resources will send print-resources on parking or the barest minimal use. These promising prospects stemmed from the numerous advantages that e-resources have over print.
19. (Wardhani, Sabana, & Adriati, 2015) "The Shift from Printed to Digital Magazine and Its Impact to Women Reader in Jakarta" this article says that the information media has undergone fundamental changes as a result of technological advancements and globalization. Femina was the first Indonesian women's magazine to publish a digital edition. The purpose of this paper is to describe some of the factors that influence urban women in Jakarta to switch from print to digital magazine reading. The paper will also discuss the impact of digital media on the Jakarta women's lifestyle. The study is carried out by analysing data from a Femina survey and interviewing readers of digital Femina. The digital magazine Femina introduced women to modern lifestyles and influenced the pattern of women's behaviour in Jakarta, particularly among women working in modern offices.

20. (Collins & Carr, 2008) “Managing the Transition from Print to Electronic Journals and Resources” this e-book, states that libraries are in a state of fluctuation right now. As patrons' use of print resources declines and their demand for unrestricted access to electronic resources grows, extraordinary challenges emerge. Indeed, success in today's information environment necessitates libraries taking dramatic steps to form partnerships and implement tools and workflows suitable for managing and providing access to materials increasingly acquired in electronic formats. The book's goal is to provide librarians who have or will have e-resource management and access responsibilities with the knowledge they need to understand the dynamics of their changing environment and, as a result, design, implement, and manage solutions that will allow their libraries to successfully transition from collecting print resources to providing online access to e-resources.
21. (Wu, 2005) “Why Print and Electronic Resources Are Essential to the Academic Law Library” this article states that the advent of the Web and the proliferation of electronic information, law librarians are increasingly being asked by administrators and patrons about the current and future value of the printed book. Technology and its benefits- convenience, cost, and timeliness -present an enticing future. Libraries have long supported a variety of formats, from paper and microforms to audiovisual tapes and CDs. However, the most recent medium, digital transmission, has presented a broader range of challenges, leading library patrons to question the long-established and well-known multiform at library. Two distinct questions recur repeatedly among the many posed. The first questions the need for print in an increasingly digital world, while the second cautions against relying on a still-developing technology.
22. (Sharma & Kumar, 2016) “Usage Preference of E-Publications by Health Professionals of Dayanand Medical College and Hospital, Ludhiana, Punjab” this article states that a library is a collection of reading materials that can be borrowed.

There has been tremendous growth in information and communication technology (ICT) over the last two and a half decades, which has influenced not only the publishing industry but also the readers. With the advancement of ICT, books and journals are now available in both print and electronic formats. However, each format has advantages and disadvantages over the other. Print books and journals are still preferred by the older generation, while online text is preferred by the younger generation. The introduction of new reading devices such as the Kindle, Nook, I Pad, and smart phones has simplified e-reading. It is assumed that print and electronic versions of books and journals will be available concurrently.

23. (Kacherki & Thombare, 2010) “Print vs e-Journal and Information Seeking Patterns of Users: A Case Study of SPJIMR” states that The advancements in information technology have resulted in significant changes in how information is collected, stored, retrieved, and distributed. One of the products of information and communication technologies is the electronic journal. In recent years, the advancement of e-journals has provided librarians with a powerful new resource to support learning and research. With the availability of both types of journals in the library, it has become necessary to compare and evaluate the effectiveness of e-journals and print journals from the perspectives of users and libraries. The paper discusses a case study conducted at the SP Jain Institute of Management and Research to determine library users' information-seeking patterns. The paper also discusses the benefits and drawbacks of e-journals, arguing that printed and e-journals are complementary to each other.

24. (Premchand-Mohammed, 2011) “Bridging the gap between print and electronic resources at a multi-campus university library” this article states that to describe the challenges and examine the impact of the transition from print to electronic resources at a medium-sized academic library at The University of the West Indies, a multi-

campus Caribbean university with a focus on the St Augustine campus. Academic libraries are transitioning to a mixed collection of print and electronic resources. Individual aspects of collection development, acquisition strategies, management mechanisms, and impact assessment are all covered in this paper. It was discovered that a single framework that addressed all aspects of electronic resources was required: collection development, selection and acquisition management, technology issues, staff skills, budget allocations, and impact assessment.

25. (AGGARWAL, 2014) “Printed Media and Electronic Era: Challenges before the Librarians” this article states that recent advances in information technology (IT) have altered the situation. This IT revolution has impacted every aspect of human society, creating new opportunities and challenges for all. Librarians have been grappling with the dilemma of database between printed and electronic media as a result of the dramatic revolution in IT, particularly in digital storage media. Because of the expansion of internet services, the number of journals published electronically is rapidly increasing. The retrieval of information in print media is slower than in electronic media, where retrieval is instantaneous. Print media information is out of date, whereas electronic media provides up-to-date information.

Chapter 3

Research Methodology

In the view of objectives of this study, a structured questionnaire was prepared and about 100 questionnaires for students and 11 questionnaires for librarians were sent to the probable respondents (Academic College Librarians & Students) of South Goa out of

which 56 responses by students and 9 responses from librarians were received resulting in 59% overall response rate.

3.1 Need for the study

This study stresses on the impact of transition from print to electronic in academic college libraries from South Goa among the librarians and students of academic college libraries and identify the levels of effect on libraries and its users.

3.2 Scope of the study

Scope of the study is limited only the librarians and students of academic college libraries of South Goa. Electronic resources allows users to get seamless access to the content. It also saves the time of the users as it is accessible from anywhere and anytime. The impact on librarians and library users due to transition from print to electronic resources, and on visitors to libraries.

3.3 Objectives

1. To determine the impact of transition on college libraries and its users.
2. To evaluate the preferences of users and the reasons behind it.
3. To ascertain the challenges faced by users due to transition from print to electronic resources.
4. To compare the levels of user satisfaction with print and electronic resources.

3.4 Hypothesis

1. All the libraries have shifted from print to electronic mode of functioning.
2. Shift from print to electronic have led to no usage of print materials in libraries.

3.5 Methodology

For conducting the survey questionnaire method was implemented (Google Forms). A questionnaire was prepared on the basis of the objectives of the proposed study and was distributed through mail and social networking sites. A total 111 of questionnaires were distributed among the librarians and students of academic college libraries from South Goa.

3.6 Sample Size

The sample size of the study consisted of 111 questionnaires which were shared among the librarians and students of academic college libraries from South Goa out of which only 65 respondents provided their feedbacks. The questionnaire was formulated keeping in mind various objectives of the study. The data analyses and observation is shown in next chapter.

3.7 Limitations of the study

The study is limited to the academic college libraries functioning in South Goa.

3.8 Tools for the study

A structured questionnaire was prepared to collect data for the study. Questionnaires were distributed to librarians and students of academic colleges from South Goa through google forms, Secondary data was also collected from e-journals, e-databases and electronic media.

3.9 Data analysis

The data is obtained from librarians and students of academic college libraries from South Goa. MS Excel has been used in order to analyse the data received from questionnaire.

3.10 Reporting

This study is divided into seven chapters that is

Chapter 1 : Introduction

Chapter 2 : Review of literature

Chapter 3 : Research Methodology

Chapter 4 : Transition from Print to electronic at national and international level.

Chapter 5 : Data analysis and interpretation

Chapter 6 : Findings, hypothesis testing and suggestions

Chapter 7 : Conclusion

Chapter 4

Transition of Print to Electronic at National and International level

4.1 Transition from Print to Electronic information resources at National level

Most university libraries have both types of information resources, namely electronic and print resources. Due to a variety of factors, proper e-resource utilization has been observed to be an ongoing research topic. As we all know, universities are the primary institutions that provide higher education in various fields of knowledge. Traditionally, the library was a repository for books and other reading materials and learning resources, with the librarian acting as keeper of these resources. The use of computers in information processing has given rise to a slew of new products and services. As we all know, the advancement of internet and web technology has resulted in the development of new communication modules and transmission technology. There are no geographical barriers in the transmission of information, as there are with print media. This study was done on Indira Gandhi University in Rewari, Haryana. It is critical for a university library to transition to e-resources rather than bulk print resources.

4.2 User perceptions of print and electronic information resources at international level

Individual differences are important in determining how different people think and behave. The goal is to investigate the impact of individual differences on users' perceptions of print and electronic resources in terms of ease of use, usefulness, and usage, in the hope that a better understanding of these effects will assist university libraries in meeting the diverse information needs of their users more specifically and appropriately, thereby bridging the second-level capability divide and third-level outcome divide of library information resources. This study was carried out in Chinese University Libraries, China in 2014. With the development of digital libraries over the last three decades, university libraries can now provide their users with access to a wide range of electronic resources that complement print collections and have become important tools for research and study.

Chapter 5

Data analysis and interpretation of data

5.1. Purpose of visiting library

Table 1: Frequency of respondents visiting the library

Purpose	Respondents	Average
To read books	42	6.75%
To locate relevant information	15	2.4%
To read articles	10	1.6%
To read newspapers	9	1.4%
To refer reports/thesis/dissertation	20	3.2%
For career development	4	0.6%
To access online journals	2	0.3%
Project Information	30	4.8%
Any other	1	0.1%
Total	133	21.375%

The respondents were given the option chose multiple options in this question. Majority of the respondents (i.e.) 6.75% said that they visit library to read books, followed by 4.8% of them for project information. Followed to that 3.2% respondents visits to read articles. About 1.4% of the users said that they visit to read newspapers, while 2.4% respondents preferred to locate relevant information and 1.6% of them stated that they visit only to read articles, Less than 1% of respondents choose the options of accessing career development information, online journals and any other option.

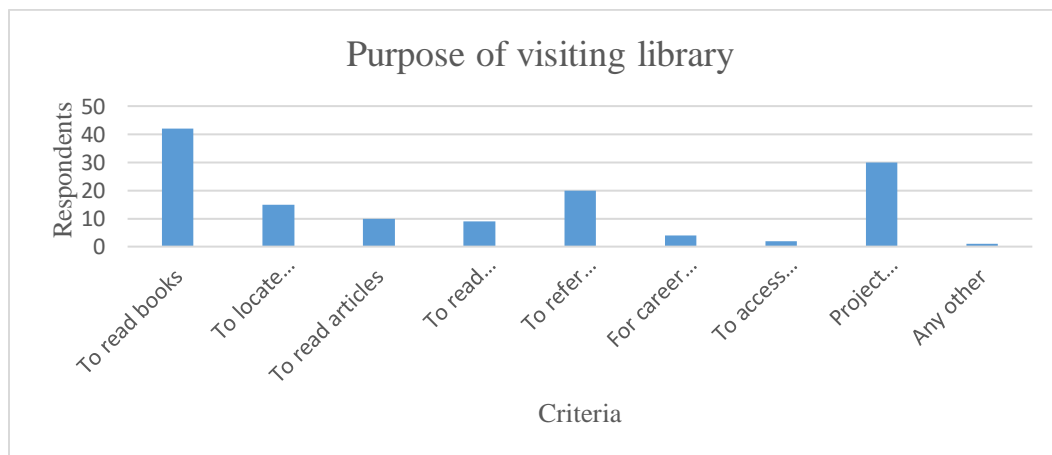


Figure 1: Graphical Presentation of data in Table 1

5.2 Frequency of library visiting

Table 2: Frequency of visiting the library

Frequency of library visiting	Respondents
Everyday	4
Once in a week	23
Occasionally	17
More than twice a week	7
Once in 2 week	5
Total	56

In this study, it was discovered that 41.1% of the total surveyed library' users visited the library only once a week. Followed by, 30.4% of users visiting the library on a regular basis. Followed by, 12.5% of users preferred to visit the library twice a week. While 8.9%, user opted to visit once every two weeks. Whereas the remaining 7.1% respondents visited the library on daily basis.

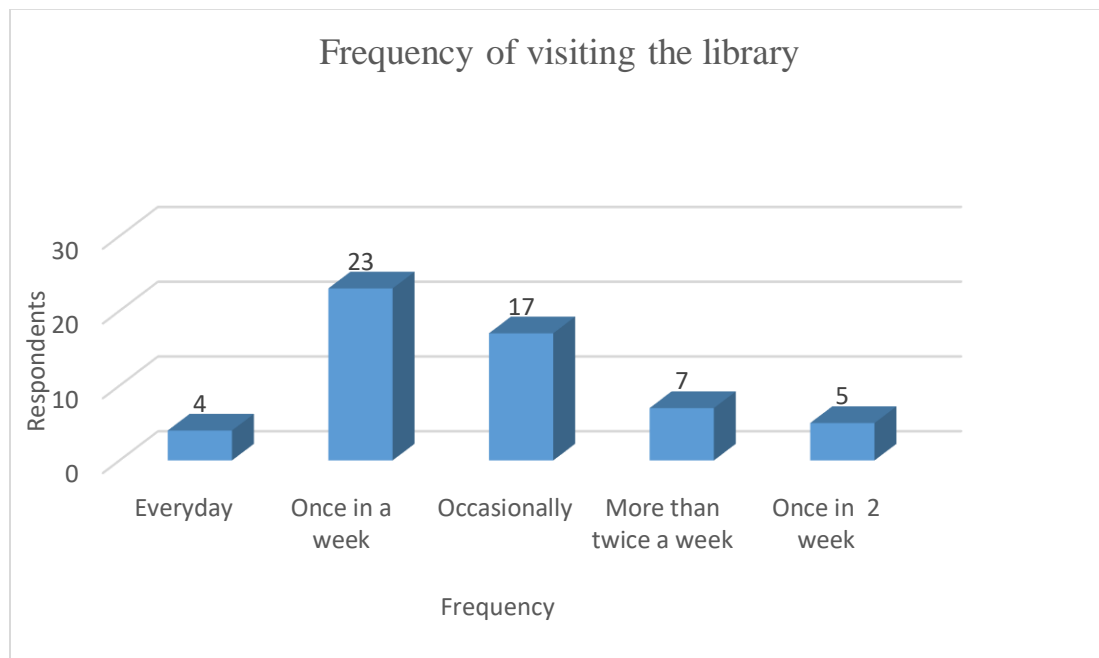


Figure 2: Graphical Presentation of data in Table 2.

5.3 Time spend in the library on weekly basis

Table 3: Frequency of time spend in the library on weekly basis

Time spend in the library on weekly basis	Respondents
Less than 1 hour	16
1-2 hours	31
2-3 hours	7
More than 3 hours	2
Total	56

Different users have different perspectives on how they spend their time in the library. In this study majority of the respondents (i.e) 31 spend 1-2 hours a week. Followed by 16 users who used library for less than 1 hour every week. While 7 respondents spend 2-3 hours in each week in the library and only 2 respondents use library services for more than 3 hours a week.

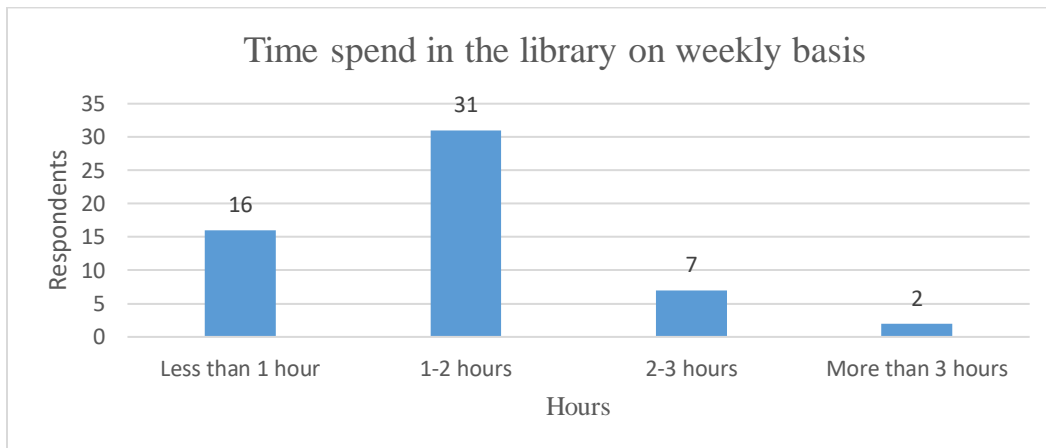


Figure 3: Graphical Presentation of data in Table 3.

5.4 Getting help from library staff in locating resources

Table 4: Frequency of getting help from library staff in locating resources

Seeking assistance from library staff	Respondents
Often	28
Occasionally	23
Never	5
Total	56

Users seeking information in the library require assistance during their visits. According to the findings of this study, almost half of the respondents seek assistance from staff. Following that, 41.1% of respondents take help from library staff on an occasional basis. While a minimal percentage of respondents (i.e) 8.9% mention that never ask for assistance in locating information.

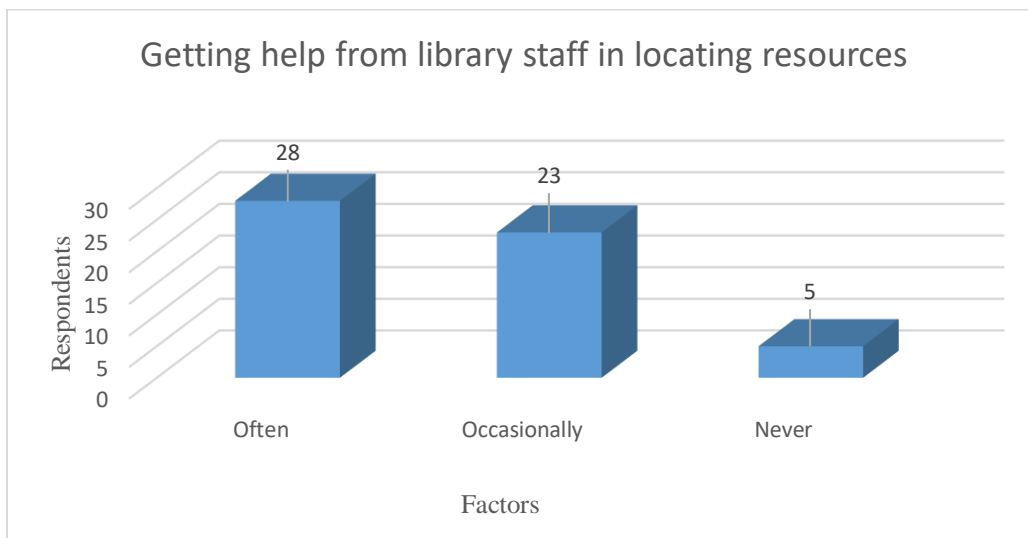


Figure 4: Graphical Presentation of data in Table 4.

5.5 Rate the resources as per experience

Table 5: Frequency of ratings as per experience in usage of resources

Resources	Ratings					Total
	1	2	3	4	5	
Books	3	6	13	16	18	56
Journals	8	6	9	26	7	56
Newspapers	3	8	4	16	25	56
Magazines	4	8	10	21	13	56
Reports/Thesis/Dissertations	7	7	11	19	12	56
E-databases	6	7	13	22	8	56
E-books	9	8	10	19	10	56
Plagiarism checker	12	6	12	17	9	56
E-journals	11	8	8	18	11	56
Journal back volumes	6	9	15	18	8	56
Grammarly	8	9	8	19	12	56

(Where 1 stands for Poor and 5 means excellent)

There are different resources provided by the library. In the case of books majority of the respondents said that it is excellent. In the case of journals majority of the respondents said that it is good. In the case of newspapers majority of the respondents said that it is excellent. In the case of magazines majority of the respondents said that it is good. In the case of reports/thesis/dissertation majority of the respondents said that it is good. In the case of e-databases majority of the respondents said that it is good. In the case of e-books majority of the respondents said that it is good. In the case of plagiarism checker majority of the respondents said that it is good. In the case of e-journals majority of the respondents said that it is good. In the case of journal back volumes majority of the respondents said that it is good. In the case of grammarly majority of the respondents said that it is good.

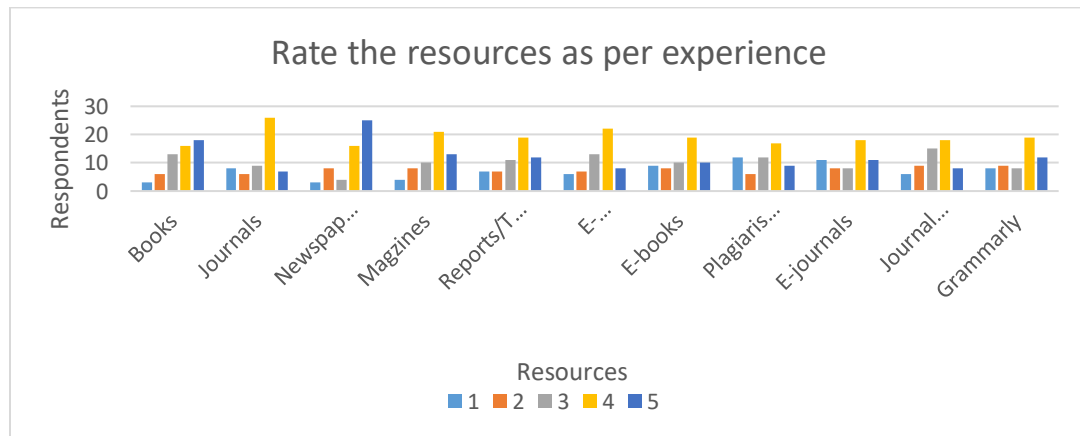


Figure 5: Graphical Presentation of data in Table 5.

5.6 Difficulties faced for accessing information resources

Table 6: Frequency of difficulties faced for accessing information resources

Difficulties	Respondents	Average
Lack of Infrastructure	13	2.3%
Inadequate e-resources	12	2.1%
Unavailability of orientation program	4	0.7%
Less comprehensive book collection	11	1.9%
Uncooperative by library staff	5	0.8%
Lack of printed journals	9	1.6%
Insufficient computers	18	3.2%
Lack of reading space	13	2.3%
Unsuitable Library timings	4	0.7%
No internet connectivity/facility	19	3.3%
Total	108	19.28%

When users visit the library they may face some difficulties in accessing information resources. Multiple choice option was given to the respondents. In this research, majority of (i.e), 3.3% said no internet connectivity/facility, followed by 3.2% said that it is because of insufficient computers, trailed by 2.3% stating that lack of infrastructure and lack of reading space, 2.1 respondents that they faced difficulty of inadequate e-resources, 1.9% said less comprehensive book collection, 0.8% said that it is due to uncooperative library staff, 0.7% mentioned that it is due to unsuitable library timings.

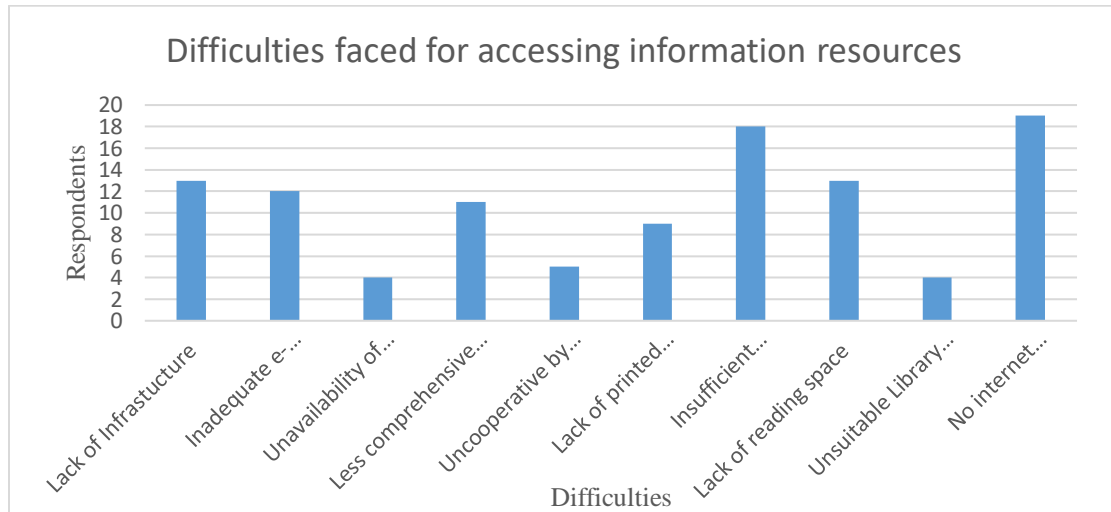


Figure 6: Graphical Presentation of data in Table 6.

5.7 . Rate overall facilities and services

Table 7: Frequency of overall facilities and services rating

Services	Ratings					Total
	1	2	3	4	5	
Circulation	3	6	13	21	13	56
Reference	3	5	8	29	11	56
Photocopying	4	8	18	17	9	56
Current Awareness	4	1	18	22	11	56

A question was asked to users to rate the overall services provided by the library. In the case of circulation service majority of the respondents said that it is good. In the case of reference services majority of the respondents said that it is good. In the case of photocopying service majority of the respondents said that it is average. In the case of current awareness majority of the respondents said that it is good.

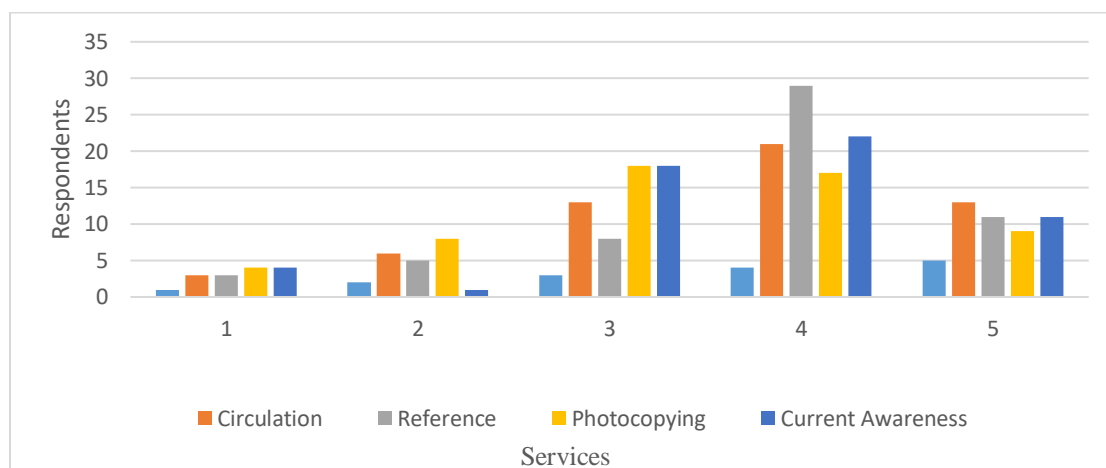


Figure 7: Graphical Presentation of data in Table 7.

5.8 Awareness about sources of e- resources among users

Table 8: Frequency of sources awareness about sources of e- resources among users

Sources	Respondents
Referred personally by librarian	6
Library alert services	7
Library Website	18
Publishers mail alerts	1
Information from faculties	12
From Researcher	5
Random internet search	5
From our Librarians	2
Total	56

In this study, it was discovered that the majority of respondents is 32.1%, know about the library through its website. Followed by, 21.4% of users received information from faculties. Similarly, 12.5% of users have choose the library alert services. Followed by, 10.7% of users opted for resources through personal contact with a librarian. Users choose two options with the same percentage: random internet search and researcher, both with 8.9%. Followed by 3.6% of users said they learned about it from their librarians. The least popular option among users, at 1.8%, is publishers' email alerts.



Figure 8: Graphical Presentation of data in Table 8.

5.9. Factors that made to choose e- resources over printed resources

Table 9: Frequency of factors made to choose e-resources over print

Different Factors	Respondents
Accessibilty	18
Simultaneous usage	4
Less time consuming	21
Easy information retrieval	13
Total	56

This study discovered factors that influenced users to prefer e-resources over print resources. The majority of respondents, 37.5% believed that e-resources take less time than print resources. Some respondents, 32.1%, said that they chose because of accessibility. Following that, easy information retrieval had led to a 23.2% preference for e-resources over print resources. Least percentage was (i.e) 7.1%, said they prefer e-resources over print because of simultaneous usage.

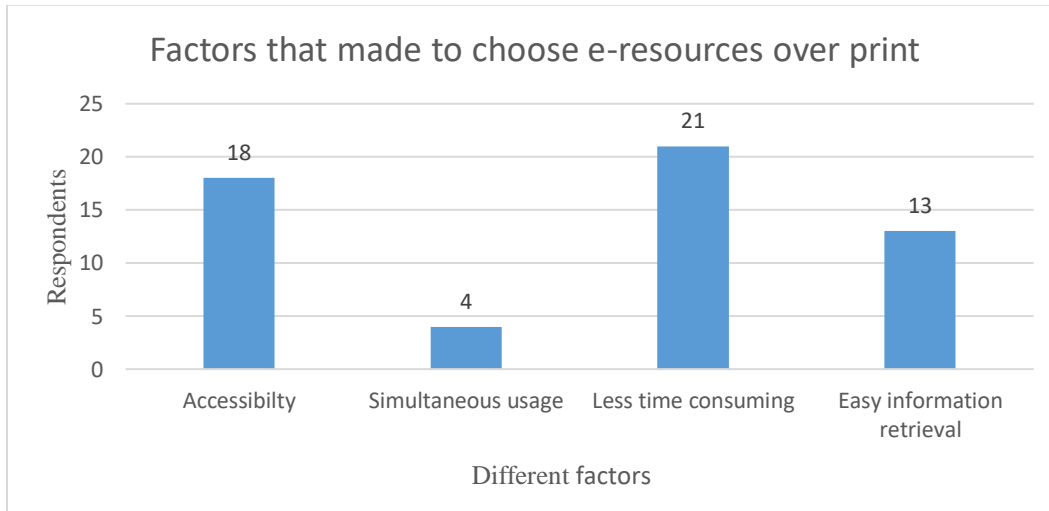


Figure 9: Graphical Presentation of data in Table 9.

5.10. Purpose of Using Electronic Resources

Table 10: Frequency of using electronic resources

Different purposes	Respondents
For research work	14
For self study	21
For keeping up to date in subject	4
For Reference	17
Any other reason	0
Total	56

The most common reason for using E-resources, according to respondents (37.5%), is for self-study. Followed by that is (3.4%) of e-resources are used for reference. E-resources are used in (25%) of research projects. (7.1%) of them say they use e-resources to stay up to date in their field.

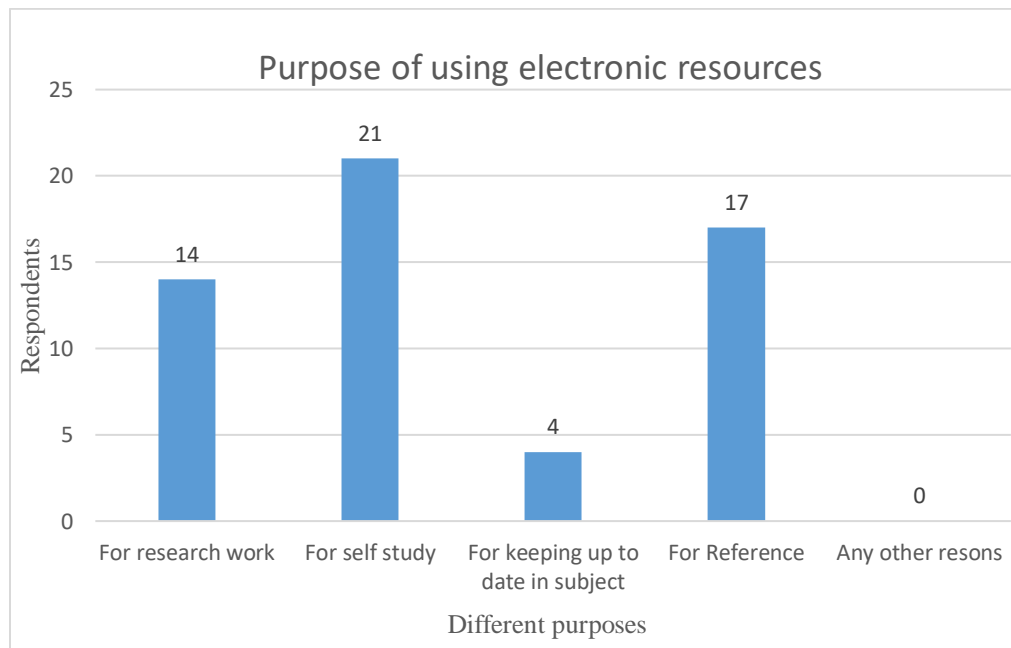


Figure 10: Graphical Presentation of data in Table 10.

5.11. Mode of access to E- Resources

Table 11: Frequency of mode to access e-resources

Devices	Respondents
PC	5
Laptop	11
Smartphone	40
Tablets	0
Total	56

For accessing different e-resources there is need of electronic devices. Majority of respondents are (71.4%) use smart phone for accessing e-resources and followed by laptop is used with percentage of (19.6%) by some respondents. Least ones are comfortable with accessing e-resources through PC is (8.9%) and no one is showing interest in accessing through tablets.

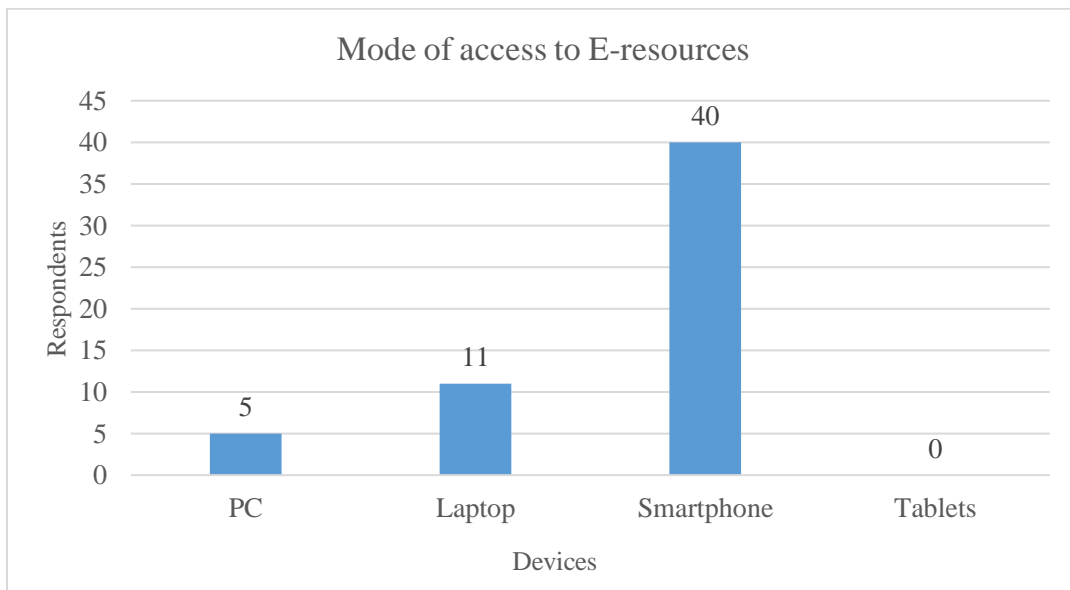


Figure 11: Graphical Presentation of data in Table 11.

5.12. Access to E- Resources on weekly basis

Table 12: Frequency of access to e-resources on weekly basis

E-resources	Respondents
<5	36
5 to 10	15
10 to 15	4
15 & above	1
Total	56

This study examines how users access e-resources on a weekly basis. The majority of respondents (64.3%) preferred to use fewer than five resources. Followed by that 5-10 resources with a percentage of (26.8%). Similarly, (7.1%) of respondents used 10-15 resources, with 15 & above being the least preferred.

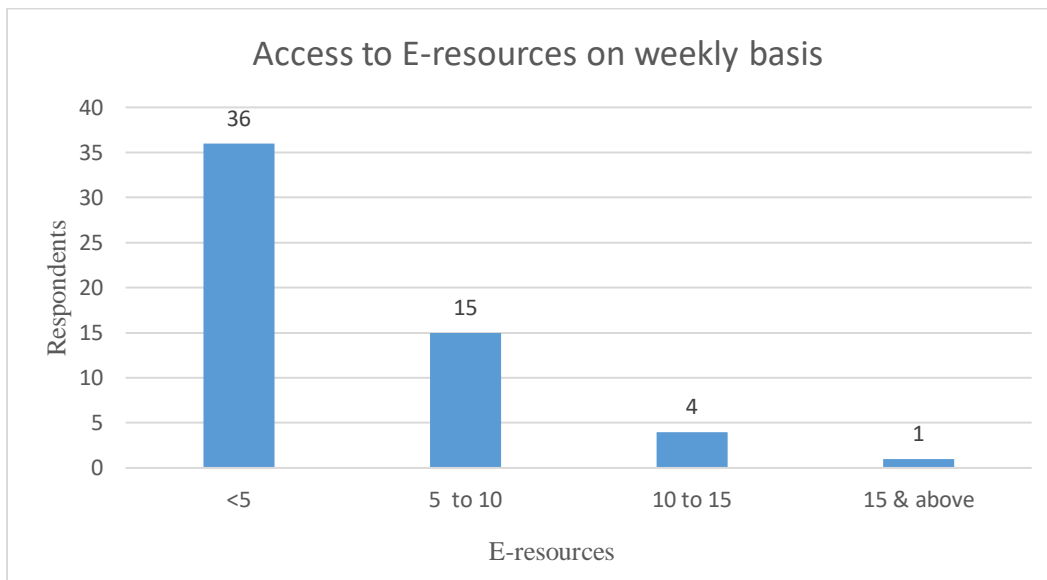


Figure 12: Graphical Presentation of data in Table 12.

5.13.Strategies for searching E- resources

Table 13: Frequency of strategies for searching e-resources

Search Techniques	Respondents
By Author	16
By Article Title	19
By Journal Title	6
By Publisher	6
By keywords	8
By year of Publishing	1
Total	56

When searching for e-resources, various search strategies are followed. The majority of them i.e. (33.9%) use search technique through ‘title of the article’. Followed to that (28.6%) of repondents like to search by author field. Likewise (10.7%) of common interest seen in searches for journal titles/names and publisher’s name. In the same way keywords are used by (14.3%) of them to search for e-resources. Year of publication, is the least field users choose.



Figure 13: Graphical Presentation of data in Table 13.

5.14. Years of experience in usage of E- resources

Table 14: Frequency of years in usage of e-resources

Years of experience	Respondents
Less than 1 year	29
1 to 2 years	19
2 to 3 years	6
3 to 4 years	1
More than 4 years	1
Total	56

In this study, it is found that regarding usage of e-resources. Most of them i.e.(51.8%) has said that they have experience in using e-resources of less than 1 year. Followed by users that some are have experience of 1-2 years. Similarly, some users are have experience of 2-3 years. Likewise (1.8%) users have being using e-resources for more than 4 years.

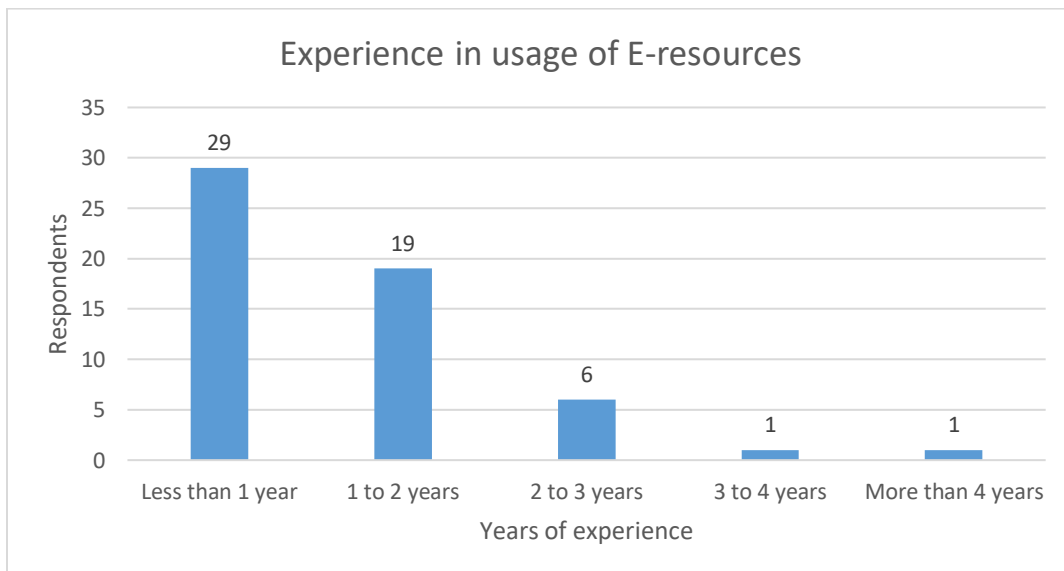


Figure 14: Graphical Presentation of data in Table 14.

5.15. Downloaded full text articles are read or not

Table 15: Frequency of downloaded full text articles are read or not

Opinion	Respondents
Yes	20
No	36
Total	56

In this study most of the users provided their opinion regarding reading of all full text articles that are downloaded by them. Majority (64.3%). of the users do not read articles downloaded followed by ones some are saying yes is (35.7%).

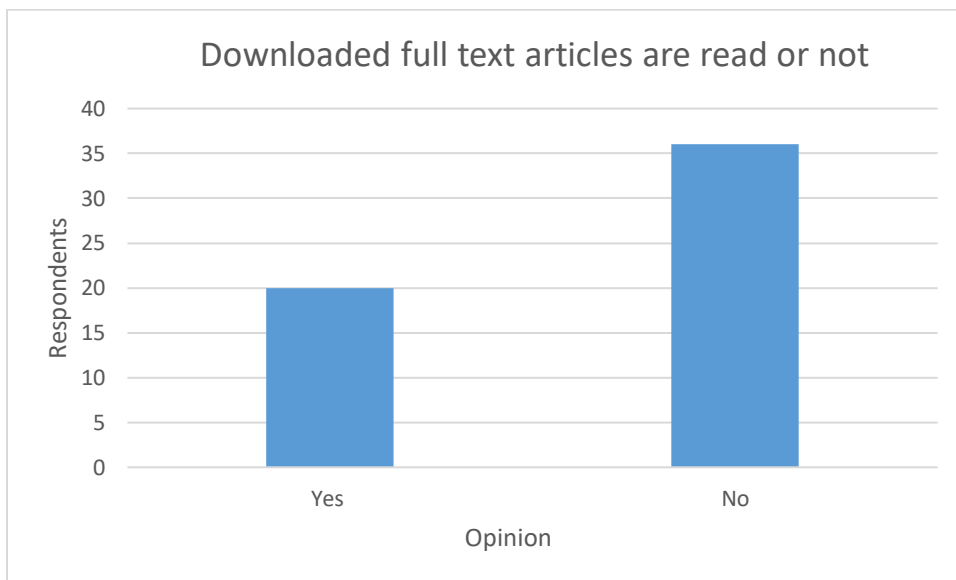


Figure 15: Graphical Presentation of data in Table 15.

5.16. Perception about the working of the library staff

Table 16: Frequency of perception about the working of the library staff

User Perception on library staff	Respondents
Highly satisfied	13
Satisfied	29
Moderate	12
Unsatisfied	2
Total	56

There are different perception regarding the working of the library staff. In this research, it was found that most of the user's i.e (51.8%) are satisfied with the assistance of library staff. Followed by (64.3%) that some who said that they are highly satisfied is (21.4%), feel about the perception of library staff. Negligible number of respondents said that they are unsatisfied in seeking assistance from library staff.

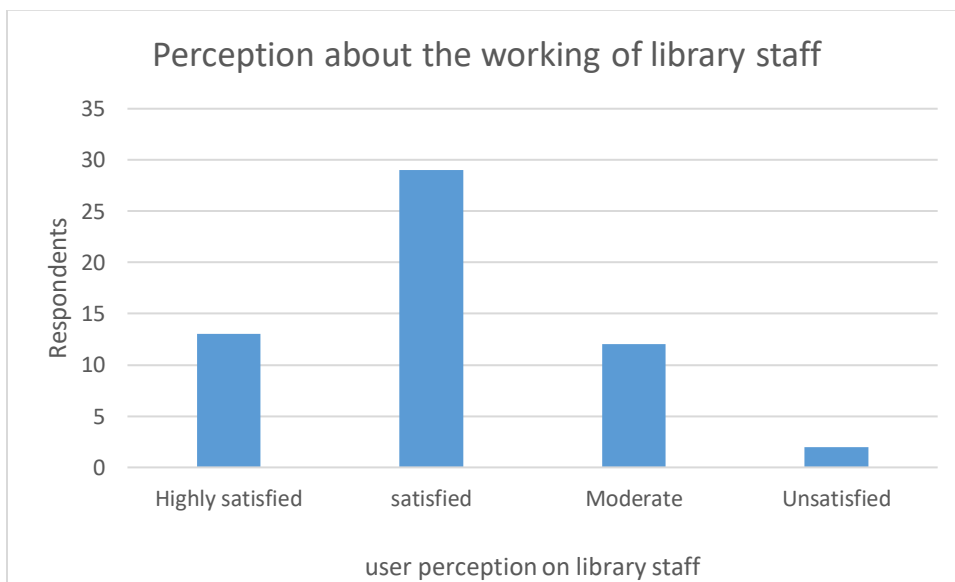


Figure 16: Graphical Presentation of data in Table 16

5.17. Satisfied with the facilities provided by the Library

Table 17: Frequency of satisfaction level towards the facilities

Satisfaction level	Respondents
Excellent	13
Very good	19
Good	20
Poor	4
Total	56

There are different facilities provided by the library to the respondents based up on that the satisfaction level of respondents taken from this study. One third of the library users said that satisfaction levels are good (i.e.) (35.7%). Followed by equal number of respondents stating facilities are very good (i.e) (33.9)



Figure 17: Graphical Presentation of data in Table 17.

5.18. Resources those are recommend to the library

Table 18: Frequency of resources those are recommend to the library

Resources	Respondents
Print books	39
E-resources	11
E-books	4
Databases	2
Total	56

There are different resources available in the library. In this study it is found that most of the respondents said that they want print books i.e (69.6%). Followed by the users that are satisfied with the e-resources i.e (19.6%). E-books are preferred by (7.1%) them from this study and least of them ie (3.6%) said that they feel that library must contain databases.

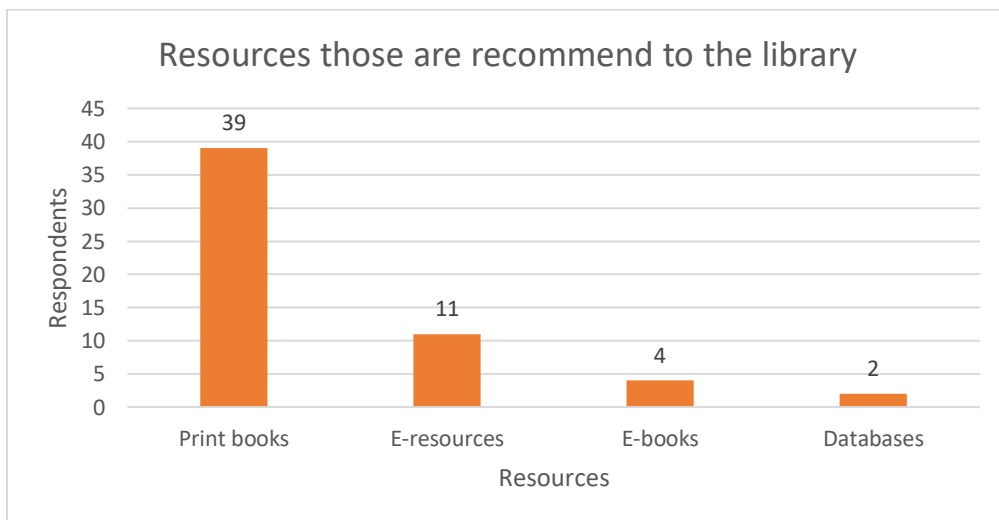


Figure 18: Graphical Presentation of data in Table 18.

5.19. Electronic resources can replace print resources

Table 19: Frequency of electronic resources can replace print resources

Views	Respondents
Yes	20
No	14
Can't say	22
Total	56

Electronic resources can replace print resources. In this study it is found that majority of the users is (39.9%) said they can't say that electronic resources could be replaced by print. Similarly, some users (35.7%) agreed to this as they agreed on replacement on e-resources over print. Followed by (25%) respondents said they do not know no.

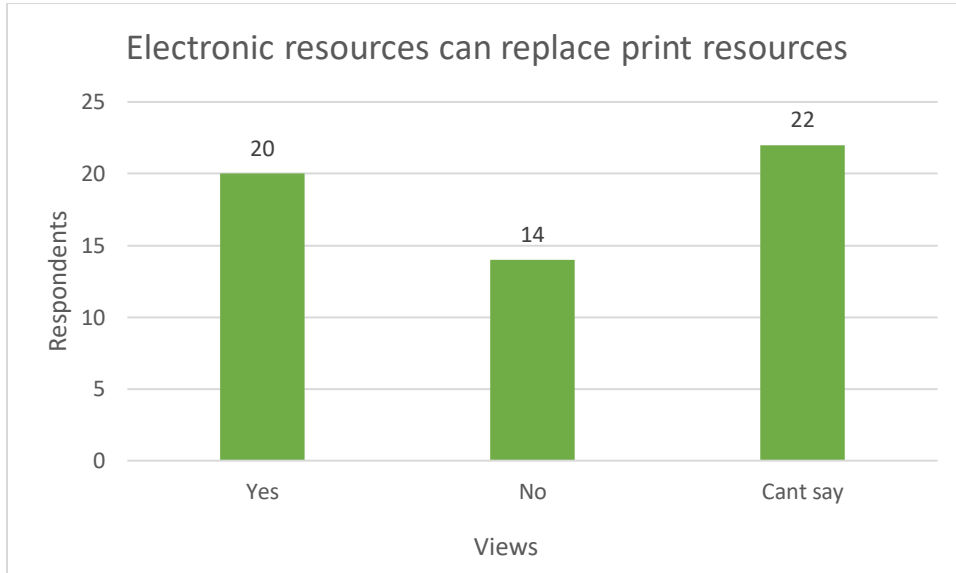


Figure 19: Graphical Presentation of data in Table 19.

5.20. Mode of accessing e-resources

Table 20: Mode for accessing e-resources

Mode of accessing e-resources	Surveyed Libraries
User name & Password based	5
IP based Authentication	0
Open access electronic resources	2
Remote access through OPAC	0
Access in campus only	1
Websites	1
Total	9

There are different modes of accessing e-resources that are available in libraries. Majority of librarians use to search with using username & password amounting to (55.6%). Followed to that (22.2%) of users like to access with open access electronic resources. Two librarians said that on access in campus only and websites. No librarians agreed on IP based authentication and remote access through OPAC.

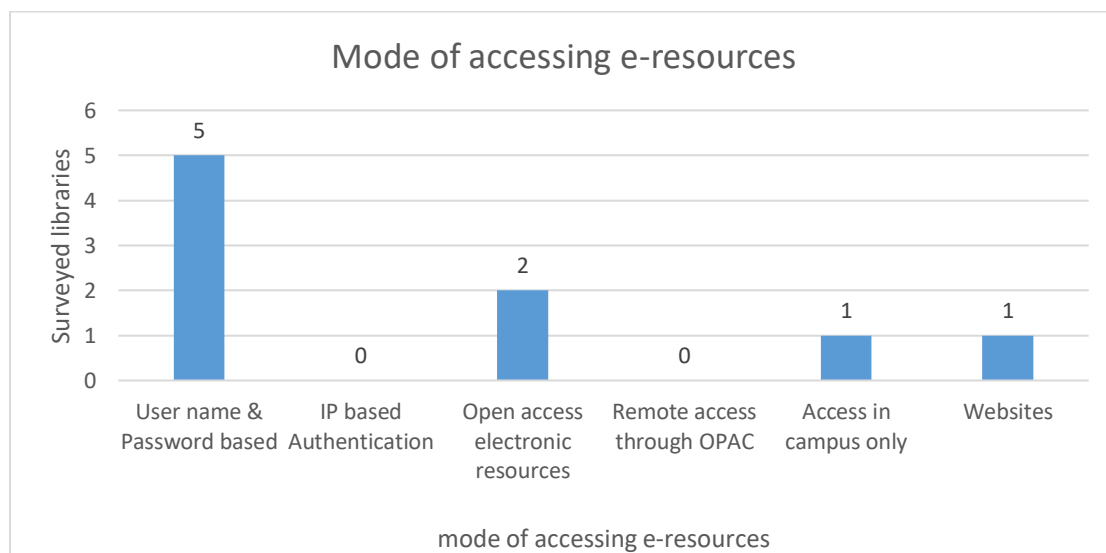


Figure 20: Graphical Presentation of data in Table 20.

5.21 E-resources access on daily basis

Table 21: Frequency of e-resources access on daily basis

E-resources	Surveyed libraries
<5	5
6-10	4
>10	0
Total	9

There are different e-resources accessed on daily basis. Majority of respondents (55.6%) agree that they like to access less than <5 e-resources. Followed to that (44.4%) respondents who said that they preferred to have access to 6-10 resources on daily basis. None of the respondents wished to access more than >10 e-resources.

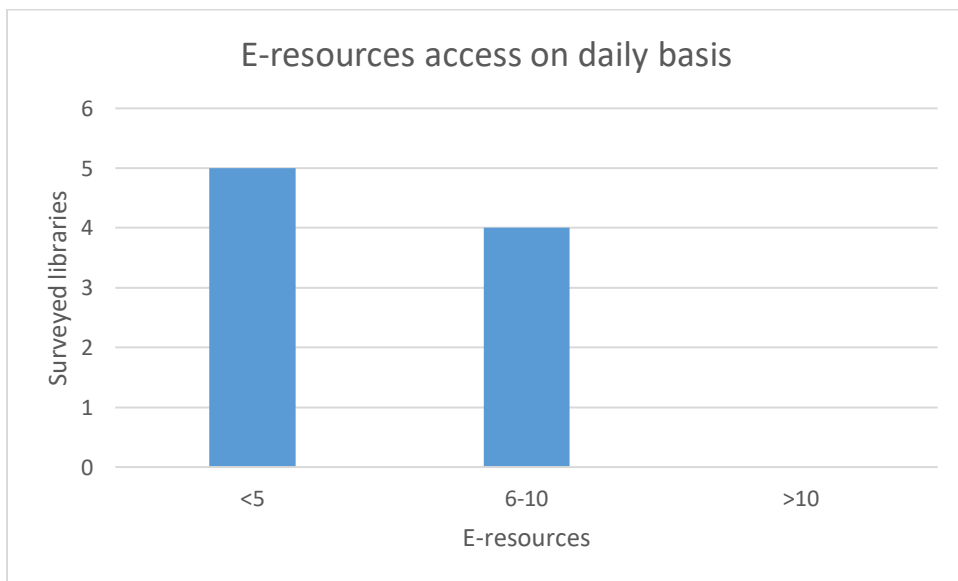


Figure 21: Graphical Presentation of data in Table 21.

5.22. Frequently accessing to e-resources

Table 22: Frequency of respondents in accessing e-resources

Access to e-resources	Surveyed libraries
Most frequently	3
Frequently	5
Least used	1
Total	9

The frequency of accessing to e-resources varies as per the choice of the users. Majority of the librarians (55.6%) said that they like to access e-resources frequently. Followed (33.3%) librarians who said that they access e-resources in most frequently manner. Similarly, (11.1%) of respondents said that they access e-resources rarely.

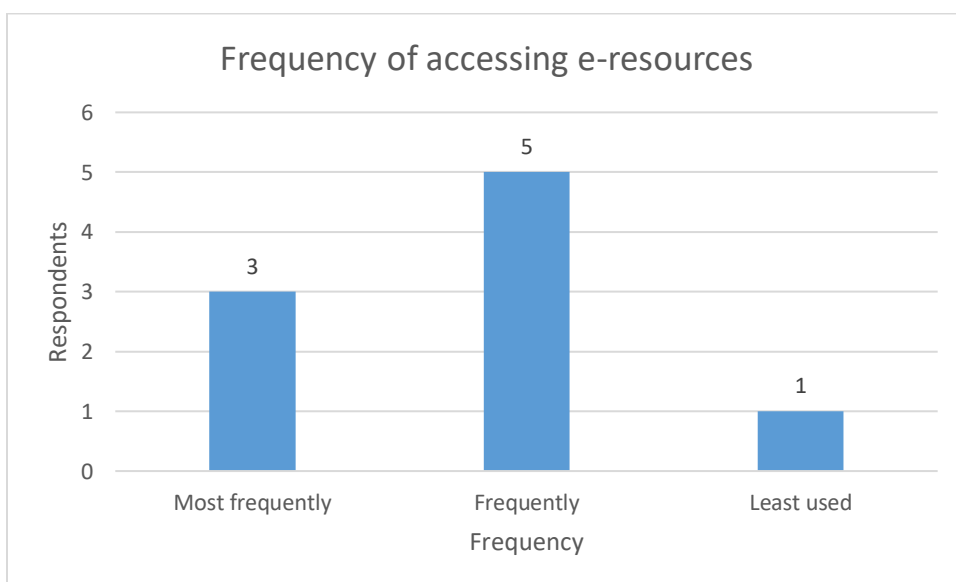


Figure 22: Graphical Presentation of data in Table 22.

5.23 Full text resources download in month

Table 23: Frequency of respondents download full text resources in month

Resources	Surveyed libraries
1-5	4
5-10	1
10-15	4
Total	9

There are different resources that are downloaded in full text. Some of the librarians agreed with two options that is 1-5 and 10-15 resources with same percentile that is (44.4%). Only few librarians said that they download only 5-10 that is (11.1%).

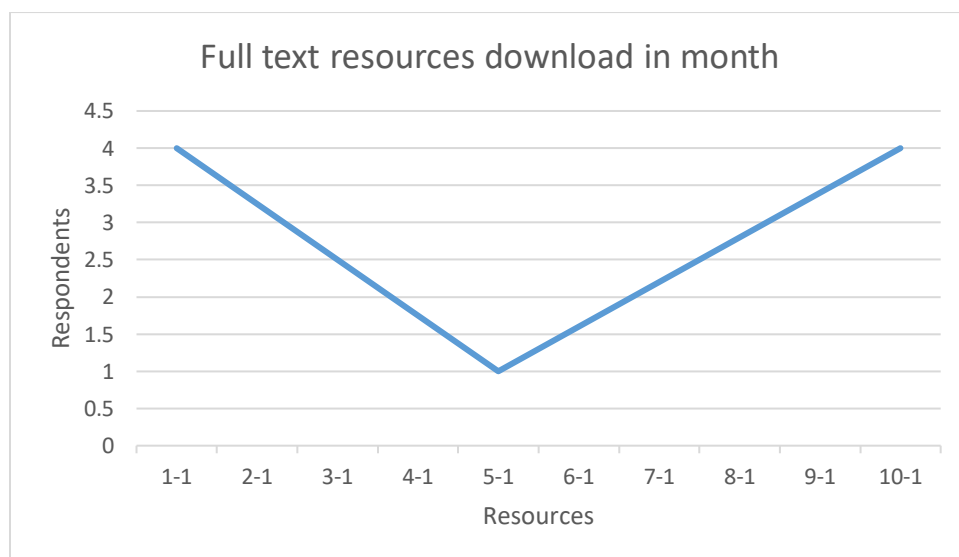


Figure 23: Graphical Presentation of data in Table 23.

5.24 satisfied about the e-resources available in library

Table 24: Frequency of respondents towards e-resources available in library

Satisfaction level	Respondents
Highly satisfied	0
Satisfied	9
Least satisfied	0
Total	9

In this research it was found that all the librarians are satisfied with e-resources available in their libraries.



Figure 24: Graphical Presentation of data in Table 24.

5.25 Perception about the library staff

Table 25: perception about the library staff

Perception towards library staff	Surveyed Libraries
Cooperative	8
Not- cooperative	1
Can't say	0
Total	9

There are different perception about library staff. Majority of (88.9%) librarians said that the library staff is fully cooperative. Whereas only (11.1%) of librarians said that they are non-cooperative. There were no responses for the cant say option.



Figure 25: Graphical Presentation of data in Table 25.

5.26 Satisfaction levels with the facilities provided by the library

Table 26: Frequency of respondents to the facilities provided by the library

Facilities	Ratings					Total
	1	2	3	4	5	
Book Bank	1	0	2	3	3	9
E-resources	1	0	1	6	1	9
Reference services	0	0	1	6	2	9
Current Awareness service	0	0	6	2	1	9

There are many facilities available in the library, on this basis respondents were asked for ratings. In the case of book bank majority of the respondents said that it is good as well as excellent. In the case of e-resources, majority of the respondents said that it is also good.

In the case of reference services majority of the respondents said that it is good. In the case of current awareness service majority of the respondents said that it is average.

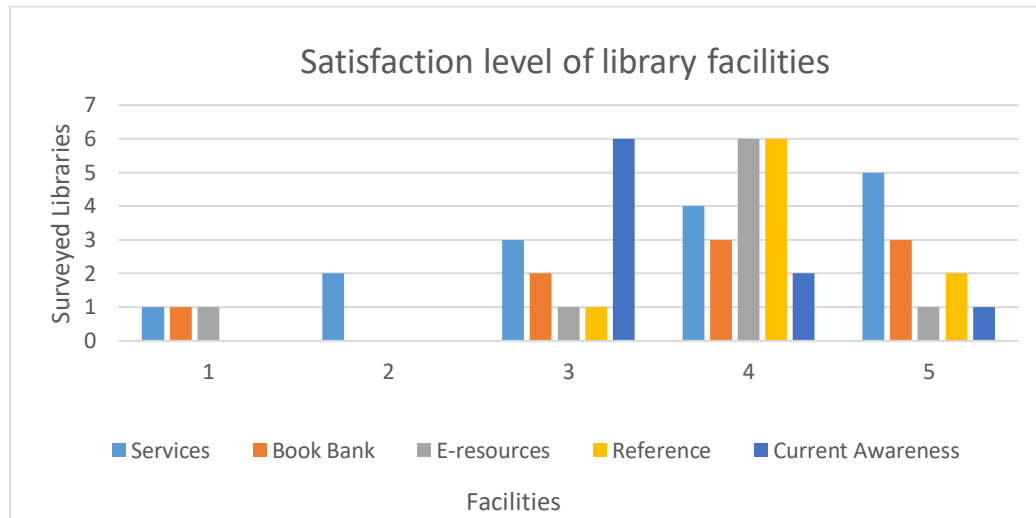


Figure 26: Graphical Presentation of data in Table 26.

5.27 Subscribe both print and E-resources

Table 27: Subscribe both print and electronic resources in library

Views	Surveyed libraries
Yes	6
No	0
Only print	0
Only e-resources	0
Both	3
Total	9

In this research it is found that all the librarians subscribe both the resources. Some of librarians said they subscribe both resources.

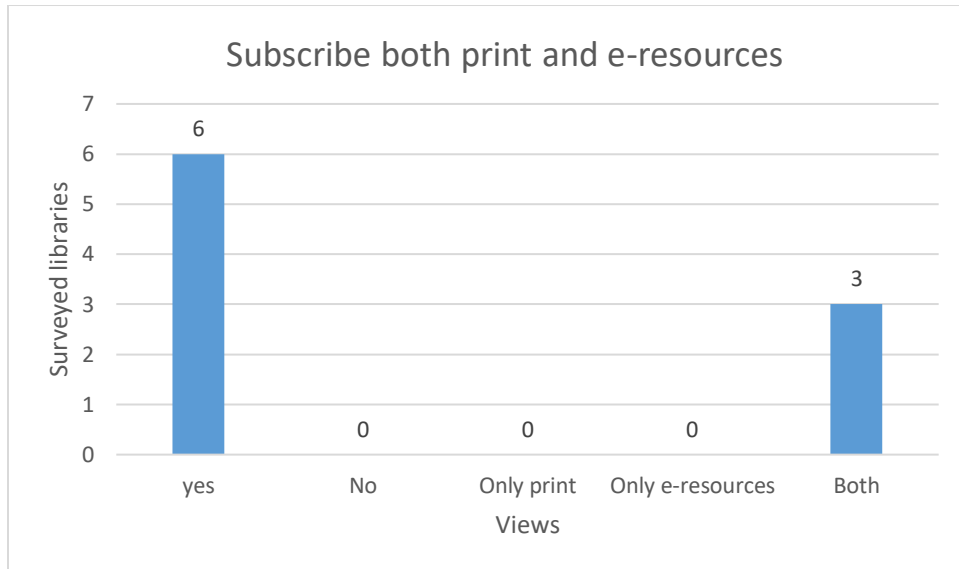


Figure 27: Graphical Presentation of data in Table 27.

5.28 Problems faced by Librarians regarding E-journals

Table 28: Frequency of respondents for problems faced by librarians regarding e-journals

Problems faced by librarians regarding E-journal	Surveyed Libraries
Increased expenditure	6
Lack of compatibility between different publishers	2
Difficult in browsing than print journals	0
Problem in having perpetual access to back volumes	0
Complex licensing agreements	0
Requires technical support	1
Total	9

In this study it is found that the majority of (66.7%) librarians said that they face problem due to increase in prices of e-resources. Followed by (22.2%) of librarians stating that it is

due to lack of compatibility between different publishers. Likewise (11.1%) of them said that it is because of technical support and no one said that are ejournals are difficult in browsing than print journals, problem in having perpetual access to back volumes complex licensing agreements.

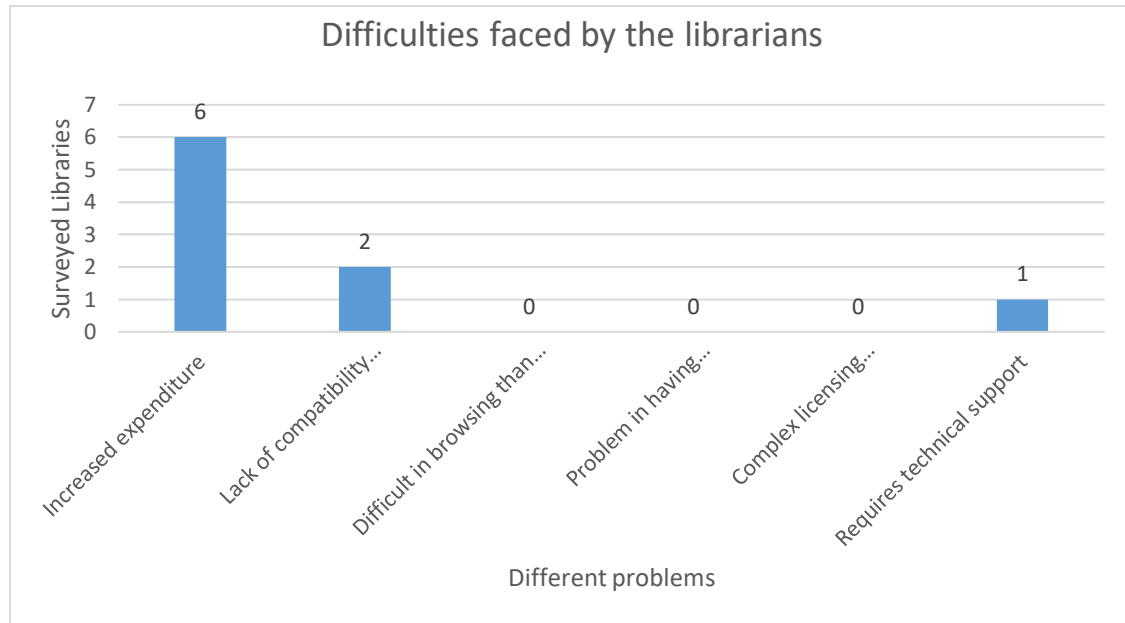


Figure 28: Graphical Presentation of data in Table 28.

5.29 Reasons for preferring e-content

Table 29: Reasons for preferring e-content by library

Reasons for preferring e-content	Surveyed Libraries
E-journal is easier to use than printed journals	2
Subscription of print journals requires storage facilities	0
Print + online subscription offers a better deal	2
Many e-journals are open source	1
Accessing back issue of e-journals is more convenient as compared to print	4
Total	9

In this study it is found that the majority (22.2%) of librarians said that they prefer it because of e-journal are easier to use than printed journals and also with same percentile some librarians provide reason of print + online subscription offers a better deal. Similarly, (44.4%) said that accessing back issue of e-journals is more convenient as compared to print. Only 11.1% of librarians said that many e-journals are open source.

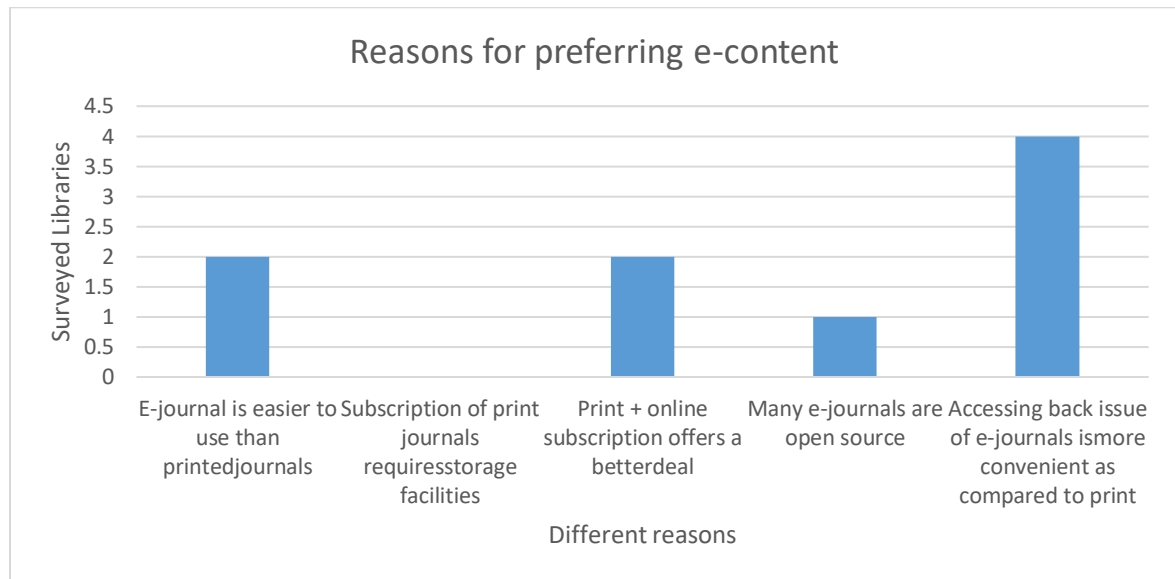


Figure 29: Graphical Presentation of data in Table 29.

Chapter 6

Findings, hypothesis testing and suggestions

Observation

While doing the study, it was observed that the responses of the students and librarians were good. The survey was made with the help of a Google Form, because of which it becomes difficult to go into depth with the questions and to understand the overall behaviour of the students and librarians over the questions.

6.2 Findings

1. The study reveals the number of student respondents is 56, and librarians are 9.

2. In all surveyed libraries, it is noticed that the number of users visiting the library is decreasing, and time spend in the library is also dropping.
3. It is noticeable that the transition from print to electronic resources takes less time.
4. Most users prefer to use e-resources because they are accessible through smart phones.
5. Most of the users preferred to read books.
6. All the users of the surveyed libraries are facing difficulties in accessing information resources because of insufficient computers, no proper internet facility, a lack of reading space, a lack of infrastructure, and inadequate e-resources.
7. Most users learn about e-resources through the library website.
8. Among all surveyed libraries, all users use e-resources for self-study purposes.
9. The search technique used by most of the users is by article title.
10. Users do not prefer to read all full-text articles.
11. All the libraries prefer to subscribe to both print and electronic resources.
12. The libraries prefer e-journals because they can access back issues more easily as compared to print.
13. Most of the libraries are facing financial problems as they have to spend most of their budget on the subscription of e-resources.
14. As per all surveyed libraries, they are satisfied with the e-resources available in the libraries.
15. Access to e-resources on a weekly basis by users is (64.3%) of all surveyed libraries.
16. Most library users prefer to print books for their library, with a percentage of (69.6%)

6.2 Hypothesis testing

1. The proposition that all the libraries have shifted from print to electronic modes of functioning was not fulfilled as per analysis.

2. Shift from print to electronic resources have led to no usage of print of library materials was also not fulfilled as per analysis.

6.3 Suggestions

1. There is a continuous fall in visitors to the library, so they need to run some orientation programmes to make the users aware of the available resources in the library.
2. There is a need to improve computer labs with more computers because it will lead to more usage of e-resources that are available in the library as well as be beneficial for self-study.
3. The librarians must inform the students regarding library resources available in the library.
4. If libraries need to increase their reach among students, then they must use social media tools for interaction.
5. There must be a need to create more reading space for readers.
6. There is a necessity for good internet connectivity in the library so that students can use it to access e-resources subscribed to by the library.
7. Due to the easy reach of internet, users are shifting from print to electronic media.
8. There is a need for user education regarding e-resources.
9. The library should play a prominent role in providing information related to e-content by conducting orientations and workshops at regular intervals in their college.
10. There must be support for user training, which is required for ease of access, compatibility of e-content with the available software and hardware to be checked, and evaluation of its content. User feedback is also necessary from time to time while transitioning from print to e-content.
11. There is a need to form library consortiums for academic college libraries, as they have to pay higher fees for journal subscriptions. Through consortia, all libraries will be able to see each other subscribed resources through a single-window platform, making it easier for libraries to reduce their spending on the same journal subscription.

Chapter-7

Conclusion

7.1 Conclusion

This study examines the "Transition from print to electronic era: A study of the impact on college libraries and their users in South Goa". The advent of information and communication technology (ICT) has changed the behaviour of information seekers as well as the services provided by libraries. Demand for e-resources has increased, and libraries have to ensure that the need for these resources is met in the most efficient manner. The number of library users is gradually declining due to the availability of e-content on their

smartphones. The libraries are subscribing to both print and electronic resources for their users. Librarians are satisfied with the e-resources that are available in their libraries.

7.2 Bibliography

- Wu, M. M. (2005). Why Print and Electronic Resources Are Essential to the Academic Law Library. *Law Library Journal*, 97, 233-256. Retrieved 10 13, 2022, from <https://scholarship.law.georgetown.edu/facpub/783>
- AGGARWAL, D. (2014, November). Printed Media and Electronic Era: Challenges before the Librarians. *International Journal of Research*, 1(10). Retrieved from <https://edupediapublications.org/journals>
- Chauhan, J. K. (2012). Dynamic shift from print to electronic resources. *International Journal of Information Technology and Business Management*, 1, 1-7.
- Chavali, K., & Gundala, R. R. (2022, February). The Textbook Dilemma: Digital or Print? Evidence from a Selected US University. *TEM Journal*, 11(1), 242-248. doi:10.18421/TEM111-30
- Chen, S.-C. (2019). Exploring the use of electronic resources by humanities scholars during the research process. *The Electronic Library*, 37(2), 240-254. doi:10.1108/EL-08-2018-0170
- Collins, M. D., & Carr, P. L. (Eds.). (2008). *Managing the Transition from Print to Electronic Journals and Resources*. NEW YORK AND LONDON: Routledge Taylor & Francis Group. Retrieved 10 13, 2022
- Dafiaghor, F. K. (2012, may). Problems and prospects of electronic resources usage in Nigerian academic libraries. *Journal of Economics and International Finance*, 4(9), 220-225. doi:10.5897/JEIF11.071
- Garg RG, T. A. (2014). Utilization of Electronic-resources by the postgraduate. 3(2), 75-81. doi:10.4103/2320-0057.145621
- Haapanen, M., Kultamaa, P., Ovaska, T., & Salmi, K. (2015). Reducing library space can promote the shift from storage of print-collections towards a learning-centre without limiting the access to information. *Library Management*, 36(8/9), 685-689. doi:10.1108/LM-06-2015-0051
- Kacherki, U., & Thombare, M. J. (2010, January). Print vs e-Journal and Information Seeking Patterns of Users:A Case Study of SPJIMR. *Journal of Library & Information Technology*, 30(1), 22-25. doi:10.14429/djlit.30.280
- Landøy, A., & Gastinger, A. (2019). Print or Electronic Course Readings: Implications for Library Space and Information Literacy Programmes. *Information Literacy in Everyday Life. ECIL 2018, Communications in Computer and Information Science*. 989, pp. 340–344. Springer, Cham. doi:10.1007/978-3-030-13472-3_32

- Maleki, A. (2022). OCLC library holdings: assessing availability of academic books in libraries in print and electronic compared to citations and altmetrics. *Scientometrics*, 127, 991-1020. doi:10.1007/s11192-021-04220-6
- Mane, M. B., & Panage, B. M. (2015, June). Development of Library Portal– In Print and Non-Print Era. *International Journal of Advanced Library and Information Science* 2014, 2(1), 121-125. doi:10.23953/cloud.ijalis.240
- Moffat, K. (2019). A Research Guide to Psychology: Print and Electronic Sources. *Public Services Quarterly*, 15(1), 43-44. doi:10.1080/15228959.2019.1601406
- Pal, S. K. (2016). From Print to Electronic Resources in Libraries: A Managing Shift and changing Role of Librarians. *National Conference on Multidimensional Information Sources and Services, Challenges, Issues and Perspective*. lucknow. Retrieved from https://www.academia.edu/25317480/From_Print_to_Electronic_Resources_in_Libraries_A_Managing_Shift_and_changing_Role_of_Librarians
- Pandita, R., & Singh, S. (2016). Collection building trend among the institutes of higher learning in India: a preferential race between print and electronic resources. *Collection Building*, 35(4), 119-126. doi: 10.1108/CB-08-2016-0018
- Premchand-Mohammed, S. (2011). Bridging the gap between print and electronic resources at a multi-campus university library. *VINE: The journal of information and knowledge management systems*, 41(3), 315-333. doi:10.1108/03055721111171591
- Ritchie, A., & Genoni, P. (2007). Print v. electronic reference sources: implications of an Australian study. *The Electronic Library*, 25(4), 440-452. doi:10.1108/02640470710779853
- Shah, A. A., & Mustafa, K. (2016). A Journey from Print to Electronic Resources: Experience from Aga Khan. *Asian Libraries Conference: Odyssey From C-Tablets to E-Tablets and Beyond.*, (pp. 1-10). Retrieved 10 13, 2022, from https://www.researchgate.net/publication/315488661_A_Journey_from_Print_to_Electronic_Resources_Experience_from_Aga_Khan_University
- Sharma, P. C., & Kumar, R. (2016, March). Usage Preference of E-Publications by Health Professionals of Dayanand Medical College and Hospital, Ludhiana (Punjab). *Journal of Library & Information Technology*, 36(2), 88-92. doi:10.14429/djlit.36.2.9363
- ŠPIRANEC, S., GRGIĆ, I. H., & ZORICA, M. B. (2008). Print vs. Electronic - Student Information Behavior in a Fuzzy Information Universe. *INFORUM 2008: 14th Conference on Professional Information Resources*. Prague. Retrieved 10 13, 2022, from <https://www.inforum.cz/archiv/inforum2008/en/proceedings/14/>

- Tenopir, C., King, D. W., Christian, L., & Volentine, R. E. (2015). Scholarly article seeking, reading, and use: a continuing evolution from print to electronic in the sciences and social sciences. *School of Information Sciences -- Faculty Publications and Other Works*, 28(2), 93-105. doi:10.1087/20150203
- Wardhani, A., Sabana, S., & Adriati, I. (2015). The Shift from Printed to Digital Magazine and Its Impact to Women Reader in Jakarta. *5th Arte Polis International Conference and Workshop – “Reflections on Creativity: Public Engagement and The Making of Place”*. 184, pp. 310-314. Bandung: Elsevier Ltd. doi:10.1016/j.sbspro.2015.05.095
- Zha, X., Zhang, J., & Yan, Y. (2014). Exploring the effect of individual differences on user perceptions of print and electronic resources. *Library Hi Tech*, 32(2), 346-367. doi:10.1108/LHT-07-2013-0099
- Zimerman, M. (2010). Periodicals: print or electronic? *New Library World*, 111(9/10), 426-433. doi:10.1108/03074801011089341

7.3 Questionnaires

Vishal Khandeparkar
Student, MLISC
Library and Information Science Programme
Goa University

I am conducting a survey “Transition from Print to Electronic Era: A study of impact on College Libraries and its Users in South Goa” A study among the Librarians and Students of academic college libraries of South Goa as a part of my Master’s degree in library and information science.

Kindly fill the questionnaires by tick marking the correct answer. The information provided by you will be kept confidential and will be used for academic purpose only.

Questionnaire for Users

Name of the institution _____

Year of establishment _____

1. For what purpose do you visit library? (Please put "✓" for all that is applicable to you)

- | | |
|---|---|
| <input type="checkbox"/> To read books | <input type="checkbox"/> To refer reports/thesis/dissertation |
| <input type="checkbox"/> To locate relevant information | <input type="checkbox"/> For career development |
| <input type="checkbox"/> To read articles | <input type="checkbox"/> To access online journals |
| <input type="checkbox"/> To read newspapers | <input type="checkbox"/> Any other (pls specify) _____ |

2. How frequently do you visit the library?

- | | |
|--|---|
| <input type="checkbox"/> Every day | <input type="checkbox"/> Once in a week |
| <input type="checkbox"/> Occasionally | <input type="checkbox"/> More than twice a week |
| <input type="checkbox"/> Once in 2 weeks | |

3. On an average, how much time do you spend in the library on weekly basis?

- ☐ Less than 1 hour
- ☐ 1 - 2 hours
- ☐ 2 - 3 hours

☐ More than 3 hours

4. Do you seek assistance/help from the library staff in locating your required resources?

☐ Often ☐ Occasionally ☐ Never

5. Based on your experience how do you rate for the following resources from your library?

(Rate from 1 to 5 where, 1= Unsatisfactory , 2 = Poor, 3 = Average, 4 = Good,

5 = Excellent)

Type	1	2	3	4	5
Books					
Journals					
Magazines					
Reports/Thesis/Dissertations					
Newspapers					
Journal back volumes					
E-databases					
Plagiarism checker					
E-books					
E-journals					
Grammarly					

6. Please indicate the problems/difficulties faced in accessing information resources facilities in your library? (put "✓"on all that is applicable to you)

☐ Lack of Infrastructure

☐ Lack of printed journals

☐ Inadequate e-resources

☐ Insufficient computers

☐ Unavailability of orientation program

☐ Lack of reading space

- ☐ Less comprehensive book collection ☐ Unsuitable library timings
☐ Uncooperative library staff ☐ No internet connectivity/facility

7. How do you rate the overall satisfaction levels of your library facilities and services?

(Rate from 1 to 5 where, 1= Unsatisfactory, 2 = Poor, 3 = Average, 4 = Good, 5 = Excellent)

	1	2	3	4	5
Circulation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reference	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Photocopying	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Current Awareness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8. How do you know about E- Resources?

- i. Referred personally by librarian ☐ ii. Library alert services ☐
 iii. Library Website ☐ iv. Publishers mail alerts ☐
 V. Information from faculties ☐ vi. From Researcher ☐
 vii. Random internet search ☐ viii. From our librarians ☐

9. What factors have made you choose a e- resources over printed resources?

- ☐ Accessibility ☐ Less Time consuming
☐ Simultaneous usage ☐ Easy information retrieval

10. Purpose of Using Electronic Resources?

- i. For research work ☐ ii. For self study ☐
 iii. For keeping up to date in subject ☐ iv. For Reference ☐
 v. Any other reasons ☐

11. Mode of access of E- Resources?

☐PC ☐laptop ☐smart phone ☐Tablets

12. How many e- Resources do you access daily?

i. <5 ☐ ii. 5 – 10 ☐ iii. 10-15 ☐ iv) 15 & above

13. What is your search strategy for E- Resources?

i. By Author ☐ ii. By Article Title ☐ iii By Journal Title ☐
iv. By publisher ☐ v. By Keywords ☐ vi. By Year of Publishing ☐

14. Experience regarding usage of E- Resources?

i. Less than 1 year ☐ ii. 1-2 years ☐ iii. 2-3 years ☐
iv. 3-4 years ☐ v. More than 4 years ☐

15. Do you read all the full text articles downloaded by you?

i. Yes ☐ ii. No ☐

16. Your perception about the working of the library staff ?

i. Highly satisfied ☐ ii. Satisfied ☐ iii.Moderate ☐ iv.Unsatisfied ☐

17. Are you satisfied with the facilities provided by the Library ?

i. Excellent ☐ ii. Very good ☐ iii. Good ☐ iv. Poor ☐

18. Which resources do you prefer in your libraries?

(a) Print books☐ (b) Electronic books ☐ (c) E-resources☐ (d) Databases☐

19. Do you think that electronic resources can replace print resources?

(a) Yes ☐ (b) No ☐ (c) Can't say ☐

20. Any suggestions you would like to make for improvement?

Questionnaire for Librarians

Name of the Library: _____

Year of establishment: _____

1. Mode of access of E- Resources ?

- i. User name & Password based ☐ ii. IP based Authentication ☐
iii. Open access electronic resources ☐ v. Remote access to library OPAC ☐
vi. Access in campus only ☐ vii. Websites ☐

2. How many e- Resources do you access daily?

- i. <5 ☐ ii. 6 – 10 ☐ iii. >10 ☐

3. How frequently do you access e- Resources ?

- Most Frequently ☐ Frequently ☐ Least used ☐

4. How Frequently You Download Full-Text Resources ?

- i. 1-5 ☐ ii. 5-10 ☐ iii. 10-15 ☐
iv. other _____

5. Are you satisfied about the e- Resources available in your library ?

- i. Highly satisfied ☐ ii. Satisfied ☐ iii. Least satisfied ☐

6. Tell us perception about the library staff ?

- i. Most satisfied ☐ ii. Satisfied ☐ iii. Least satisfied ☐

7. Are you satisfied with the facilities provided by the Library ?

(Rate from 1 to 5 where, 1= Unsatisfactory , 2 = Poor, 3 = Average, 4 = Good,
5 = Excellent)

1 2 3 4 5

Circulation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reference	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Photocopying	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Current Awareness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8. Do subscribe both print and E-resources?

(a) Yes (b) No (c) Only print (d) Only e-resources (e) Both

9. Problems Faced by Librarians Regarding E-Journals ?

- i. Increased expenditure ☐
- ii. Need special equipment ☐
- iii. Lack of compatibility between different publishers ☐
- iv. Difficult browsing than print journals ☐
- v. Require technical support ☐
- vi. Complex licensing agreements ☐
- vii. other _____

10. Reasons for Preferring E-Journals ?

- i. E-journal is easier to use than printed journals ☐
- ii. Subscription of print journals stopped or costly ☐
- iii. Print + online subscription offers a better deal ☐
- iv. Many e-journals are open source ☐
- v. Accessing back issue of e-journals is more convenient as compared to print ☐
- vi. Other _____

11. In your opinion what are the measures need to be taken for achieving user satisfaction while migrating to e-content as the cost of printing is rapidly growing?
