

# Digital Content Management and Development in Modern Libraries



S. Thanuskodi



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# Handbook of Research on Digital Content Management and Development in Modern Libraries

S. Thanuskodi  
*Alagappa University, India*

A volume in the Advances in Library and  
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Awareness and Perception of Copyright Among Library and Information Science Professionals in Tamil Nadu, India .....	1
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This chapter describes the background, methodology, and results of a preliminary study undertaken in 2018 to determine university faculty awareness and perceptions of copyright as it affects teaching and learning. Copyright remains the cardinal bridge between creation and access to knowledge and knowledge-based materials. However, the issue of copyright awareness has now become a global concern. Since tertiary education revolves around the use of other people's copyrighted works, this study seeks to investigate the level of copyright awareness among Library and Information Science Professionals in Tamil Nadu, India. The study revealed that copyright awareness among LIS professionals is not up to the level expected due to the fact that the academic institution does not have copyright awareness policy to effectively regulate, monitor, and protect its intellectual property, academic and institutional values, as well as to defend its teaching, research, and service mission. This study shows that most of the respondents belonging to 'below 25 years' (50%) and '26 to 35 years' (41.5%) age groups use copyrighted information by 'seeking permission from copyright holder(s)', followed by 'crediting original author/authority' (respectively 37.5% and 24.4%).

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This chapter aims to present a brief overview of awareness and use of open education resources in PG students in Alagappa University. Analysis the areas for open education resources. The sample of the respondents had been drafted from the Alagappa University. A total of 200 questionnaires were distributed to the users from different categories and 144 were responded which amounts to 72% rate frequency of using of OER, it found that 51 (35.42%) respondents open educational resource daily, 69 (47.92%) respondents open educational resource weekly, 11 (7.64%) respondents open educational resource twice in

a week, 13 (9.03%) respondents open educational resource monthly. This chapter presents the definition, challenges of open educational resource, advantages of open educational resource, awareness, and use of open education resources.

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Role of Libraries in Career Development Among the Students ..... 36

*K. Sakkaravarthi, Department of Library and Information Science, Alagappa University, India*

*S. Thanuskodi, Department of Library and Information Science, Alagappa University, India*

The purpose of this chapter is to review and analyze the role of libraries and librarians in Management College student empowerment of career guidance, career counseling, and overall career development in Trichy and Pudukkottai districts. This study creates awareness about different careers among the students and librarians towards career development activities programs. This study may help to create responsiveness among the Management College and librarians to find out how to cater to their students and enhance students' personality, skills, confidence, and students' employability to develop their career. This study assists libraries to study and provide better infrastructure and programs pertaining to student needs. The 584 valid questionnaires were coded after data collection. The obtained data were tabulated and analysed using the statistical packages Microsoft Excel and SPSS. Hypotheses were tested and findings were drawn in the light of objectives of the investigation. The results were reported in the form of thesis, tables, charts, and figures used wherever necessary to make the presentations clear, simple, and easy. The study demonstrated that one-fifth of the respondents were agreed the following statement related career choice of the MBA graduates such as "I am capable of making my own career choice," "I seek my parent's advice for career choice," "I consult the librarian in making any career choice," "I consult the placement officer in making career choice," "I consult my friends before making any career choice," "I seek advice of my seniors in making career choice," "I consult the alumni of my institute in making career choice," and "I go by the market trend in deciding my career choice." Nearly half of the respondents were neutral about the above mentioned statement, and the remaining one-third of the respondents disagreed about various career choices. Further, it is observed from the study that 49.3% of the respondents were neutral with overall level of career choice, 30.0% of the respondents disagree with overall level of career choice, and the remaining 20.7% of the respondents agreed with overall level of career choice.

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Use and Access of E-Resources in College Libraries: A Case Study of Selected First Grade Colleges in Bengaluru in India ..... 60

*Kishore Kumar S., Alagappa University, India*

The present examination intends to investigate the inspirational factors and use e-resources among the understudies and employees of college libraries in Karnataka, India. The target of this investigation is to discover the reason for utilizing the e-resources among the understudies and employees of the college libraries in Karnataka, India and to discover spurring factors among the understudies and employees of the college libraries in Karnataka, India. Information was gathered; however, an organized survey to understudies and workforce from 75 NAAC accredited college libraries in Karnataka, India. Results find that motivational factors are that e-resources keeps them updated, provide fast and reliable communication, easy publication, and provide access to various documents.

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Usage of Electronic Resources, Internet, and Choices of Resources in College Libraries of India:

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*Loksha Naik, Government First Grade College, Karnataka, India*

In this chapter, the author investigates the user choices of e-resources among users of college libraries in Karnataka, India. The scholar identifies purpose of using internet by staff and students as well as assessing their information. Findings shows that majority of users are using internet to their career development 99.60%. 99.42% of respondents are using internet for communicate purpose. Majority of staff do not choose e-books and e-reports. Students are also not choosing e-theses and dissertations. Regarding journals, the majority of students' choices are print versions.

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*S. Ravi, Department of Library and Information Science, Central University of Tamil Nadu, India*

The main aim of this chapter is to create awareness among the researchers about online database resources and to promote effective access to electronic products. A well-equipped and well managed library is the foundation of modern education structure. It is said that education without library services is like a body without soul, a vehicle without and engine, and building with bricks but no cement. The library is the chief instrument for accumulating and using our intellectual heritage. This research work will bring out tremendous changes in the working style of the libraries. University library is a way of making educational and research data and information available to faculty, researchers, students, and others at the institutions and worldwide. A well-structured questionnaire was employed to test the variables using statistical tools.

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OPAC in present scenario provides a standard measure and insight into Alagappa University students. The objectives of the chapter are to discuss the searching options and the presentation of results along with various parameters. The frequencies of using the respondents in Online Public Access Catalogue used in the female students of Faculty of Arts in Alagappa University, Department of Tamil are 27(10.63%); Centre for Tamil Culture, 28 (11.02%); Dept. of Fine Arts, 29(11.42%), Department of English and Foreign Language 27(10.63%), Dept. of women studies 28; Department of Social Work, 29 (11.42%); Department of Economics and Rural Development, 29 (11.42%); Department of History, 28 (11.02%); Dept. of Library and Information Science, 29 (11.42%). The advanced facilities provided by these universities are also discussed.

## Chapter 8

Impact of Social Networking Sites Among College Students With Special Reference to Rural Areas in India..... 124

*T. Balamurugan, Department of Library and Information Science, Alagappa University, India*

*M. Aravinthan, Library and Information Science, Annamalai University, India*

Social networking sites over the years have changed from a few user-based sites into a phenomena that has become a platform for a huge number of users. However, the growth and development of social networking sites have brought great concerns on parents and educational authorities with respect to potential risks that are facing the university students as they use online social networking frequently for gathering information. The use of social networking sites among the university students requires much attention with increasing number of students creating profile and feeding their personal information into the sites. The increasing activity on the sites by student community can negatively impact the normal activity of students' lives. This can also become a hindrance to the academic development as well as social engagement of students. Therefore, there is a need to study, assess, and evaluate the issues revolving the usage of social networking sites among the student community. The study shows that the distribution of respondents according to their influence of SNS. It shows both section-wise distribution and their composite scores. Also, the table shows the respective mean scores and standard deviation. It may be inferred that 77.50% of the respondents have stated that the influence of SNS are high, 18.55% of the respondents have stated that the influence of SNS is moderate, and 3.95% of the respondents have stated that the influence of SNS is low. However, the composite mean score (2.72), standard deviation (0.530) depicts that the respondents have stated that the influence of SNS is high.

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*S. Thanuskodi, Department of Library and Information Science, Alagappa University, India*

Social networking sites over the years have changed from a few user-based sites into a phenomena that has become a platform for a huge number of users. However, the growth and development of social networking sites have brought great concerns on parents and educational authorities with respect to potential risks that are facing the university students as they use online social networking frequently for gathering information. The risk associated with social networking sites when used for oral communication rather than face-to-face communication results in damaging interpersonal communication among the users. The results obtained from this study have shown that a reasonable number of university students use the social networking sites. Therefore, the popularity of the social networking usage by university students of Tamil Nadu and the benefits it has on the student-users have been confirmed from the findings of this study. There are also various purposes for which the students use the social networking sites to achieve and that have been investigated. Technology is a double-edged sword. Its power for bad and good resides in the users. Based on this, it is instructive to note that the relevant government authorities have to take good measures to ensure that they (student) are made to be aware of how and why they use the social networking sites.

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Media Literacy Among College Students: A Study of Sivagangai District, India ..... 169

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The chapter discusses the impact of some of the selected the literacy of media literacy. It supports the students in developing the attitudes, values, and skills to solve the problems, decision making, and building their knowledge. The objective of the present study is to understand the practices on media literacy in college students in Sivagangai District. The chapter shows the respondent frequency of using the social media sites among the college students. Out the 112 respondents, 66 (58.93%) were female and 46 (41.07%) were male. Age wise distribution of respondents the table indicate 51.79% of respondents using social media of 17-20 category, 34.82% of respondents using social media of 21-25, 11.61% of the respondents in 26-30, 1.79% of respondents in above 31. As to the effects of using social media, location-wise distribution of the majority of respondents among 33 respondents, 35% village, 27.12% town, and 23.08% taluk are effects of waste of time. Among 32 respondents, 25% village, 32.20% town, and 23.08% taluk are effects of affecting academic performance.

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Use of N-List Resources Among the Faculty Members of Affiliated Colleges of Bharathiar

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Library consortium is an umbrella term that covers the concept. With cooperation it was possible for sharing of union catalog, document delivery services, storage facilities, collection development, and human resources at local, national, and regional levels. It is the single solution of these concepts. Consortium gives the freedom for a library having less collection as they can access any product at the nominal price. Out of 335 respondents, 232 (69.3%) respondents were aware of N-LIST resources, whereas 103 (30.7%) of them somewhat aware of N-LIST resources. This study shows that majority of the respondents were aware of N-LIST resources. All the respondents, 335 (100%), were utilizing the N-LIST resources. 177 (52.8%) respondents were spending '1-2 hours' for accessing N-LIST resources, 101 (30.1%) respondents were spending '3-4 hours', 30 (9%) of them spent 'below 1 hour', and 27 (8.1%) of them spent 'more than 5 years'. This analysis shows that nearly 53% of the respondents were spending '1-2 hours' to access N-LIST Resources in a day. 111 (60.3%) assistant professors and 66 (45.7%) associate professors were spending '1-2 hours' in a day to access N-LIST resources. The authors were made to aware about N-LIST resources the respondents have given 'guide by the librarian' as first priority, followed by 'orientation programme', 'trial and error method', 'through YouTube tutorial', 'online user guide', and 'guide by friends and colleagues' is the least priority.

## Chapter 12

Implementing Information Literacy Skills and Soft Skills for Better Use of Library Resources and

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Information literacy (IL) is a set of skills that allows us to locate, evaluate, and use effectively the information that we need. IL skills are essential tools that help us successfully plan for the present and future scenario of information. Soft skills are a set of abilities that influence how we interact with each other. Soft skills and IL skills affect every person in every possible situation work, education, entertainment, etc. This chapter highlights the importance of soft skills in library profession, different types of soft skills, why soft skills are important, relevance of information literacy in the ICT era, concepts of information literacy, IL and school libraries, and various types of IL models and standards. Both soft skills and IL skills are essential for library professionals as well as the users, particularly while using the 21st century resources, so that the users will be energized in using the library resources effectively and efficiently.

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This chapter attempts to analyse quantitatively the growth and trend of Maize (Zea Mays) Cereal Crop research in terms of publication output as reflected in web of science database. During the period 2008-2017, a total of 16,217 papers were published by the scientists respectively on Maize Crop. The study reveals that the growth of literature follows the exponential growth pattern. USA is the top country in Maize research with its contribution of 4,797 papers, which is (29.6%) of the global research output of Maize research followed by Peoples Republic China with 2,912 papers (18%); India was the fifth position in the Maize research with 1,560 papers (5.3%) and has liner growth pattern. The most preferred journals were the Agronomy Journal with 658 papers (4.06%) followed by the Crop Science with 427 papers (2.63%). The authorship pattern reveals that co-authored papers accounted for 97% of total output.

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The purpose of the chapter is to investigate the gender differences of ICT skills of LIS professionals working in the Universities of Tamil Nadu. The study covered 47 universities including 19 state universities, 2 central universities, and 26 deemed universities. In the present study, the data was collected from the respondents through a structured questionnaire using survey method and adopted simple random sampling. The questionnaire contains attitudes of communication skills, use of ICT and related gadgets, level of awareness/skill in the computer applications/services, attitude towards ICT implications, problems of implications of ICT, and areas of ICT skills where training is required among male and female respondents. Totally, 441 respondents are selected from these 47 universities including 325 male and 116 female respondents. The study used SPSS Ver. 23 was used for performing necessary statistical analysis means, s Ranks, Independent 'T' Test, and Chi-Square Analysis the collected data to draw necessary inferences. It is brought to light that 100% of male and female respondents agree that they would like to know more about ICT. Around 90% of male and female respondents agree that ICT helps them to present research articles in the seminars/workshops/conferences and find it easy to select appropriate ICT resources related to work environment. About 85-90% of both female and male respondents agree that ICT motivates the library staff to learn effectively, it saves the time of the library staff in many ways, it provides high level security for library resources, and it facilitates easy information

exchanges. Further, the chapter also provided a platform to LIS professionals to find out the area of focus to learn and update their ICT skills in digital environment and electronic resources by LIS professionals for efficient delivery of library services for the betterment of the library as a whole.

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*Naseehath S., Mannaniya College of Arts and Science, India*

ShodhGangotri is an open access repository of Indian research in progress which is a new initiative that complements ShodhGanga – the reservoir of Indian theses. ShodhGangotri hosts electronic version of approved synopses and research proposals submitted to the universities in India by research scholars for registering themselves for the PhD programme and reveals the trends and directions of ongoing research in India and helps to avoid duplication of research. This chapter examines the current status of ShodhGangotri in different aspects namely universities, issue date, discipline, and state. University-wise analysis shows that 48% of the total number of synopses is submitted by Shri Jagdishprasad Jhabarmal Tibrewala University, 8.9% by Swami Ramanand Teerth Marthwada University, 8.7% by Dayalbagh Educational Institute, and 5.7% by Mahatma Gandhi University, and they occupy 1 to 4 positions, respectively. The chapter concludes with a suggestion that all universities and research institutions should make it mandatory to submit approved synopses and research proposals at the time of their PhD registration to make it experience the pulse of ongoing Indian research.

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## Preface

Libraries these days are embracing new technologies and applications to adapt to the dynamic demands in the field of education and research, especially when information is easily available at the fingertips. Digital information is prominent in the present scenario, which helps the information seekers to access information without any barriers of space, format and time. This is further simplified with the open access initiative that facilitates improved access to scholarly literature. With the availability of large amount of data in various formats and platforms, many a time, users find it difficult to locate the required information. In this context, libraries and information professionals have a very important role to play in providing and educating the users to extract accurate and authentic information in an effective manner.

Libraries are also very keen in experimenting innovations by implementing emerging technologies. Libraries have become a hub of content generation and maintenance by exploiting the possibilities offered by information technology starting from automation of libraries to RFID technology and to the implementation of mobile apps such as QR codes and m-opac. Social media and mobile technology is well deployed in libraries for marketing the resources and services to the users. It is the need of the hour to educate the patrons on information literacy skills and research paper compilation by avoiding plagiarism or similarity. Information professionals can take initiatives in the research activities of the organisation by compiling the citation analysis of individual researchers, thus measuring the impact of the organisation as a whole. Library personnel are expected to possess professional, personal and social competencies in order to handle the changing information scenario. They should prove themselves competitive not only in librarianship but also as knowledge managers, content experts, consultants and academicians. It is also essential that information professionals keep abreast of the latest developments in the current technology driven knowledge economy so as to establish themselves competent enough to drive the knowledge market.

Libraries should be smart enough to practice conventional librarianship along with technology imprinted services with a social commitment for connecting users to the library resources and become more visible and prominent in different areas such as learning, research and consultancy. The library is growing day by day according to the change of time, technology enhancement, innovations in information gathering methods, and Information storage pattern and retrieval modes of the users. ICT explosion has changed the way we think about the role of the libraries more than their routine services. The duties and responsibilities of the libraries also have changed in the digital era. The digital libraries, Virtual libraries and electronic libraries are the outcome of the extensive research and development in the field of ICT and its applications into the library and information centers to enhance their services. E- Resource management, Open access repositories, Content creation and management, Web Technologies and its applications, Web archiving, Big data, Cloud computing, Mobile information services, Artificial intel-

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ligence and decision support Systems, Block chain technology, Internet of Things, Augmented reality etc. are some of the technological developments in the digital era. The increase in the number of people requesting the same information at the same time, create problems in traditional libraries. As a consequence, the traditional libraries' need for low cost technologies together with environmental factors stress the need for the development of a digital library. Technological developments and innovations in contemporary libraries will help to provide quality assurance in terms of providing quality services, bridging the knowledge gap, achieving excellence in services, ensuring the user satisfaction and becoming the heart of the institution.

Technology is the collective term for various technologies involved in the processing and transmission of information. Libraries use social media to fulfill their objectives, with most focused-on promotion of the library service and resources. Librarian can share seminar, conference, workshop's information on social media to notify the library professionals. Various Social networks like Facebook, Google+, Twitter, LinkedIn etc are also very good platform to market library events .The mobile applications and technology have changed the way one connects and interacts with the world and mobile library services can meet people's need for speedy information in a fast-paced society. Libraries are moving forward in providing access to digital collections via mobile devices. In the near future, more and more people will be able to experience digital collections in the palm of their hand through a smart phone with Apps. Enhancement of technologies and innovations in contemporary libraries will helps to fostering global competencies among users and also promoting the use of technology in academia.

The first chapter highlights copyright remains the cardinal bridge between creation and access to knowledge and knowledge-based materials. However, the issue of copyright awareness has now become a global concern. Since tertiary education revolves around the use of other people's copyrighted works, this study seeks to investigate the level of copyright awareness among Library and Information Science Professionals in Tamil Nadu, India. The study revealed that copyright awareness among LIS professionals is not up to the level expected due to the fact that the academic institution does not have copyright awareness policy to effectively regulate, monitor and protect its intellectual property, academic and institutional values as well as to defend its teaching, research and service mission. This study shows that most of the respondents belonging to 'below 25 years' (50%) and '26 to 35 years' (41.5%) age groups use copyrighted information by 'seeking permission from copyright holder(s)', followed by 'crediting original author / authority' (respectively 37.5% and 24.4%).

The second chapter focuses brief overview of awareness and use of open education resources in PG students in Alagappa University. Analysis the areas for open education resources. The sample of the respondents had been drafted from the Alagappa University. A total of 200 questionnaires were distributed to the users from different categories and 144 were responded which amounts to 72% per cent rate. frequency of using of OER, it found that the 51 (35.42%) respondents open educational resource Daily, 69 (47.92) respondents open educational resource weekly, 11(7.64%) respondents open educational resource Twice in a week, 13 (9.03%) respondents open educational resource Monthly. This paper presents the definition, Challenges of Open Educational Resource, Advantages of Open Educational Resource, awareness and use of open education resources.

The third chapter shows that the the role of libraries and librarians in Management College student's empowerment of career guidance, career counseling, and overall career development in Trichy and Pudukkottai districts. This study creates awareness about different careers among the students and librarians towards career development activities programs. And also this study may help to create responsiveness among the Management College and librarians to find out how to cater to their students and enhance

students' personality, skills, confidence and students' employability to develop their career. This study assists libraries to study and provide better infrastructure and programs pertaining to students needs. The 584 valid questionnaires were coded after data collection. The obtained data were tabulated and analysed using the statistical packages Microsoft Excel and SPSS. Hypotheses were tested and findings were drawn in the light of objectives of the investigation. The results were reported in the form of thesis, tables, charts and figures used wherever necessary to make the presentations clear, simple and easy. The study demonstrated that one-fifth of the respondents were agreed the following statement related career choice of the MBA graduates such as I am capable of making my own career choice, I seek my parent's advice for career choice, I consult the Librarian in making any career choice, I consult the placement officer in making career choice, I consult my friends before making any career choice, I seek advice of my seniors in making career choice I consult the Alumni of my institute in making career choice and I go by the market trend in deciding my career choice. However nearly half of the respondents were neutral about the above mentioned statement and the remaining one-thirds of the respondents were disagreed about various career choices. Further it observed from the study that 49.3 percent of the respondents were neutral with overall level of career choice, 30.0 percent of the respondents were disagree with overall level of career choice and the remaining 20.7 percent of the respondents were agreed with overall level of career choice.

The fourth chapter investigate the inspirational factors and use e-Resources among the understudies and employees of college libraries in Karnataka, India. The target of this investigation is to discover the reason for utilizing the e-Resources among the understudies and employees of the college libraries in Karnataka, India and to discover spurring factors among the understudies and employees of the collegelibraries in Karnataka, India. Information was gathered; however an organized survey to understudies and workforce from 75 NAAC accredited college libraries in Karnataka, India. Results find that motivational factors are that strongly agreed and agreed for e-Resources keeps them update, provides fast and reliable communication, user friendly makes easy to publish and provides access to various documents.

The fifth chapter attempts that the author investigates the user choices of e-Resources among users of College libraries in Karnataka, India. The Further scholar identifies purpose of using Internet by staff and students as well as assessing their information. Findings shows that majority of users are using internet to their career development 99.60%, followed by 99.42% of respondents are using internet for communicate purpose. Majority of staff are not choices e-Books and e-Reports. Students are also not choice e-these and dissertation. Regarding journals Majority of students' choices are print versions.

The sixth chapter highlights the awareness among the researchers about online Database resources and to promote effective access to electronic products. A well-equipped and well managed library is the foundation of modern education structure. it is said that education without library services is like a body without soul, a vehicle without and engine, and building with bricks but no cement. The library is the chief instrument for accumulating and using our intellectual heritage. This research work will bring out tremendous changes in the working style of the libraries. University library is a way of making educational and research data and information available to faculty, researchers, students, and others at the institutions and worldwide. A well-structured questionnaire was employed to test the variables using statistical tools.

The seventh chapter identifies the frequency of using the respondents in Online Public Access Catalogue used in the female students of Faculty of Arts in Alagappa University fact that, Department of Tamil in 27(10.63%), Centre for Tamil culture 28(11.02%), Dept .of Fine Arts 29(11.42%), Department of English and Foreign Language 27(10.63%), Dept. of women studies 28, Department of Social work

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29(11.42%), Department of Economics and Rural development 29(11.42%), Department of History 28(11.02%), Dept of Library and Information Science 29(11.42%). The advanced facilities provided by these universities are also discussed.

The eighth chapter reveals that the Social networking sites, over the years have changed from few user based sites into a phenomena that has become a platform for huge number of users. However, the growth and development of social networking sites have brought great concerns on parents and educational authorities with respect to potential risks that are facing the university students as they use online social networking frequently for gathering information. The use of social networking sites among the university students requires much attention with increasing number of students creating profile and feeding their personal information into the sites. The increasing activity on the sites by student community can negatively impact the normal activity of students' life. This can also become a hindrance to the academic development as well as social engagement of students. Therefore, there is a need to study, assess and evaluate the issues revolving the usage of social networking sites among the student community. The study shows that the distribution of respondents according to their influence of SNS. It shows both section – wise distribution and their composite scores. Also, the table shows the respective mean scores and standard deviation. It may be inferred that, 77.50% percent of the respondents have stated that, the influence of SNS are high, 18.55% of the respondents have stated that, the influence of SNS is moderate and 3.95% of the respondents have stated that, the influence of SNS is low. However, the composite mean score (2.72), standard deviation (0.530) depicts that the respondents have stated that, the influence of SNS is high.

The ninth chapter focuses that Social networking sites, over the years have changed from few user based sites into a phenomena that has become a platform for huge number of users. However, the growth and development of social networking sites have brought great concerns on parents and educational authorities with respect to potential risks that are facing the university students as they use online social networking frequently for gathering information. The risk associated with social networking sites when used for oral communication rather than face-to-face communication results in damaging interpersonal communication among the users. The results obtained from this study have shown that a reasonable number of university students use the social networking sites. Therefore, The popularity of the social networking usage by university students of Tamil Nadu and the benefits it has on the student –users have been confirmed from the findings of this study. There are also various purposes for which the students use the social networking sites to achieve and that have been investigated. Technology is a double-edged sword. Its power for bad and good resides in the users Baran(2010). Based on this, it is instructive to note that the relevant government authorities have to take good measures to ensure that they (student) are made to be aware of how and why they use the social networking sites.

The tenth chapter shows that the present study is to understand the practices on media literacy in college students in Sivagangai district. Shows the respondents frequency of using the social media sites among the college students in fact, that out the 112 respondents, 66(58.93) respondents were female and 46(41.07) respondents of male. Age wise distribution of respondents the table indicate 51.79% majority of respondents using social media of 17-20 category, 34.82% of respondents using social media of 21-25, 11.61% of the respondents in 26-30, 1.79% of respondents in above 31. Affects of using social media, location wise distribution of the majority of respondents among 33 respondents 35% village, 27.12% town and 23.08% taluk are affects of Waste of time. Among 32 respondents 25% village, 32.20% town and 23.08% taluk are affects of Affecting academic performance.

The eleventh chapter shows that the concept with co-operation it was possible for sharing of union catalog, document delivery services, storage facilities, collection development, and human resources at local, national and regional level. It is the single solution of these concepts consortium gives the freedom for a library having less collection as they can access any product at the nominal price. Out of 335 respondents, 232 (69.3%) respondents were aware of N-LIST resources, whereas 103 (30.7%) of them somewhat aware of N-LIST resources. This study shows that majority of the respondents were awareness on N-LIST resources. All the respondents 335 (100%) of the respondents were utilizing the N-LIST resources. 177 (52.8%) respondents were spending '1-2 hours' for accessing N-LIST resources, 101 (30.1%) respondents were spending '3-4 hours', 30 (9%) of them spent 'below 1 hour', and 27 (8.1%) of them spent 'more than 5 years'. This analysis shows that nearly 53% of the respondents were spending '1-2 hours' to access N-LIST Resources in a day. 111 (60.3%) assistant professors and 66 (45.7%) associate professors were spending '1-2 hours' in a day to access N-LIST resources. Were made to aware about N-LIST resources the respondents have given 'guide by the librarian' as first priority, followed by 'orientation programme', 'trial and error method', 'through YouTube tutorial', 'online user guide' and 'guide by friends and colleagues' is the least priority.

The twelfth chapter reveals that the Information Literacy (IL) is a set of skills that allows us to locate, evaluate and use effectively the information that we need. IL skills are essential tools that help us successfully plan for the present and future scenario of information. Soft skills are a set of abilities that influence how we interact with each other. Soft skills and IL skills affects every person in every possible situation work, education, entertainment, etc. This paper highlights the importance of soft skills in library profession, different types of soft skills, why soft skills are important, relevance of Information Literacy in the ICT era, concepts of information literacy, IL and school libraries and various types of IL models and standards. Both soft skills and IL skills are essential for library professionals as well as the users, particularly while using the 21<sup>st</sup> century resources, so that the users will be energized in using the library resources effectively and efficiently.

The thirteenth chapter identify that the growth and trend of Maize (Zeamays) Cereal Crop research in terms of publication output as reflected in web of science Database. During the period 2008-2017 a total of 16217 papers were published by the scientists respectively on Maize Crop. The study reveals that the growth of literature follows the exponential growth pattern .USA is the top country in Maize research with its contribution of 4797 papers which is (29.6%) of the global research output of Maize research followed by Peoples Republic China with 2912 papers (18%), India was the 5<sup>th</sup> Position in the Maize research with 1560 Papers (5.3) and has liner growth pattern. The most preferred journals were the Agronomy journal with 658 papers (4.06%) followed by the Crop Science with 427 papers (2.63). The authorship pattern reveals that co-authored papers accounted for 97% of total output

The fourteenth chapter highlights that the purpose of the study is to investigate the gender differences of ICT skills of LIS professionals working in the Universities of Tamil Nadu. The study covered 47 universities in this paper like 19 state universities, 2 central universities and 26 deemed universities are included. In the present study, the data was collected from the respondents through a structured questionnaire using survey method and adopted simple random sampling. The questionnaire contains attitudes of communication skills, use of ICT and related gadgets, Level of awareness/skill in the computer applications/Services, Attitude towards ICT implications, problems of implications of ICT and Areas of ICT Skills where Training is required among male and female respondents. Totally 441 respondents are selected from these 47 universities. 325 male and 116 female respondents. The study used SPSS Ver. 23 was used for performing necessary statistical analysis means, s Ranks, Independent 'T' Test and

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Chi-Square Analysis the collected data to draw necessary inferences. The found that It is brought to the light that 100% of male and female respondents agree that they like to know more about ICT. Around 90+ per cent of male and female respondents agree that ICT help them to present research articles in the seminars / workshops/ conferences and find it easy to select appropriate ICT resources related to work environment. About 85-90% of both female and male respondents agree that ICT motivate the library staff to learn effectively, it saves the time of the library staff in many ways, it provides high level security for library resources and it facilitates easy information exchanges. Further present study also provided a platform to LIS professionals to find out the area of focus to learn and update their ICT skills in digital environment and electronic resources by LIS professionals for efficient delivery of library services for the betterment of the library as a whole.

The fifteenth chapter focuses that the ShodhGangotri is an open access repository of Indian research in progress which is a new initiative that complements ShodhGanga – The reservoir of Indian theses. ShodhGangotri hosts electronic version of approved synopses and research proposals submitted to the universities in India by research scholars for registering themselves for the PhD programme and reveals the trends and directions of ongoing research in India and helps to avoid duplication of research. This paper examines the current status of ShodhGangotri in different aspects namely universities, issue date, discipline and state. University wise analysis shows that 48% of the total number of synopses is submitted by Shri Jagdishprasad Jhabarmal Tibrewala University, 8.9% by Swami Ramanand Teerth Marthwada University, 8.7% by Dayalbagh Educational Institute and 5.7% by Mahatma Gandhi University and they occupy 1 to 4 positions respectively. The paper concludes with a suggestion that all universities and research institutions should make it mandatory to submit approved synopses and research proposals at the time of their PhD registration to make it experience the pulse of ongoing Indian research.

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# Chapter 1

## Awareness and Perception of Copyright Among Library and Information Science Professionals in Tamil Nadu, India

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### ABSTRACT

*This chapter describes the background, methodology, and results of a preliminary study undertaken in 2018 to determine university faculty awareness and perceptions of copyright as it affects teaching and learning. Copyright remains the cardinal bridge between creation and access to knowledge and knowledge-based materials. However, the issue of copyright awareness has now become a global concern. Since tertiary education revolves around the use of other people's copyrighted works, this study seeks to investigate the level of copyright awareness among Library and Information Science Professionals in Tamil Nadu, India. The study revealed that copyright awareness among LIS professionals is not up to the level expected due to the fact that the academic institution does not have copyright awareness policy to effectively regulate, monitor, and protect its intellectual property, academic and institutional values, as well as to defend its teaching, research, and service mission. This study shows that most of the respondents belonging to 'below 25 years' (50%) and '26 to 35 years' (41.5%) age groups use copyrighted information by 'seeking permission from copyright holder(s)', followed by 'crediting original author/authority' (respectively 37.5% and 24.4%).*

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## **1. INTRODUCTION**

According to Jonathan (2015) Awareness in all sphere of life is very challenging. In the same vein, awareness of Copyright Protection has also remained a globally controversial aspect of copyright in respect of works eligible for copyright protection, works not protected by copyright and authors' protection under the copyright protection. A lot of people have little or no knowledge in this regard. However, the objective of copyright has always been to protect the interest of creators and users together with the dissemination and access to knowledge and information. This is because copyright recognizes that authorship requires an investment of time, effort and skills. Once expressed in tangible, physical form, an idea can be copied by others; this is the reason why copyright provides protection against copying of those works that have been copyrighted. According to Strong, the regulatory scope of copyright protection keeps on expanding as the reach and power of copyright expands globally. This means, some works that were generally excluded from copyright protection are now often classified as copyrighted works.

Information professionals such as librarians have a role to play in issues relating to copyright. Copyright has a bearing on acquisition, processing, storage and dissemination of information and these are the core functions of librarians in their day to day work. When one of these functions is compromised as a result of implementation of the copyright provisions, access to much needed information can to a great degree be jeopardized. Because copyright can affect access to information which has a great influence on education, decision making and other spheres of society, it becomes important to know whether people offering the service are reliable, competent and have sufficient knowledge to offer guidance or perform the critical task of safeguarding the needs of content creators, rights owners and at the same time try to balance with the users need to get access to information.

Farrington-Darby & Wilson (2006) define expertise as the attribute that one possesses in terms of skills and knowledge in performing a task, engaging in decision making, communicating, and showing a sense of responsibility. It is a general assumption that people/professionals with great expertise will offer reliable, effective, efficient, and hence better service that maximizes a client's satisfaction. This assumption might be based on level of education, experience performing the task at hand among other criteria. However, being able to pinpoint that someone is an expert has at times been controversial because expertise can mean different things to different people. Hoffman, Shadbolt, Burton, & Klein (1995) use seven levels of expertise: Naivette, a person who has no idea about a domain; Novice, one with very little exposure to the domain; Initiate, one who has started learning about the domain; Apprentice, one who is in the domain but still undergoing guidance; Journeyman, one who is competent in performing a task but still needs some guidance; Expert, a person who is accomplished in his domain and has vast skill, knowledge and experience in his domain; Master, one regarded as having exceptional knowledge and vast experience in a domain.

## **2. REVIEW OF LITERATURE**

People in all professions and domains of study have sought to determine which of the people working in that profession are likely to have the highest expertise. This curiosity has led to research on characteristics of individual persons, environment in which a task is performed, as well as other characteristics that can be used in order to accurately try to predict expertise in a given domain. Interest in expertise normally tends to be based on the assumption that high levels of expertise will translate to better performance in

terms of enhanced efficiency and effectiveness, which would in turn lead to having an edge over competitors. To most employers, having staff with high levels of expertise is a sign of quality and a source of pride for the organization. To other employers, having staff with high levels of expertise is a form of investment that is normally tapped to enable those organizations to be able to recoup or maximize returns on investment.

Most research on expertise has tended to look at the extreme ends of the expertise, focusing on experts compared with novices. Rarely do we find research talking about the people in between those two extreme ends. However, most research has shown that there is a difference between novices and experts (Glaser, Chi, & Farr, 1988; Haerem & Rau, 2007; Murphy & Wright, 1984). Differences suggested between novices and experts have demonstrated that experts are superior to novices. Experts tend to spend more time analyzing problems (Schriver, Morrow, Wickens, & Talleur, 2008).

Thanuskodi (2009) identified India has significant advantages in the 21st century knowledge race. It has a large higher education sector – the third largest in the world in student numbers, after China and the United States. The library is the chief instrument for accumulating and using our intellectual heritage. Formal education can be conducted effectively and efficiently only with well-equipped libraries. Today, libraries are connected to a vast ocean of Internet-based services. Electronic resources are developing rapidly. Academic libraries are the nerve centres of their institutions, and must support teaching, research, and other academic programmes. The situation in academic libraries in India is the same as that of academic libraries the world over; however, Indian libraries must provide maximum information with limited resources. This article explores the Indian higher education environment in relation to academic libraries.

Whenever the general public talk of expertise, experience seems to be given a lot of consideration because it is viewed as an indicator of expertise. The amount of practice in itself does not necessarily have greater impact on enhancing expertise, particularly as compared to engaging in deliberate and effortful practice, which was found to enhance superior performance (Moulaert, Verwijnen, Rikers, & Scherpbier, 2004). Motivation, metacognition, perseverance and continuous performance of the same task are the likely factor that drives most people to engage in deliberate practice in order to enhance their performance. Ericsson & Lehmann (1996) argue that in most domains, one is able to reach peak performance after 10 years of deliberate practice. However, this duration may differ from one domain to another. While deliberate practice can be used as a pointer to better performance, measuring years one has worked in a domain was found to be a bad indicator of expertise (Malhotraa, Leeb, & Khuranaa, 2007). Despite having vast number of years of experience in a given field, if the expert ceases to practice for a certain period of time, this disruption often leads to a decline in the expert's level of performance.

Anyaoku, Anunobi and Eze (2015) assessed the perceptions and information literacy skills of librarians in Colleges of Education in Nigeria. It also sought to determine challenges to effective information literacy skills acquisition and services in these institutions. Questionnaires were distributed to librarians in 39 Colleges of Education in the six geo-political zones of the Federal Republic of Nigeria. A total of 87 useable copies of the questionnaire were returned. Results showed that generally respondents have a positive view of librarians' roles and capabilities in information literacy services. Respondents scored their skills highest on locating skills in the use of library catalogues, encyclopaedias, indexes and abstracts to find information. However, respondents rated their skills lowest on ability to carry out search using Boolean operators and ability to use appropriate presentation software to present information. Non provision of facilities needed to apply information literacy skills and regulatory bodies on library and information science do not regulate curriculum on information literacy are some of the major challenge

that inhibits Information literacy skills acquisition and programme development in the institutions. The study concluded that there was need for IL standards that will guide information literacy development in Nigerian Colleges of Education.

Johnston and Williams (2015) investigated the skills and knowledge needs of future library professionals in Qatar. A survey was sent to library professionals, LIS students and library managers in Qatar. A total of 109 respondents completed the survey. The findings indicated that respondents felt that the most needed future job roles included more client focused positions such as research librarians, information services librarians and subject librarians, as well as technical roles such as Arabic cataloguers, electronic resources librarians and system librarians. The largest amount of needed positions was also felt to be in school libraries. Respondents to the survey also felt that there was a lack opportunities for professional development in Qatar and that the most needed area of skills training was information literacy, followed by copyright training and technical skills including RDA and Arabic cataloguing. One further finding identified was the concern felt by respondents about the lack of a professional body in Qatar that represented LIS professionals. The study also provided data on future roles, skills and knowledge needed by library professionals working in international and culturally diverse workforces. It also provides findings that can be used to develop LIS curriculum and professional development programmes in international LIS environments.

Adeyoyin (2006) Conducted a survey among the staff of university libraries of West Africa to ascertain their information and communication technology (ICT) literacy level. The result showed that only 48.38 percent of the professionals and 15.97 percent of the paraprofessionals were ICT literate.

Shonrock and Mulder (1993) in a survey identified that the most important skills of a bibliographic instruction librarian are communication skills, instructional ability and planning ability. It also indicated three main sources from which librarians have acquired these skills: on the job training, self-teaching and other kinds of formal education.

Rasaki (2008) asserted that in many universities that offer the course for credit earning, the emphasis is on library and reading skills with utter neglect of computer and technology literacy. In a comparative study of credit earning IL skills courses of three African universities, namely: (1) Federal University of Technology Akure (Nigeria). (2) Lagos State University (Nigeria). (3) University of Botswana. Rasaki concluded that the curricula of the universities studied are deficient in one aspect or the other in regard to IL. He therefore, recommended IL curriculum of the three universities be reviewed and expanded to reflect computer, library, and IT literacy skills to make the learners truly information literate, and that the design and review of the curriculum and teaching of the IL course should be all-embracing.

Johnston and Webber (2003) reviewed and critiqued then state of information literacy education and key developments in the UK, USA and Australia are reviewed, including standards and models of information literacy. Problems with current practice and identified, in particular, prescriptive guidelines which encourage a surface learning approach; delivery by librarians who may lack both educational training and power to influence the curriculum; and poor assessment methods. Alternative approaches ar highlighted. A case study of a credit bearing information literacy class, offered by the authors to undergraduates at Strathclyde Business School, is analysed, to argue that information literacy can stand alone as a subject of study, with appropriate learning and teaching methods. The author concluded by proposing models for the information literate student and the information literate university.

Blackall (2002) discussed the implication and problems of the Information Literacy Standards published by the Council of Australian University Librarians in 2001. The author's focus was on the difficulties of implementers of university-based information literacy programs increasingly face as they attempt to

'integrate' or 'embed' information literacy in subject curricula as suggested by the Standards. The most central of these difficulties were the political dangers facing library teachers /educators as they attempt to expand into the academically controlled areas of curriculum design and teaching. The author suggested that an inclusive model of 'informatics' can help overcome such barriers to program implementation.

### **3. OBJECTIVES OF THE STUDY**

The objectives of this study is to find out whether different cadres of LIS professionals in India differ in awareness/knowledge of copyright issues and in the type of strategies they employ in solving queries related to copyright.

- To find out the level of copyright awareness among LIS professionals.
- To find out about copyright observation at Indian academic institutions.
- To find out about enforcement of copyright at Indian academic institutions.
- To find out what copyright policies are available at Indian academic institutions on creation, use and protection of copyright materials.

### **4. METHODOLOGY**

The simple random sampling technique was used for this research study. Simple random sampling is a procedure that assures each element in the population has an equal chance and probability of being selected. Hence, the selection bias is not possible in simple random selection.

This technique is very useful to reach the respondents in various age groups, designations, educational and technical qualifications, types of libraries and institutions. In academic, special and public libraries, the library and information science professionals were selected in all kind of designations by random selection. In LIS teaching institutes like universities, the library and information science professionals are selected in the categories of professors, associate professors and assistant professors by random selection. For this study, the questionnaire has been framed in such a manner to gather information, which favours the objectives of the project. The questionnaires were distributed and the filled questionnaires were collected from the library and information science professionals in person and through post. The number of people from the target population where the researcher conducting survey is the sample size for the survey study. For this present study, 750 questionnaires were distributed among library and information science professionals, only 572 filled questionnaires (76.3%) were received.

### **5. RESULTS AND DISCUSSION**

#### **5.1 Population Analysis**

Percentage analysis is basic and easy to comprehend, which is used to describe the physiognomies of the respondents among the chosen population. It involves calculating measures of variables selected of the study and its finding will give easy understanding for the readers. Table 1 reveal that the male pro-

professionals are the maximum respondents (56%) compared with male professionals (44%). In age group category, large number of respondents (45%) belonging to 36 to 45 years age group, and the least (2%) are the senior library professionals above 56 years age group. The large number of respondents (55%) are 'Librarians' and the least number of respondents are 'Professors (2%)' and 'Associate Professors (2%)'. Most of the respondents (33%) are PhD holders in Library and Information Science and regarding technical qualification most of the respondents (34%) are belonging to 'Others' category, which are other than PGDLAN and PGDCA. The large number of respondents are from 'Academic Library (62%)' and from 'Government Institution' (54%). Most number of the respondents are from 'Urban (70%)' area.

## **5.2 Descriptive Analysis on Consideration of Related Information When Unable to Get Exact Information**

It could be found from the Table 2 that most of the respondents belonging to various age groups consider 'confirming whether the related information was by same author', except the respondents belonging to '36 to 45 years' and '46 to 55 years' age groups. Most of the respondents (33.8%) belonging to '36 to 45 years' age group consider 'the related information by the associate subjects also', followed by 'focusing on core subject only' (30.8%). Most of the respondents (50%) consider the related information by 'focusing on core subject only', followed by 'considering the associate subjects also' and 'by confirming whether the related information was by same author' (23.1%).

It could be also found that most of the respondents (50%) belonging to 'below 25 years' age group consider 'confirming whether the related information was by same author', followed by 'considering associated subjects also' (25%). Most of the respondents (34.1%) belonging to '26 to 35 years' group consider 'confirming whether the related information was by same author', followed by 'focusing on core subjects only' (31.7%). Most of the respondents (66.7%) belonging to '56 years and above' age group consider 'confirming whether the related information was by same author', followed by 'considering associate subjects also' (33.3%). The least (11.2%) considered aspect is 'confirming whether the information was in same journal' regarding related information among all categories of respondents.

From Table 3, it could be revealed that most of the respondents belonging to various educational qualifications 'focusing on core subject only' while considering related information, except the respondents belonging to 'MPhil in LIS' qualification. Most of the respondents (41.7%) belonging to 'MPhil in LIS' qualification considering 'associate subjects also', followed by 'confirming whether the related information was by same author' (37.5%). It could be also inferred that most of the respondents (31.9%) belonging to 'PhD in LIS' qualification 'focusing core subjects only' while considering related information, followed by 'considering the associate subjects also' and 'confirming whether the related information was by same author' (27.7%). Most of the respondents (51.3%) belonging to 'UGC NET/SET' qualification 'focusing core subjects only', followed by 'considering the associate subjects also' (31%).

Most of the respondents (32.4%) belonging to 'PG in LIS' qualification 'focusing core subjects only' and 'confirming whether the related information was by same author' equally, followed by 'considering associate subjects also' (20.6%). Most of the respondents (33.4%) belonging to 'UG in LIS' qualification 'focusing core subjects only' while considering related information, followed by remaining strategies.

It could be referred from the Table 4 that most of the respondents belonging to various types of libraries consider 'focusing on core subjects only', except 'special libraries'. Most of the respondents belonging to 'special libraries' consider 'the associate subjects also' and 'confirming whether the related information was by same author' (36.4%), followed by 'focusing on core subject only' (27.2%). Most of

## Awareness and Perception of Copyright Among Library and Information Science Professionals

Table 1. Frequency Distribution of Respondents

S.No	Type	Division	Frequency	Percentage (%)
1.	Gender	Male	320	56
		Female	252	44
2.	Age Groups (in years)	Below 25	32	6
		26-35	164	29
		36-45	260	45
		46-55	104	18
		56 and above	12	2
3.	Designations	Librarian	316	55
		Deputy Librarian	20	4
		Assistant Librarian	116	20
		Library Technical Staff	76	13
		Professor	8	2
		Associate Professor	12	2
		Assistant Professor	24	4
4.	Educational Qualification	PhD in LIS	188	33
		UGC-NET/SET	116	20
		Mphil in LIS	96	17
		PG in LIS	136	24
		UG in LIS	36	6
5.	Technical Qualification	PGDLAN	76	13
		PGDCA	116	20
		Others	196	34
		No Technical Qualifications	184	32
6.	Type of Library	Academic Library	352	62
		Special Library	44	7
		Public Library	176	31
7.	Type of Institution	Government	308	54
		Aided	56	10
		Self-Financing	208	36
8.	Location	Urban	400	70
		Semi-Urban	108	19
		Rural	64	11
<b>Total</b>			<b>572</b>	<b>100</b>

the respondents (33%) belonging to 'academic libraries' consider 'focusing on core subject only' while deal with related information, followed by 'confirming whether the related information was by same author' (28.4%). Most of the respondents (34.1%) belonging to 'public libraries' consider 'focusing on

**Awareness and Perception of Copyright Among Library and Information Science Professionals**

*Table 2. Consideration of related information with reference to various age groups*

S.No	Age Groups (in Years)	Consideration of Related Information When Unable to Get Exact Information (Percentage Within Age Groups)				Total (%)
		Focusing on Core Subject Only	Considering the Associate Subjects Also	Confirming Whether It Was by Same Author	Confirming Whether It Was in Same Journal	
1.	Below 25	4 (12.5%)	8 (25%)	16 (50%)	4 (12.5%)	32 (5.6%)
2.	26-35	52 (31.7%)	40 (24.4%)	56 (34.1%)	16 (9.8%)	164 (28.6%)
3.	36-45	80 (30.8%)	88 (33.8%)	52 (20%)	40 (15.4%)	260 (45.5%)
4.	46-55	52 (50%)	24 (23.1%)	24 (23.1%)	4 (3.8%)	104 (18.2%)
5.	56 and above	0	4 (33.3%)	8 (66.7%)	0	12 (2.1%)
<b>Total</b>		188 (32.8%)	164 (28.7%)	156 (27.3%)	64 (11.2%)	572 (100%)

core subject only’ while deal with related information, followed by ‘considering the associate subjects also’ (29.5%).

From the Table 5 that most of the respondents belonging to various types of institutions consider ‘focusing on core subject only’, except ‘aided’ institutions. Most of the respondents (42.9%) belonging to ‘aided’ institutions ‘considering the associate subjects also’, followed by ‘focusing on core subject only’ (28.6%) while considering related information. Most of the respondents (33.8%) belonging to

*Table 3. Consideration of related information with reference to various educational qualifications*

S.No	Educational Qualifications	Consideration of Related Information When Unable to Get Exact Information (Percentage Within Educational Qualifications)				Total (%)
		Focusing on Core Subject Only	Considering the Associate Subjects Also	Confirming Whether It Was by Same Author	Confirming Whether It Was in Same Journal	
1.	PhD in LIS	60 (31.9%)	52 (27.7%)	52 (27.7%)	24 (12.8%)	188 (32.9%)
2.	UGC NET/SET	60 (51.3%)	36 (31%)	16 (13.8%)	4 (3.4%)	116 (20.3%)
3.	MPhil in LIS	12 (12.5%)	40 (41.7%)	36 (37.5%)	8 (8.3%)	96 (16.8%)
4.	PG in LIS	44 (32.4%)	28 (20.6%)	44 (32.4%)	20 (14.7%)	136 (23.8%)
5.	UG in LIS	12 (33.4%)	8 (22.2%)	8 (22.2%)	8 (22.2%)	36 (6.3%)

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Table 4. Consideration of related information with reference to various types of libraries

S.No	Type of Library	Consideration of Related Information When Unable to Get Exact Information (Percentage Within Types of Library)				Total (%)
		Focusing on Core Subject Only	Considering the Associate Subjects Also	Confirming Whether It Was by Same Author	Confirming Whether It Was in Same Journal	
1.	Academic	116 (33%)	96 (27.3%)	100 (28.4%)	40 (11.4%)	352 (61.5%)
2.	Special	12 (27.2%)	16 (36.4%)	16 (36.4%)	0	44 (7.7%)
3.	Public	60 (34.1%)	52 (29.5%)	40 (22.7%)	24 (13.6%)	176 (30.8%)

'government' institutions consider 'focusing on core subject only', followed by 'considering the associate subjects also' (32.5%). Most of the respondents (32.7%) belonging to 'self-financing' institutions consider 'focusing on core subject only' and 'confirming whether the related information was by same author', followed by 'considering the associate subjects also' (19.2%) while deal with related information.

### 5.3. Descriptive Analysis on Fair Use of Copyrighted Information

From the Table 6, it could be referred that most of the respondents (41.3%) belonging to all age groups use copyrighted information by 'seeking permission from copyright holder(s)', except '46 to 55 years' age group. Most of the respondents (46.2%) belonging to '46 to 55 years' age group use copyrighted information by 'crediting original author / authority', followed by 'seeking permission from copyright holder(s)' (34.6). Most of the respondents belonging to 'below 25 years' (50%) and '26 to 35 years' (41.5%) age groups use copyrighted information by 'seeking permission from copyright holder(s)', followed by 'crediting original author / authority' (respectively 37.5% and 24.4%).

Table 5. Consideration of related information with reference to various types of institutions

S.No	Type of Institution	Consideration of Related Information When Unable to Get Exact Information (Percentage Within Types of Institutions)				Total (%)
		Focusing on Core Subject Only	Considering the Associate Subjects Also	Confirming Whether It Was by Same Author	Confirming Whether It Was in Same Journal	
1.	Government	104 (33.8%)	100 (32.5%)	80 (26%)	24 (7.8%)	308 (53.8%)
2.	Aided	16 (28.6%)	24 (42.9%)	8 (14.3%)	8 (14.3%)	56 (9.8%)
3.	Self-Financing	68 (32.7%)	40 (19.2%)	68 (32.7%)	32 (15.4%)	208 (36.4%)



## Awareness and Perception of Copyright Among Library and Information Science Professionals

Table 6. Fair use of copyrighted information with reference to various age groups

S.No	Age Groups (in Years)	Fair Use of Copyrighted Information (Percentage Within Age Groups)				Total (%)
		Seeking Permission From Copyright Holder(s)	Crediting Original Author / Authority	Partially Using the Information Without Permission	Don't Know How to Use Copyrighted Information	
1.	Below 25	16 (50%)	12 (37.5%)	4 (12.5%)	0	32 (5.6%)
2.	26-35	68 (41.5%)	40 (24.4%)	32 (19.5%)	24 (14.6%)	164 (28.6%)
3.	36-45	108 (41.5%)	64 (24.6%)	68 (26.2%)	20 (7.7%)	260 (45.5%)
4.	46-55	36 (34.6%)	48 (46.2%)	16 (15.4%)	4 (3.8%)	104 (18.2%)
5.	56 and above	8 (66.7%)	0	0	4 (33.3%)	12 (2.1%)
Total		236 (41.3%)	164 (28.6%)	120 (21%)	52 (9.1%)	572 (100%)

Most of the respondents (41.5%) belonging to '36 to 45 years' age group use copyrighted information by 'seeking permission from copyright holder(s)', followed by 'partially using the information without permission' (26.2%). Most of the respondents (66.7%) belonging to '56 years and above' age group use copyrighted information by 'seeking permission from copyright holder(s)', followed by 'unaware of using copyrighted information' (33.3%). Very least (9.1%) number of respondents is being unaware of using copyrighted information among all categories

From the Table 7, it could be revealed that most of the respondents belonging to all educational qualifications use copyrighted information by 'seeking permission from copyright holder(s)', except

Table 7. Fair use of copyrighted information with reference to various educational qualifications

S.No	Educational Qualifications	Fair Use of Copyrighted Information (Percentage Within Educational Qualifications)				Total (%)
		Seeking Permission From Copyright Holder(s)	Crediting Original Author / Authority	Partially Using the Information Without Permission	Don't Know How to Use Copyrighted Information	
1.	PhD in LIS	80 (42.6%)	60 (31.9%)	32 (17%)	16 (8.5%)	188 (32.9%)
2.	UGC NET/SET	44 (37.9%)	32 (27.6%)	24 (20.7%)	16 (13.8%)	116 (20.3%)
3.	MPhil in LIS	44 (45.8%)	28 (29.2%)	20 (20.8%)	4 (4.2%)	96 (16.8%)
4.	PG in LIS	56 (41.2%)	44 (32.4%)	20 (14.7%)	16 (11.8%)	136 (23.8%)
5.	UG in LIS	12 (33.3%)	0	24 (66.7%)	0	36 (6.3%)

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‘UG in LIS’ qualification. Most of the respondents (66.7%) belonging to ‘UG in LIS’ qualification use copyrighted information by ‘partially using the information without permission’, followed by ‘seeking permission from copyright holder(s)’ (33.3%).

The second most preference of using copyrighted information is ‘by crediting original author / authority’ by the respondents belonging to PhD in LIS (31.9%), UGC NET/SET (27.6%), MPhil in LIS (29.2%) and PG in LIS (32.4%) qualifications.

It could be inferred from the Table 8 that most of the respondents belonging to all designations use copyrighted information by ‘seeking permission from copyright holder(s)’, except ‘assistant librarians’ and ‘professors’. Most of the respondents (44.8%) belonging to ‘assistant librarian’ designation use copyrighted information by ‘crediting original author/authority’, followed by ‘seeking permission from copyright holder(s)’ (31%). The respondents (100%) belonging to ‘professor’ designations use copyrighted information by ‘crediting original author/authority’. It could be also inferred that most of the respondents (42.4%) belonging to ‘librarian’ designation use copyrighted information by ‘seeking permission from copyright holder(s)’, followed by ‘partially using the information without permission’ (26.3%).

Most of the respondents (40%) belonging to ‘deputy librarian’ designation use copyrighted information by ‘seeking permission from copyright holder(s)’ and ‘partially using the information without permission’, followed by ‘crediting original author / authority’ (20%). Most of the respondents (47.4%) belonging to ‘library technical staff’ designation use copyrighted information by ‘seeking permission from copyright holder(s)’, followed by ‘crediting original author / authority’ and ‘partially using the information without permission’ (21.1%). Most of the respondents (66.7%) belonging to ‘associate professor’ designation use copyrighted information by ‘seeking permission from copyright holder(s)’ followed by ‘crediting original author / authority’ (33.3%). Most of the respondents (58.3%) belonging

Table 8. Fair use of copyrighted information with reference to various designations

S.No	Designation	Fair Use of Copyrighted Information (Percentage Within Designations)				Total (%)
		Seeking Permission From Copyright Holder(s)	Crediting Original Author / Authority	Partially Using the Information Without Permission	Don't Know How to Use Copyrighted Information	
1.	Librarian	134 (42.4%)	77 (24.4%)	83 (26.3%)	22 (7%)	316 (55.2%)
2.	Deputy Librarian	8 (40%)	4 (20%)	8 (40%)	0	20 (3.5%)
3.	Assistant Librarian	36 (31%)	52 (44.8%)	8 (6.9%)	20 (17.2%)	116 (20.3%)
4.	Library Technical Staff	36 (47.4%)	16 (21.1%)	16 (21.1%)	8 (10.5%)	76 (13.3%)
5.	Professor	0	8 (100%)	0	0	8 (1.4%)
6.	Associate Professor	8 (66.7%)	4 (33.3%)	0	0	12 (2.1%)
7.	Assistant Professor	14 (58.3%)	3 (12.5%)	5 (20.8%)	2 (8.3%)	24 (4.2%)

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to ‘assistant professor’ designation use copyrighted information by ‘seeking permission from copyright holder(s)’ followed by ‘partially using the information without permission’ (20.8%).

From the Table 9 it could be revealed that most of the respondents belonging to all types of libraries use copyrighted information by ‘seeking permission from copyright holder(s)’, except the respondents belonging to ‘special libraries’. Most of the respondents (63.6%) belonging to ‘special libraries’ use copyrighted information by ‘crediting original author/authority’, followed by ‘seeking permission from copyright holder(s)’ (36.4%). Most of the respondents (42%) belonging to ‘academic libraries’ use copyrighted information by ‘seeking permission from copyright holder(s)’, followed by ‘crediting original author/authority’ (28.4%). Most of the respondents (40.9%) belonging to ‘public libraries’ use copyrighted information by ‘seeking permission from copyright holder(s)’, followed by ‘partially using the information without permission’ (29.5%).

It could be found from the Table 10 that most of the respondents belonging to all types of institutions use copyrighted information by ‘seeking permission from copyright holder(s)’, except the respondents belonging to ‘aided institutions’. Most of the respondents (42.9%) belonging to ‘aided institutions’ use copyrighted information by ‘crediting original author/authority’, followed by ‘seeking permission from copyright holder(s)’ and ‘partially using the information without permission’ (21.4%). Most of the

*Table 9. Fair use of copyrighted information with reference to various types of libraries*

S.No	Type of Library	Fair Use of Copyrighted Information (Percentage Within Types of Libraries)				Total (%)
		Seeking Permission From Copyright Holder(s)	Crediting Original Author / Authority	Partially Using the Information Without Permission	Don't Know How to Use Copyrighted Information	
1.	Academic	148 (42%)	100 (28.4%)	68 (19.3%)	36 (10.2%)	352 (61.5%)
2.	Special	16 (36.4%)	28 (63.6%)	0	0	44 (7.7%)
3.	Public	72 (40.9%)	36 (20.5%)	52 (29.5%)	16 (9.1%)	176 (30.8%)

*Table 10. Fair use of copyrighted information with reference to various types of institutions*

S.No	Type of Institution	Fair Use of Copyrighted Information (Percentage Within Types of Institutions)				Total (%)
		Seeking Permission From Copyright Holder(s)	Crediting Original Author / Authority	Partially Using the Information Without Permission	Don't Know How to Use Copyrighted Information	
1.	Government	148 (48.1%)	72 (23.4%)	64 (20.8%)	24 (7.8%)	308 (53.8%)
2.	Aided	12 (21.4%)	24 (42.9%)	12 (21.4%)	8 (14.3%)	56 (9.8%)
3.	Self-Financing	76 (36.5%)	68 (32.7%)	44 (21.2%)	20 (9.6%)	208 (36.4%)

## Awareness and Perception of Copyright Among Library and Information Science Professionals

respondents (48.1%) belonging to ‘government institutions’ use copyrighted information by ‘seeking permission from copyright holder(s)’, followed by ‘crediting original author/authority’ (23.4%). Most of the respondents (36.5%) belonging to ‘self-financing institutions’ use copyrighted information by ‘seeking permission from copyright holder(s)’, followed by ‘crediting original author/authority’ (32.7%).

From the Table 11, it could be found that most of the respondents belonging to all types of locations use copyrighted information by ‘seeking permission from copyright holder(s)’. Most of the respondents belonging to ‘urban’ and ‘semi-urban’ locations use copyrighted information by ‘seeking permission from copyright holder(s)’. (respectively 38% and 48.1%), followed by ‘crediting original author/authority’ (respectively 31% and 29.6%).

Most of the respondents belonging to ‘rural’ location use copyrighted information by ‘seeking permission from copyright holder(s)’ (50%), followed by ‘partially using the information without permission’ and ‘unaware of using copyrighted information’ (18.8%).

### 5.4. Descriptive Analysis on Respondent’s Need of Training Programs to Obtain / Enhance Information Literacy Skills

It could be found from the Table 12 that most of the respondents (53.8%) need training programs to obtain and / or enhance their information literacy skills. The remaining respondents (46.2%) feel that the training programs are no need for them to obtain / enhance information literacy skills. Among the gender categorisation most of the male and female respondents need training programs. In age groups, most of the respondents belonging to ‘below 25 years’ and ‘36 to 45 years’ age groups need training programs, while most of the respondents belonging to ‘26 to 35 years’ and ‘56 years and above’ age groups do not need training programs. The half of the respondents belonging to ‘46 to 55 years’ age group need training programs to obtain / enhance their information skills and remaining half of the respondents do not.

In designations, most of the respondents belonging to ‘librarian’ and ‘library technical staff’ categories need training programs, while most of the respondents belonging to ‘deputy librarian’, ‘assistant librarian’ and ‘assistant professors’ categories do not need any training programs. The half of the respondents belonging to ‘professors’ designation need training programs and remaining half of the respondents do not. In educational qualification, most of the respondents belonging to various qualifications need training

Table 11. Fair use of copyrighted information with reference to various locations

S.No	Location	Fair Use of Copyrighted Information (Percentage Within Locations)				Total (%)
		Seeking Permission From Copyright Holder(s)	Crediting Original Author / Authority	Partially Using the Information Without Permission	Don't Know How to Use Copyrighted Information	
1.	Urban	152 (38%)	124 (31%)	88 (22%)	36 (9%)	400 (69.9%)
2.	Semi-Urban	52 (48.1%)	32 (29.6%)	20 (18.5%)	4 (3.7%)	108 (18.9%)
3.	Rural	32 (50%)	8 (12.5%)	12 (18.8%)	12 (18.8%)	64 (11.2%)

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Table 12. Need of training programs to obtain / enhance information literacy skills

S.No	Type	Division	Need of Training Programs		Total (%)
			Yes	No	
1.	Gender	Male	168	152	320 (55.9%)
		Female	140	112	252 (44.1%)
2.	Age Groups (in years)	Below 25	24	8	32 (5.6%)
		26-35	72	92	164 (28.6%)
		36-45	156	104	260 (45.5%)
		46-55	52	52	104 (18.2%)
		56 and above	4	8	12 (2.1%)
3.	Designations	Librarian	173	143	316 (55.2%)
		Deputy Librarian	8	12	20 (3.5%)
		Assistant Librarian	48	68	116 (20.3%)
		Library Technical Staff	56	20	76 (13.3%)
		Professor	4	4	8 (1.4%)
		Associate Professor	4	8	12 (2.1%)
		Assistant Professor	15	9	24 (4.2%)
4.	Educational Qualification	PhD in LIS	96	92	188 (32.9%)
		UGC-NET/SET	68	48	116 (20.3%)
		MPhil in LIS	48	48	96 (16.8%)
		PG in LIS	76	60	136 (23.8%)
		UG in LIS	20	16	36 (6.3%)
5.	Technical Qualification	PGDLAN	48	28	76 (13.3%)
		PGDCA	68	48	116 (20.3%)
		Others	88	108	196 (34.3%)
		No Technical Qualifications	104	80	184 (32.2%)

*continued on following page*

*Table 12. Continued*

S.No	Type	Division	Need of Training Programs		Total (%)
			Yes	No	
6.	Types of Library	Academic Library	184	168	382 (61.5%)
		Special Library	16	28	44 (7.7%)
		Public Library	108	68	176 (30.8%)
7.	Types of Institution	Government	176	132	308 (53.8%)
		Aided	32	24	56 (9.8%)
		Self-Financing	100	108	208 (36.4%)
8.	Location	Urban	232	168	400 (69.9%)
		Semi-Urban	52	56	108 (18.9%)
		Rural	24	40	64 (11.2%)
Total			308 (53.8%)	264 (46.2%)	572 (100%)

programs to obtain /enhance their information skills. Among them the respondents belonging to ‘MPhil in LIS’ qualifications equally feel ‘yes’ and ‘no’ regarding the need of training programs.

In technical qualifications, most of the respondents belonging to ‘PGDLAN’, ‘PGDCA’ and the respondents whose are ‘do not have any technical qualification’ need training programs. Most of the respondents belonging to ‘other technical qualifications’ do not need any training programs on information literacy. In types of libraries, most of the respondents belonging to various types of libraries need training programs, except the respondents belonging to ‘special libraries’. Most of the respondents belonging to ‘special libraries’ do not need any training programs for information literacy. In types of institutions, most of the respondents belonging to various types of institutions need training programs, except ‘self-financing’ institutions. Most of the respondents belonging to ‘self-financing’ institutions do not need any training programs. According to location wise analysis, most of the respondents belonging to ‘urban’ location need training programs. Most of the respondents belonging to ‘semi-urban’ and ‘rural’ locations do not need any training programs to obtain and / or enhance their information literacy skills.

## **RECOMMENDATIONS**

- Research finding from this study have a bearing on the education of LIS professionals in India.
- It thus becomes clear that there is need for emphasis to be put in the teaching of intellectual property rights and copyright in particular in library schools.
- It would thus be ideal if courses that solely deal with intellectual property are incorporated in LIS education curricula in India.

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- Due to dynamism in society and in knowledge, library professionals at all levels need to keep abreast with developments taking place in the intellectual property rights domain.
- This can only be done through continuing education programs which can be achieved through holding of regular seminars, workshops, and conferences regarding copyright issues.
- This study is also likely to help guide librarians in deciding the type of librarian who ought to handle copyright queries from user.
- Copyright notices for education should be placed at places where copyrighted materials are used such as the library and lecture halls.
- References in Students works should attract marks to motivate them to see the need of crediting sources of information they use their write ups.

## **CONCLUSION**

As LIS professionals acquire more academic qualifications, the assumption and expectation is that they acquire more domain knowledge in the process. Copyright, a core component in the production, dissemination and consumption of information, has a bearing on the mission and duties of LIS professionals and it becomes critical that they are knowledgeable about intellectual property and copyright issues in particular. This study has been able to show that the widely held assumption that the more academic credentials a person acquires, the more knowledgeable the person becomes is not really the case. Academic librarians have been found to only be moderately knowledgeable about copyright issues. The study revealed that most of the respondents belonging to all educational qualifications use copyrighted information by 'seeking permission from copyright holder(s)', except 'UG in LIS' qualification. Most of the respondents belonging to 'UG in LIS' qualification use copyrighted information by 'partially using the information without permission', followed by 'seeking permission from copyright holder(s)'. The study concludes that the level of copyright awareness is not up to the level expected. In fact, one revelation that calls for concern is the fact that the academic institutions has no copyright awareness policy to effectively educate, regulate, monitor and protect its intellectual property, academic and institutional values and defend its teaching, research and service mission.

## **ACKNOWLEDGMENT**

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## **ADDITIONAL READING**

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## **KEY TERMS AND DEFINITIONS**

**Copyright:** A form of intellectual property that grants the creator of an original creative work an exclusive legal right to determine whether and under what conditions this original work may be copied and used by others, usually for a limited term of years.

**Fair Use:** A doctrine in the law of the United States that permits limited use of copyrighted material without having to first acquire permission from the copyright holder. Fair use is one of the limitations to copyright intended to balance the interests of copyright holders with the public interest in the wider distribution and use of creative works by allowing as a defense to copyright infringement claims certain limited uses that might otherwise be considered infringement.

**Library and Information Science:** A profession that is full of people passionate about making a positive change in the world.

**User Study:** The means for systematic examination of the characteristics and behaviour of the users of the systems and services. The 'user study' is directly linked with the effectiveness (performance) of the library and information services provided as they aim at satisfaction of user needs.

## Chapter 2

# Awareness and Use of Open Education Resources (OER) Among PG Students: A Study of Alagappa University

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### **ABSTRACT**

*This chapter aims to present a brief overview of awareness and use of open education resources in PG students in Alagappa University. Analysis the areas for open education resources. The sample of the respondents had been drafted from the Alagappa University. A total of 200 questionnaires were distributed to the users from different categories and 144 were responded which amounts to 72% rate frequency of using of OER, it found that 51 (35.42%) respondents open educational resource daily, 69 (47.92%) respondents open educational resource weekly, 11 (7.64%) respondents open educational resource twice in a week, 13 (9.03%) respondents open educational resource monthly. This chapter presents the definition, challenges of open educational resource, advantages of open educational resource, awareness, and use of open education resources.*

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## **INTRODUCTION**

Open Educational Resources (OER) are teaching, learning, and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use or re-purposing by others. Open educational resources include full courses, course materials, modules, textbooks, streaming videos, tests, software, and any other tools, materials, or techniques used to support access to knowledge.

## **DEFINITIONS OF OERS**

The term open educational resources (OER) first came into use at a conference hosted by UNESCO in 2002, defined as “the open provision of educational resources, enabled by information and communication technologies, for consultation, use and adaptation by a community of users for non-commercial purposes” (John Stone, 2005). The definition of OER now most often used is: “open educational resources are digitized materials offered freely and openly for educators, students and self-learners to use and reuse for teaching, learning and research”.

- **Learning Content:** Full courses, courseware, content modules, learning objects, collections and journals.
- **Tools:** Software to support the development, use, reuse and delivery of learning content, including searching and organization of content, content and learning management systems, content development tools, and online learning communities.

## **Challenges of Open Educational Resource (OER)**

- Prohibition to use copyrighted material without consent.
- Lack of awareness among academics regarding copyright issues.
- Absence of technical skills.
- Unwillingness to share or give away intellectual property.
- Assuring quality in open content.
- Lack of resources to invest in broadband, hardware & software.

## **Advantages of Open Educational Resource (OER):**

Aside from cost savings for students, benefits of using OER include:

- Expanded access to learning OER can be accessed anywhere at any time.
- Ability to modify course materials OERs can be modified to provide coverage only of topics relevant to a course.
- Enhancement of course material text can be supplemented by multimedia content (e.g., videos, simulations) to support multiple learning styles.

## **REVIEW OF LITERATURE**

In user studies, after the data have been collected, the investigator turns to the task of analysing the data and interpreting the results. Analysis of data is the ultimate step in research process. It is a link between raw data and significant results leading to conclusions. This process of analysis has to be result oriented. In other words, it must aim at setting objectives and hypotheses. Qualitative data analysis is a search for general statements about relationships among categories of data.” The collected data are analysed with the help of various statistical measures. This process is known as interpretation. The problem for study is “Awareness and use of open education resources (OER) Among PG students: A study of Alagappa University.” The data collected by the investigator were organized and tabulated by using statistical measures such as tables and percentages.

Ozdemir and Bonk (2017) the purpose of this study is to explore K-12 teachers’ awareness of open educational resources (OER) as well as their perceptions of its potential opportunities and challenges for teaching practices. Data were gathered from 99 online survey respondents and six interviewees in this study. Findings showed that teachers are aware of OER to a certain degree; however, a misunderstanding exists between digital educational content on the Internet and openly licensed content compatible with the OER definition. Lack of knowledge regarding licensing mechanisms of OER is a major issue among teachers. Whereas, teacher perceptions that the use of OER leads to the improvement in student performance is highly beneficial, the time required to search, select, edit, and apply OER was discovered as the greatest challenge to OER utilization. Results of this study can inform potential OER movement contributors, such as teacher professional development specialists, developers of OER repositories, and academics interested in OER.

Cooney (2016) this thesis reported on findings from a study conducted with students using open educational resources as the primary course material in their Health Psychology course. The study took place at New York City College of Technology, of the City University of New York (CUNY), a comprehensive college located in Brooklyn. Students were assigned the OER by their course instructor, who developed it as part of a library funded pilot initiative. Two research instruments were employed to collect qualitative data from students: a survey and one-on-one interviews with a smaller student sample. Both survey and interview items asked students how they engaged with the OER as the primary assigned course material. Students shared feedback about the overall organization of the OER, methods used to access the OER and complete coursework, ease of use, benefits and challenges, and differences and similarities to using a traditional print textbook. Findings indicate that the majority of students were able to access the OER with more ease than traditional textbooks given the multiple electronic devices they accessed the OER from. A small proportion of students encountered minor usability issues, but the most frequent challenge was difficulty gaining access to the OER via college Wi-Fi. The majority of students reported that the course readings were equal to or better than traditional textbooks, and responded positively to the variety of learning materials and assignments. Most students agreed they would be willing to register for a course offering a similar resource in the future.

Hassall and Lewis (2016) this paper examine Open educational resources (OERs) are becoming increasingly common as a tool in education, particularly in medical and biomedical education. An online survey was completed by 209 educators, many of whom (68.4%) reported using OERs in their teaching and almost all (99.5%) showing awareness of at least one OER. The results suggest that key problems that prevent educators from adopting OERs in their teaching include suitability for particular classes, time, and copyright. Most (81.8%) educators were somewhat, very, or extremely comfortable with

OERs so there is no innate motivational barrier to adoption. A lack of training was reported by 13.9% of respondents, and 40% of respondents stated that there was little or no support from their institutions. OER users were no more comfortable with technology or better supported by departments but tended to be aware of a greater number of sources of OERs.

Hilton (2016) this study examine Textbooks are a vital component in many higher education contexts. Increasing textbook prices, coupled with general rising costs of higher education have led some instructors to experiment with substituting open educational resources (OER) for commercial textbooks as their primary class curriculum. This article synthesizes the results of 16 studies that examine either the influence of OER on student learning outcomes in higher education settings or the perceptions of college students and instructors of OER. Results across multiple studies indicate that students generally achieve the same learning outcomes when OER are utilized and simultaneously save significant amounts of money. Studies across a variety of settings indicate that both students and faculty are generally positive regarding OER.

Jhangiani, et.al.(2016) this research examines the use of Open Educational Resources (OER) by post-secondary faculty in British Columbia, including their motivations and perceptions, as well as what factors help to enable or act as challenges for OER use and adaptation. Although the findings provide a snapshot of the BC postsecondary system as a whole, we also explore similarities and differences in OER use among faculty across the three institution types in British Columbia: research-intensive universities, teaching-intensive universities, and colleges/institutes (see Appendix A). This research also investigates the relationships between faculty use of OER and institutional policies, the tendency to share teaching materials, and the personality trait of openness.

Thanuskodi (2013) the present study evaluates the use of library facilities and information resources in university libraries in Tamil Nadu. A survey of 518 students from 5 universities in Tamil Nadu was conducted through a set of questionnaires. The collected data covers the use of library resources, services, (e.g. reference services, photocopying services), etc. The chapter concludes that the main intention for the use of libraries has been the academic interest of the students.

Thanuskodi (2013) this chapter reports the result of a survey conducted at Annamalai University to determine the extent to which users are aware and make use of e-journals. The study also examines the search pattern of e-journals. A questionnaire was distributed among the faculty members, research scholars, and post-graduate students to collect desired data. A total of 200 questionnaires were distributed to the selected sample of Faculty of Engineering and Technology; 180 valid samples were collected. The result reveals that 46.67% of respondents want to access only electronic version of journals, whereas only 23.88% of users want to read the printed journals, but 29.45% of respondents want to use both electronic and printed journals. The study found that most of the respondents 73.33% use e-journals for writing papers. 68.33% of respondents use e-journals for studying their course work, and 51.11% of respondents use them for research work. The analysis reveals that most of the respondents, 73.33%, use e-journals for writing papers.

Komineas and Tassopoulou (2016) this study Open Educational Resources (OER) primarily address and find applications in the educational field as a useful multifunctional “tool”, which focuses on the production, use and feedback of learning resources, free access and open digital publication of abundant academic material, of high quality, thus making education and material accessible to all stakeholders. The purpose of this paper is to highlight and analyze the background of Open Educational Resources (OER), characteristics, functions, applications and the potential they hold, under the EPPAIK program

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of ASPETE in order to disclose the scope of their abilities, which involves upgrading the quality both in the educational field and in others.

Krelja Kurelovic (2016) examine the paper Educational resources in the competitive world of higher education were often considered as key intellectual property, so access to those resources was restricted to privileged groups of students and professors, which is unacceptable in today's networked society. Today, an increasing number of institutions and individuals share such digital resources via the Internet free of any legal, financial or technical barriers. Open Educational Resources (OER) are the right way which enables free and accessible education to everyone and access to knowledge as public good. OER cherish the culture of participation, collaboration and sharing and with an open access to scientific information it brings a notable contribution in knowledge society development. The implementation of OER has certain limitations, in particular for small countries which use a non-English language, have limited resources and support to customize and create OER, their educational practice is founded on traditional teaching methods with occasional use of digital contents and ICT. The awareness raising and positive attitudes about OER are the first important step towards its acceptance. The empirical part of this paper is analysing attitudes toward OER among the scholars at few smaller public faculties in Croatia and their practice of sharing knowledge and teaching materials.

Mishra, et.al. (2016) this paper described the entire methodology for the development of a scale to measure Attitude towards Open Educational Resources (ATOER). Traditionally, it is observed that some teachers are more willing to share their work than others, indicating the need to understand teachers' psychological and behavioural determinants that influence use of OER. The paper presents the methodological rigour in the development of the 17 items two-factor scale that is valid and reliable to measure attitude towards OER. The psychometric properties of the scale include: Content Validity Ratio=0.9 and Cronbach  $\alpha$ =0.897 with strong inter-items correlation. The two-factor attitude construct in the scale was also subjected to a good model fit using Structural Equation Modelling, which revealed a mediocre fit with 0.8 Root Mean Square Error Approximation value and the chi-square to degree of freedom ratio below 3. We also discuss the significance of the scale and how to use it with other variables effectively in different contexts to help develop appropriate strategies for promoting the use of OER in educational institutions.

Onaif (2016) this study Open educational resources (OER) are increasingly used to support pedagogical initiatives and learning needs at institutions of higher education across the globe. In this thesis, examined key issues in the use of OER by students at the University of Lagos in Nigeria. Specifically, I examined how much awareness the students have of OER, their attitudes toward OER, and the benefit they derive from using the resources. I also examined the specific motivations behind their use of the resources as well as the challenges they face in doing so. The thesis reveals that although participants frequently used OER, their overall knowledge of the resources was limited. Particularly, participants were limited in their understanding of the concept of OER as well as in their awareness of OER repositories. The thesis also shows that, in general, participants had a positive attitude toward OER, and benefited from using the resources in multiple ways. They were motivated to use OER because the resources facilitate the completion of assigned academic tasks. In spite of the benefits of OER, participants faced several challenges in using the resources, including the high cost of Internet access. Based on the results, a model of OER use was developed. Finally, while the results suggest a growing use of OER among students at the University of Lagos, it also highlights the importance of institutions and governments in facilitating better use of the resources. These insights further illuminate the overall understanding of the use of OER.



They may also serve as additional resources for individuals interested in developing and promoting OER at institutions of higher education, particularly at the University of Lagos.

Thanuskodi (2013) academic libraries cater to the diverse needs of scholars, scientists, technocrats, researchers, students, and others personally and professionally invested in higher education. Due to advancements in information and communication technologies (ICT), the vision and mission of academic libraries are changing in developing countries.

Butcher (2015) this paper purpose is to provide readers with a quick and user-friendly introduction to Open Educational Resources (OER) and some of the key issues to think about when exploring how to use OER most effectively. The second section is a more comprehensive analysis of these issues, presented in the form of a traditional research paper. For those who have a deeper interest in OER, this section will assist with making the case for OER more substantively. The third section is a set of appendices, containing more detailed information about specific areas of relevance to OER. These are aimed at people who are looking for substantive information regarding a specific area of interest.

Allen and Seaman (2014) this paper examine awareness and adoption of open educational resources (OER) has yet to enter the mainstream of higher education. Most faculties remain unaware of OER, and OER is not a driving force for faculty decisions about which educational materials to adopt. This report builds on several previous Babson Survey Research Group efforts exploring the role of OER in higher education. The current research is designed to do two things: determine if the previous results observed among higher education teaching faculty have changed over time, and explore the factors driving these trends in more depth. A nationally representative faculty sample is used in this analysis--designed to be representative of the overall range of faculty teaching in U.S. higher education. A total of 2,144 faculty responded to the survey, representing the full range of higher education institutions. The most significant barrier to wider adoption of OER remains a faculty perception of the time and effort required to find and evaluate it, Faculty are the key decision makers for OER adoption. Tables are appended.

Kumar and Thanuskodi (2015) Social Network sites are one of the innovative technologies contributing libraries the opportunity to reach out to its patrons. Keeping library users up to date is the primary aim of every library, online library services taken the role successfully, and among them Social Network Sites plays the unique role to keep the patrons informative. In this chapter, we provide a study of an attempt to use social media to engage with public libraries. Also this chapter has come out with a testimony on library services and the challenges through FaceBook, Twitter and Weblogs.

Atenas and Havemann (2014) the present study Open educational resources (OER) are teaching and learning materials which are freely available and openly licensed. Repositories of OER (ROER) are platforms that host and facilitate access to these resources. ROER should not just be designed to store this content ?in keeping with the aims of the OER movement, they should support educators in embracing open educational practices (OEP) such as searching for and retrieving content that they will reuse, adapt or modify as needed, without economic barriers or copyright restrictions. This paper reviews key literature on OER and ROER, in order to understand the roles ROER are said or supposed to fulfil in relation to furthering the aims of the OER movement. Four themes which should shape repository design are identified, and the following 10 quality indicators (QI) for ROER effectiveness are discussed: featured resources; user evaluation tools; peer review; authorship of the resources; keywords of the resources; use of standardised metadata; multilingualism of the repositories; inclusion of social media tools; specification of the creative commons license; availability of the source code or original files. These QI form the basis of a method for the evaluation of ROER initiatives which, in concert with considerations of achievability and long-term sustainability, should assist in enhancement and development.

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Santosh and Panda (2014) this paper examine the entire education system is witnessing a sea change by the creation of knowledge societies being enriched by various Open Educational Resources. OERs have emerged as a meaningful symbol of innovative attempts towards achieving easy access to quality education at all levels. The Open Educational Resource (OER) materials are the digitized version of the learning materials that are available freely and openly for learners, teachers and scholars to use and reuse for teaching learning and research activities. All over the world a large number of innovative and open OER initiatives are being taken up. Distance Education in India supports the learning needs of a wide range of learners from diverse backgrounds, economical status and geographical locations. The use of OERs holds great promise of improving the access to and the overall quality of education for the developed as well as the developing countries. It has therefore become critical to use OERs in order to ensure high quality and suitable educational opportunities to the learners with diverse learning needs. This also necessitates the need for establishment of policies and strategies encouraging the development and use of OERs. The OER declaration also stresses the need for the states to facilitate finding, retrieving and sharing of OER. In this context the present paper focuses on the use of various available OERs in the open and distance institutions in India. A significant number of initiatives have been up to support the development and sharing of OERs. The paper highlights the various Initiatives taken up in Indian Universities and educational institutions for promotion and use of OERs.

Campbell, et.al.(2013) this presentation will reflect on Cetus ' involvement with the Learning Registry and Jisc's Learning Registry Node Experiment at Mimas and their application to UKOER initiatives. Initially funded by the US Departments of Education and Defense, the Learning Registry (LR) is an open source network for storing and distributing metadata and curriculum, activity and social usage data about learning resources across diverse educational systems. The LR's innovative technical methodology applies a new approach to the perennial problems of describing and managing OERs. Rather than mandating specific standards, the LR is metadata agnostic; it ingests all kinds of resource descriptions and data into a document-oriented, schema-free database.

Cobo(2013) this paper examine over the last decade, open educational resources (OER) initiatives have created new possibilities for knowledge-sharing practices. This research examines how, where, and when OER are attracting attention in the higher education sector and explores to what extent the OER discussion has moved beyond the English-speaking world. This study analysed English, Spanish, and Portuguese OER queries over a long-term period (2007-2011). The data retrieval was conducted using four online platforms: two academic journal databases (Web of Knowledge and Scopus), one video-sharing Web site (YouTube), and one document-sharing Web site. The number (more than 32,860) of search results collected indicate an increasing interest in online OER discussion across languages, particularly outside academic journal databases. Additionally, a widening 'language gap' between OER discussions in English and other languages was identified in several platforms. This research reports some of the cultural and language challenges caused by the expansion of the OER discussion and highlights relevant findings in this field.

## **OBJECTIVE OF THE STUDY**

- The present study is to examine the awareness and use of open educational resources.
- To identify the frequency and duration of use of these open education resources (OER) among the respondents.

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- To identify the Purposes of using these open education resources (OER) among the respondent.
- To identify challenges encountered by librarians in promoting access and use of open education resources (OER) in Alagappa University Libraries.
- To measure the effect of the use of these open education resources (OER) among the respondents.
- To find out the barriers of accessing and using these open education resources (OER) among the respondents.
- To suggest measures to improve the awareness and use of these e-resources among the respondents.

### Scope of the Study

The present study Postgraduate students of Alagappa University Karaikudi. The main of the study was to assess the purpose, Knowledge and frequency of using Open Education Resources (OER) and problems faced by users. A sample of 200 users was taken covering various disciplines such as arts, science, management, and education.

### Methodology

A Questionnaire was designed to gather primary data which was distributed among 200 we received 144 filled questionnaires from the respondents with a response rate of 72% .proper care was taken to select the representative sample from each category proportionately on the basic of total strength of category concerned. The data was analyzed through descriptive statistical methods by using computerized data processing techniques.

### Data Analysis and Interpretation

The problem for study is “Awareness and use of open education resources (OER) Among PG students: A study of Alagappa University.” The data collected by the investigator were organized and tabulated by using statistical measures such as tables and percentages.

Table 1 indicates the gender wise distribution of respondents. It could be noted that out of the total 144 respondents, that 76(53%) were Female 68(47%) of the respondents were male.

The table 2 shows that discipline wise distribution of respondents. Here it is seen that 46 (31.94%) are belong Arts students, 46 (31.94%) are belong Management students, 29 (20%) are belong Education students, and 23 (16%) are belong Science students.

The table 3 shows that status wise distribution of respondents. Here it is seen that 80 (55.56) are 1<sup>st</sup> year students, and 64 (44.44) 2<sup>nd</sup> year students

Table 1. Distribution of respondents on basics of gender

SI. No	Gender	Frequency	Percentage
1	Male	68	47.22
2	Female	76	52.78
<b>Total</b>		<b>144</b>	<b>100</b>

## Awareness and Use of Open Education Resources (OER) Among PG Students

Table 2. Distribution of Respondents by Discipline

Sl. No	Discipline	Frequency	Percentage
1	Arts	46	31.94
2	Science	23	15.97
3	Management	46	31.94
4	Education	29	20.14
<b>Total</b>		<b>144</b>	<b>100</b>

Table 4 show that 85 (59.03%) majority of the respondents were aware of the open education resources in library professionals, 32 (22.22%) respondents were aware of the open educational resources in Faculty members, 13 (9.03%) Low levels of the respondents were aware of the open educational resources in Orientation programmes and 14(9.72) respondents were aware of the open educational resources in others.

Table 5 show that 62 (43.06%) respondents used open educational resource to Research, 49(34.03%) respondents used open educational resource to preparing seminar/conferences, followed by 17 (11.81%) respondents used open educational resource to write of articles, and 16 (11.11%) respondents used open educational resource to keep up to date.

Table 6 show that 51 (35.42%) respondents open educational resource Daily, 69 (47.92) respondents open educational resource weekly, 11(7.64%) respondents open educational resource Twice in a week, 13 (9.03%) respondents open educational resource Monthly.

7 show that 56 (38.89%) majority of the respondents spent for below 1 hour on accessing open educational resources, 48 (33.33%) maximum of the respondents spent for below 1-2 hour on accessing open educational resources, 29 (20.14%) respondents spent for below 2-3 hour on accessing open educational resources, 11 (7.64%) low level of the respondents spent for below Above 3 hour on accessing open educational resources.

Table 3. Distribution of Respondents by Study Year

Sl. No	Year of Study	Frequency	Percentage
1	1st year	80	55.56
2	2nd year	64	44.44
<b>Total</b>		<b>144</b>	<b>100</b>

Table 4. How to awareness of open educational resources

Sl. No	How to Aware	Frequency	Percentage
1	Library professionals	85	59.03
2	faculty members	32	22.22
3	Orientation programmes	13	9.03
4	others	14	9.72
<b>Total</b>		<b>144</b>	<b>100</b>

### **Awareness and Use of Open Education Resources (OER) Among PG Students**

Table 8 show that 78 (54.17) majority of the respondents available material open education resources in my own institution, and 66 (45.83) respondents available material open education resources in other repositories.

Table 9 show that 62 (43.06%) majority of the respondents use for like to take more course that use open educational resource, 58(40.28%) respondents use for recommend a course that uses Open edu-

*Table 5. Purpose of Use Open Educational Resources*

Sl. No	Purpose of Use	Frequency	Percentage
1	Research	62	43.06
2	preparing seminar/conferences	49	34.03
3	write of articles	17	11.81
4	To keep up to date	16	11.11
<b>Total</b>		<b>144</b>	<b>100</b>

*Table 6. Frequency of using Open Educational Resources*

Sl.No	Frequency of Using OER	Frequency	Percentage
1	Daily	51	35.42
2	Weekly	69	47.92
3	Twice in a week	11	7.64
4	Monthly	13	9.03
<b>Total</b>		<b>144</b>	<b>100</b>

*Table 7. Time spent on searching internet for open educational resources*

Sl. No	Time Spent	Frequency	Percentage
1	below 1 hour	56	38.89
2	1-2 hour	48	33.33
3	2-3 hour	29	20.14
4	Above 3 hour	11	7.64
<b>Total</b>		<b>144</b>	<b>100</b>

*Table 8. Open educational Materials Available openly to learners and academics*

Sl. No	Available Material OER	Frequency	Percentage
1	Own institution	78	54.17
2	Other repositories	66	45.83
<b>Total</b>		<b>144</b>	<b>100.00</b>

## Awareness and Use of Open Education Resources (OER) Among PG Students

Table 9. Quality of the use of these Open educational resources

Sl. No	Quality of Use	Frequency	Percentage
1	I would like to take more course that use OER	62	43.06
2	I Would recommend a course that uses OER to other	58	40.28
3	Overall the learning experience in this course was positive	13	9.03
4	overall the quality of the OER content of this course was excellent	11	7.64
<b>Total</b>		<b>144</b>	<b>100.00</b>

cational resources, 13(9.03%) respondents overall the learning experience in this course was positive, and 11(7.64) overall the quality of the Open educational resource content of this course was excellent.

Table 10 shows that 80 (55.56%) majority of the respondents Strongly Agree, 55 (38.19%) of the respondents Agree, 4 (2.78%) of the respondents Neutral, 1(0.69) of the respondents Disagree, 4 (2.78%) of the respondents Strongly Disagree. 31 (21.55) of the respondents Strongly Agree, 105 (72.92%) majority of the respondents Agree, 5 (3.47%) of the respondents Neutral, 0(0.00%) of the respondents Disagree,

Table 10. Opinion on satisfaction levels of open education resource

Sl.No	Description	SA	A	N	D	SD
1	Help other institutions copy our best ideas	80 (55.56)	55 (38.19)	4 (2.78)	1 (0.69)	4 (2.78)
2	Help build fruitful partnerships with colleagues and institutions worldwide	31 (21.53)	105 (72.92)	5 (3.47)	0 (0.00)	3 (2.08)
3	University repository will help enhance the reputation of the university attracting better students	38 (26.39)	68 (47.22)	34 (23.61)	3 (2.08)	1 (0.69)
4	Useful way of developing new courses	34 (23.61)	76 (52.78)	27 (18.75)	6 (4.17)	1 (0.69)
5	Easy process of Open Education Resources	43 (29.86)	60 (41.67)	33 (22.92)	6 (4.17)	2 (1.39)
6	To learn things that are challenging	30 (20.83)	83 (57.64)	22 (15.28)	6 (4.17)	3 (2.08)
7	Complete my homework on time	36 (25.00)	71 (49.31)	31 (21.53)	4 (2.78)	2 (1.39)
8	Working on my assignments	28 (19.44)	78 (54.17)	32 (22.22)	4 (2.78)	2 (1.39)
9	I prefer learning using a text book	38 (26.39)	70 (48.61)	30 (20.83)	5 (3.47)	1 (0.69)
10	Course material in to a logical structure	36 (25.00)	73 (50.69)	31 (21.53)	3 (2.08)	1 (0.69)
11	More self-reliant as a result of this course	32 (22.22)	72 (50.00)	32 (22.22)	6 (4.17)	2 (1.39)
12	Improve the quality of my learning experience in this course	34 (23.61)	79 (54.86)	22 (15.28)	6 (4.17)	3 (2.08)
13	Open Education Resources in good as purchased textbooks	36 (25.00)	73 (50.69)	26 (18.06)	6 (4.17)	3 (2.08)

## **Awareness and Use of Open Education Resources (OER) Among PG Students**

3 (2.08%) of the respondents Strongly Disagree. that 38 (26.39%) of the respondents Strongly Agree, 68 (47.22%) majority of the respondents Agree, 34 (23.61%) of the respondents Neutral, 3(2.08%) of the respondents Disagree, 1 (0.69%) of the respondents Strongly Disagree.

Table 11 show that 65 (45.14%) of the respondents Strongly Agree, 69 (47.92%) majority of the respondents Agree, 9 (6.25%) of the respondents Neutral, 1 (0.69%) of the respondents Disagree, 0 (0.00%) of the respondents Strongly Disagree.19 (13.19%) of the respondents Strongly Agree, 103 (71.53%) majority of the respondents Agree, 22 (15.28%) of the respondents Neutral, 0 (0.00%) of the respondents Disagree, 0 (0.00%) of the respondents Strongly Disagree.36 (25.00%) of the respondents Strongly Agree, 73 (50.64%) majority of the respondents Agree, 23 (15.97%) of the respondents Neutral, 6 (4.17%) of the respondents Disagree,6 (4.17%) of the respondents Strongly Disagree.

### **Suggestions**

Some of the suggestions given by the respondents are:

- Provide more training programmers.
- It can extend its services to more number of college.
- A monitoring system to identify which open educational resources used by students so that they can be cancelled and other resources can be subscribed.

### **CONCLUSION**

Open Education Resources (OER) teachers and students have benefits. For students, but it certainly guarantees access to materials, and provides a significant cost savings. It represents the opportunity to explore and modify new content for teachers, and expand the lecture of a teacher from teaching students around a world. Another aspect of OER adoption that bears more analysis in further studies concerns the potential influence of open licensing on OER adoption. In the present study, awareness and use of open education resources (OER) among was adopted wholesale by PG students, who generally did not take advantage of the additional legal permissions allowed by OER. It is possible that had teachers actively

*Table 11. Reasons for the significant barriers of open educational resources*

Sl. No	Description	SA	A	N	D	SD
1	Lack of awareness about the OER	65 (45.14)	69 (47.92)	9 (6.25)	1 (0.69)	0 (0)
2	Lack of skills	19 (13.19)	103 (71.53)	22 (15.28)	0 (0)	0 (0)
3	Lack of time	33 (22.92)	60 (41.67)	45 (31.25)	6 (4.17)	0 (0)
4	Lack of access to computers	9 (6.25)	87 (60.42)	36 (25.00)	11 (7.64)	1 (0.69)
5	Lack of training for OER	36 (25.00)	73 (50.69)	23 (15.97)	6 (4.17)	6 (4.17)

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engaged in revising or remixing the OER, making them more directly relevant for their students, results would have been different. The extent to which teachers are willing to expend the time necessary to adapt OER remains unknown. Future research should more carefully examine this aspect of OER adoption. This study challenges the perception that OER are lower quality because the materials are available for free. While this is only one study, if multiple future studies replicate these non-significant findings, administrators could confidently consider implementing OER and identifying ways to more effectively reallocate funds designated for curriculum materials.

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## **KEY TERMS AND DEFINITIONS**

**OER:** Commons was created as a network for teaching and learning materials, the web site offers engagement with resources in the form of social bookmarking, tagging, rating, and reviewing.

**OpenStax:** A non-profit digital ecosystem serving millions of users per month in the delivery of free educational content to improve learning outcomes.

**WikiEducator:** A community project working collaboratively with the Free Culture Movement towards a free version of the education curriculum by 2015. Driven by the learning for development agenda WikiEducator is developing free content for use in schools, polytechnics, universities, vocational education institutions and informal education settings.

**World Digital Library (WDL):** Makes available on the Internet, free of charge and in multilingual format, significant primary materials from countries and cultures around the world.

## Chapter 3

# Role of Libraries in Career Development Among the Students

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### **ABSTRACT**

*The purpose of this chapter is to review and analyze the role of libraries and librarians in Management College student empowerment of career guidance, career counseling, and overall career development in Trichy and Pudukkottai districts. This study creates awareness about different careers among the students and librarians towards career development activities programs. This study may help to create responsiveness among the Management College and librarians to find out how to cater to their students and enhance students' personality, skills, confidence, and students' employability to develop their career. This study assists libraries to study and provide better infrastructure and programs pertaining to student needs. The 584 valid questionnaires were coded after data collection. The obtained data were tabulated and analysed using the statistical packages Microsoft Excel and SPSS. Hypotheses were tested and findings were drawn in the light of objectives of the investigation. The results were reported in the form of thesis, tables, charts, and figures used wherever necessary to make the presentations clear, simple, and easy. The study demonstrated that one-fifth of the respondents were agreed the following statement related career choice of the MBA graduates such as "I am capable of making my own career choice," "I seek my parent's advice for career choice," "I consult the librarian in making any career choice," "I consult the placement officer in making career choice," "I consult my friends before making any career*

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*choice,” “I seek advice of my seniors in making career choice,” “ I consult the alumni of my institute in making career choice,” and “I go by the market trend in deciding my career choice.” Nearly half of the respondents were neutral about the above mentioned statement, and the remaining one-third of the respondents disagreed about various career choices. Further, it is observed from the study that 49.3% of the respondents were neutral with overall level of career choice, 30.0% of the respondents disagree with overall level of career choice, and the remaining 20.7% of the respondents agreed with overall level of career choice.*

## **INTRODUCTION**

The word “career” is taken from the Latin word carrus, cart or chariot, which means to carry you from one point to another. A career is about the life you want to lead, not just a job, occupation or profession. It involves deciding about the possible and preferred future.

Career Development is a continuous process which happens throughout life and it will change. It involves job, management, administering, and learning includes changes to progress towards a personally determined and desired future career. It involves making maximum use of training and development programs that enhances job-related skills, and career improvement.

Business Management is a highly successful profession. In the present scenario, the manager has created an indispensable position in business and society. The type of functions generally performed by them is critical for the success of business, decision making, routine work of related maintenance of organization, etc. A Management degree may help to achieve a major breakthrough in one’s career path accompanied with a jump in income. Many MBA graduates may stand with that ambition; a management qualification requires an enormous investment of effort and money. To maximize the return one should think carefully about his own objective in seeking an MBA and the type of course that is most likely to enable one to meet one’s objective.

## **STUDENT’S CAREER DEVELOPMENT**

Career development involves a series of activities for developing a student’s career that will change according to situations. Students will have to continuously make career and life decisions. It usually involves managing student’s career with respect to inter-organizational or intra-organizational circumstances. It basically consists of developing skills by means of appropriate sources, training in order to impart new skills, going for better career opportunities, climbing the career ladder within the organization or moving to another organization, and becoming an entrepreneur. According to Watts, A. G (2006)<sup>3</sup> in higher education, the terminology used to convey the meaning of career development learning has changed. Though many conceptual models have been developed but the most popular one is the DOTS model. The increased attention paid for enhancing the student’s chances of employment depends on the inspiration within the student. It helps in strengthening the traditional academic morals and ethics.

## REVIEW OF LITERATURE

Binder, et al. (2016) state that nearly half the graduating seniors are moving to a surprisingly narrow band of professional options. Last decades, this has largely been into the finance and consulting sectors, but increased it also includes high-tech firms. This study clearly shows how the student cultures and campus structures steer most of the portions are anxious and uncertain students into high-wealth, high-status occupational sectors. 56 students were interviewed, recent alumni of Harvard and Stanford Universities, from this study he found that the majority of the respondents experienced confusion about their career paths when first arriving at college but immediately learned what were considered to be the most distinguished choices, the career important systems built up among peers exacerbation the funneling effect into the job. These processes helped the students to draw borderline between high-status and ordinary jobs.

Williams & Wiley, (2015) state that the librarians have embraced their roles as academic advisors and expect to continue this responsibility. We have established many positive and lasting relationships with students, who turn to us for research assistance as well as scheduling advice. Our advising work has brought up new and interesting questions about students and unique avenues to learn about their needs. We have discovered a similarity between the needs of students who are unsure about their future career paths and those of students who are unsure about how to begin a research project.

Lacy & Copeland, (2013) are of the opinion that mentoring is highly valued and encouraged within librarianship. It is basically a professional relationship that evolves after obtaining a position. It analyses the knowledge gained by academic librarians and students of Library and Information Science after their participation in the mentorship program.

Tori Randolph Terhune., & Betsy Hays, A (2013) indicated that obtaining a college degree does not automatically result in a job, In the last year, alone, half of college graduates are either jobless or underemployed in positions that don't fully use their skills and knowledge.

According to Niwant Rakshikar, (2012) choosing a right career is a crucial task in the modern world as multidisciplinary professional paths are available in today's job market. There is needed to make awareness among the college students about the different array of paths available to them to make a right choice. College libraries should perform this function for the youth. Her paper mainly focuses on the status of the services provided by college libraries in Mumbai concerning career guidance.

Ronald, (2012) states that career management skills (CMS) are increasingly acclaimed as necessary for all citizens, young and adult, particularly given the realities of employment and self-employment in a knowledge-based society, where 'protean', 'portfolio' careers are expected to increasingly become the norm, and lifelong career guidance an entitlement of all citizens. And he explores how such skills are being defined, how and where they are being taught and assessed, and the various methods by means of which they are integrated in education and training programmes in both the education and labor market sectors. Particular care is given to debates and tensions around the nation.

Sung, et al. (2012) examined that the twofold study about career. The utility of (ICM) Integrative Contextual Model of Career Development describe the career development behavior of college students. The relationships among educational and career development skills educational and career development outcomes and two components of hope among college students were explored. Results indicated that the Integrative Contextual Model is a useful model for college students and that the interrelated skills predicted the interrelated outcomes. The agency facet of hope foresees both skills and outcomes and skills

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or outcomes are foreseeing agency. Pathways were not predictive by skills or outcomes. His suggestions about how these skills can be developed in college and university students are offered.

Moly, (2007) revealed that the career life planning process enables the students to choose right career, acquire skills and sharpen capabilities within the chosen career. It focusses on the role of libraries in providing career information services to college and university students. The importance of giving Internet services to career seekers is highlighted.

Fouad, et al. (2006) indicated that the students showed difficulties with career decisions on his study, high levels of psychological distress instead of well-being, and that about half of students were aware and informed of career services but much fewer had used these There were relationships among psychological distress and career-related variables for ambivalent students. Results are conferred with implications for career services on colleges and university campuses.

According to Ruth, (2009) recent shifts in education and labor market policy have resulted in universities being placed under increasing pressure to produce employable graduates. However, controversy exists regarding exactly what constitutes employability and which graduate attributes are needed to promote employability in tertiary students. This paper highlights that in the context of a rapidly changing information- and knowledge-intensive economy, employability involves far more than possession of the generic skills listed by graduate employers as attractive. He suggested that the graduates must be able to proactively operate the world of work and self-manage the career building process. A model of suitable and desirable graduate attributes that recognize the significance of self-management and career building skills to lifelong career management and intensified employability is presented.

Dowd, & Kaplan, (2005) state that the academic careers can be characterized as either boundaries or boundary less, depending on the individual. This article develops a typology of four academic career types that identifies what differentiates tenure-track individuals who perceive themselves as having either boundaries or boundary less careers in academia. The typology was developed using interview data from business school faculty, and then confirmed using qualitative data including faculty from multiple academic departments and disciplines. Finally, the typology makes its contribution to career theory by taking into consideration the additional impact of career stage theory for academics.

Newton, (2001) explained that the student must sincerely seek the goal of lifelong learning, both for career and personal growth. However the costs in terms of finances, time and commitment are often a hurdle to further education. Department of Information Studies and the Internet Training Institute are working together to make workplace training and further education easier for information professionals, through the recognition of accredited workplace training as a legitimate component of tertiary library and information studies.

Baruch, & Peiperl, (2000) state that the key ingredient in the knowledge economy is the development of people's careers. Companies approach career development in different ways. To understand better about how these approaches fit together and how they are used to address different situations, the authors surveyed 194 United Kingdom companies and recognized five groups of practices. These groups were associated with certain organizational characteristics. Drawing on concepts from the careers literature, the authors suggested that a two-dimensional model to explore how these groups of practices can be systematically understood and applied.

Law, (1999) analyzed that both careers education and guidance have drawn much of their rationale from the DOTS analysis. It analyses practice for coverage of decision learning (D), opportunity awareness (O), transition learning (T), and self awareness (S). Its presumptions are rooted in theory, unifying the aims of careers education and guidance as enabling choice. More recent theory and practice engage

a broader range of thinking: they recognize the complexity of present-day career planning, and put in interactions which happen in the social and community life of the 'choosing person', that concludes more continuing career learning, in conditions which enable 'due process' to build applicable bases for both choice and change of mind. This thinking more clearly characterizes career education from guidance, setting out a strong theory for the former. It does not replace DOTS, but extends it into a new-DOTS re-conceptualization termed 'career-learning space'.

Primoz, & Bob, (2011) confirmed that the placements provide a highly relevant educational experience that is appreciated by students and that generally lives up to their expectations. The fact that there are few substantial differences between the two student cohorts suggests that the conclusions of this research are precise picture of the situation for LIS students more generally. The positive view of the placement and the belief in its role in LIS education is further reinforced by this study. Originality/value – The outcomes from this research will help to educate the nature of the work placement experience – where it fits with expectations and where it does not – and how useful the activity is in giving breadth and depth to a student's portfolio as a tool when seeking employment.

Betty, & Sue, (1997) identified the career issues faced by the disabled students. It is evident from the finding of the study that enhancing the career development of disabled students requires addressing issues related to the external environment and to the students themselves.

Dougherty, et al. (1993) examined that the job changes of 680 early-career business school graduates. Although a number of anecdotal articles characterize MBAs as overly "careerist" and oriented toward job-hopping, little empirical research has focused on this issue. The research included a direct comparison of job-hopping behaviour of MBAs with bachelor S degree graduates, taking into account a number of control variables, including demographic and economic variables. Results indicated that MBAs changed jobs less frequently than bachelor 5 degree graduates, even when a variety of other factors were controlled.

Almquist, & Angrist, (1970) state that the career planning of college women's attention is focused on career-oriented. They suggesting that these women are varied from the non-career oriented women who choose traditionally feminine professional, in terms of extra-curricular activities, relationships with parents, and work values receive only limited support. An alternative hypothesis enforcing the effects of broadening and enriching experiences on career planning is well supported when data on the mothers' work histories, the students' own work experience and the influence of occupational role models are taken into consideration.

Hussaini et al. (2018) mentioned that from his research participants surveyed disclose that female desired to be at the library more than their male counterparts less than 30 years of age. It was also noted that the majority of respondents indicated that (65.3%) of library resources, showed that gazetteers were not available. Users of the NIMS Central Library use more books, e-books, journal, electronic journals, newspapers, magazines, and Internet /computer. It concluded that for the exercised and effective use of the library for teaching, learning and research, the academic institution must provide a live library of updated library resources to get together the information needs of the library users'. It suggested that the management of the library or university should bring in the use of library literacy education to educate users how to properly manage and make use of the library resources. This will provoke more users who are not aware of the library resources. Finally, Board Display Services should be expanded adequately to reflect the available resources to users' and thus representing all library resources

Constantin, & Vatamanescu, (2016) state that the Generic skills, also known as core skills, key skills, essential skills, basic skills, key competences, or employability skills are those potentials that can power

## ***Role of Libraries in Career Development Among the Students***

personal and professional development based on learning. The difficulty of implementing such a new vision concerning generic skills comes mostly not from professors, but from students who should work harder in improving and building their conceptual skills.

Nilsson, & Ripmeester, (2016) state that students study abroad so that it can have a positive influence on their future and employability. Their study revealed that job opportunities after graduation and earning while is given more importance by non-European students.

Taylor, & Hooley, (2014) evaluated that the impact of intervention of business school graduates' employability comprising of a curriculum-based career management skills (CMS) module and an industrial placement year. His study uses data from the destinations of leavers of higher education survey to examine the employability of different groups within the cohort (no intervention, CMS module only and CMS module plus structured work experience). It finds that structured work experience has clear and positive impact on the ability of graduates to secure employment in 'graduate level' jobs within six months of graduation. Moreover, participation in the CMS module also has a clear, positive effect upon the ability of participants to secure employment.

Sarkar, et al. (2014) suggested the role of Librarian as an information organizer and provider with respect to career guidance activities in university libraries. Librarians can work in association with faculty and others in the career guidance cell.

Tremblay, et al. (2012) suggested that to meet the career-specific education and training needs of adult populations the sub-degrees are very important for social and economic development., but they are unfortunately not included within traditional higher education governance, financing and quality control mechanisms.

Benjamin, (2012) state that the academicians from Information Systems (IS) and discusses a career skills oriented approach which might help in enhancing IS curriculum. The curriculum is based on information gathered from recent career skills studies recommended by the U.S. Bureau of Labor Statistics.

## **OBJECTIVES OF THE STUDY**

The primary study is made to assess the career choices and career aspiration of Management students studying at Colleges and Universities in Trichy and Pudukkottai Districts. The primary study is made to assess the career choices and career aspiration of Management students studying at Colleges and Universities in Trichy and Pudukkottai Districts. The specific objectives are:

- To know the socio-demographic characteristics of the respondents.
- To find out the usefulness of career development related resources provided by the library.
- To assess the level of library services and sources helpful for career development among the MBA graduates.
- To identify the level of career development services provided by the library outside the campus for MBA graduates.
- To analyze the perception of MBA graduates towards their own career choices.



## Need for the Study

The purpose of this study is to review and analyze the role of libraries and librarians in Management College student's empowerment of career guidance, career counseling, and overall career development in Trichy and Pudukkottai districts. This study creates awareness about different careers among the students and librarians towards career development activities programs. And also this study may help to create responsiveness among the Management College and librarians to find out how to cater to their students and enhance students' personality, skills, confidence and students' employability to develop their career. This study assists libraries to study and provide better infrastructure and programs pertaining to students needs.

## Hypotheses

H<sub>1</sub>= There is a significant difference between the gender of the respondents and overall level of usefulness about career development related resources provided by library.

H<sub>2</sub>= There is a significant difference between the gender of the respondents and overall level of satisfaction about resources and services provided by library for career development.

H<sub>3</sub>= There is a significant association between the nature of college of the respondents with regard to overall level of library services and sources helpful for Career Development.

H<sub>4</sub>= There is a significant association between the age of the respondents with regard to overall level of career development related services provided by the library outside the campus.

H<sub>5</sub>= There is a significant association between the age of the respondents with regard to overall level of satisfaction about resources and services provided by library for career development.

H<sub>6</sub>= There is a significant association between the domicile of the respondents with regard to overall level of career choice.

## Analysis and Interpretation

Table 1 show the gender wise distribution of the respondents. The male respondents (54.5%) outnumber the female respondents (45.5%).

Table 2 shows the kind of college in which the respondents are studying. 47.4% of the respondents are from Aided Colleges. 39.4% of the respondents are from Self-financing Colleges. 13.2% of the respondents are from Government Colleges.

Table 3 shows the Age wise distribution of the respondents. 51.2% of the respondents belong to the age group of below 22 years. 30.7% of the respondents belong to the age group of 23 – 24 years. 8.2% of the respondents belong to the age group of 25 - 26 years and 9.9% of the respondents belong to the age group of 27-28 years. It shows that most of the students have no gap in their studies.

*Table 1. Distribution of the respondents according to their gender*

S. No.	Gender	No. of Respondents (n = 584)	Percentage
1.	Male	318	54.5
2.	Female	266	45.5

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Table 4 shows the domicile wise distribution of the respondents. 55.3% of the respondents are from rural area. 44.7% of the respondents are from urban area. It indicates that the students belonging to rural background in Trichy and Pudukkottai districts too have awareness about the MBA programme.

Table 5 shows the subject taken up for Under Graduate Degree by the respondents. 39.6% of the respondents are engineering graduates. 30.3% of the respondents are Arts graduates. 20.4% of the respondents are Science graduates. 9.8% of the respondents are Law graduates. It indicate that Engineering students are more interested to do MBA after their under graduate degree.

Table 6 shows the Specialization in MBA Degree distribution of the respondents. 39.4 of the respondents have opted for MBA in Finance. 32.7% of the respondents have opted for MBA in HRM. 14.7% of the respondents have opted for MBA in marketing. 10.8% of the respondents have opted for MBA in International Business. 2.4% of the respondents are pursuing other MBA specialization. It shows that MBA in Finance is very popular among Trichy and Pudukkottai District students.

Table 7 shows the distribution of the respondents based on their Familiarity in Languages. 100% of the respondents are familiar with English. 90.9% of the respondents are familiar with Tamil. 9.2% of the respondents are familiar with Hindi. 6.5% of the respondents are familiar with other languages.

Table 8 shows the opinion of the respondents based on who motivated them for pursuing higher education. 56.3% of the respondents were motivated by their family members. 16.4% of the respondents were motivated by their Class teachers. 13.4% of the respondents were motivated by their friends. 8.6% of the respondents were motivated by the Alumni. 8.6% of the respondents were motivated by the Library staff.

*Table 2. Distribution of the respondents according to the nature of the college*

S. No.	Nature of the College	No. of Respondents (n = 584)	Percentage
1.	Government	77	13.2
2.	Aided	277	47.4
3.	Self-Financing	230	39.4

*Table 3. Distribution of the respondents according to their age*

S. No.	Age	No. of Respondents (n = 584)	Percentage
1.	Below 22 years	299	51.2
2.	23 - 24 years	179	30.7
3.	25 - 26 years	48	8.2
4.	27 - 28 years	58	9.9

*Table 4. Distribution of the respondents according to their domicile*

S. No.	Domicile	No. of Respondents (n = 584)	Percentage
1.	Rural	323	55.3
2.	Urban	261	44.7

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It shows that family members are prime motivators who have played a big role in motivating the students for pursuing higher education. It was also found that motivation provided by the Library staff is very low.

*Table 5. Distribution of the respondents according to their under graduate degree*

S. No.	Under Graduate Degree	No. of Respondents (n = 584)	Percentage
1.	Arts	177	30.3
2.	Science	119	20.4
3.	Engineering	231	39.6
4.	Law	57	9.8

*Table 6. Distribution of the respondents according to their specialization in MBA degree*

S. No.	Specialization in MBA Degree	No. of Respondents (n = 584)	Percentage
1.	Marketing	86	14.7
2.	Finance	230	39.4
3.	HRM	191	32.7
4.	International Business	63	10.8
5.	Others	14	2.4

*Table 7. Distribution of the respondents according to their familiarity in languages*

S. No.	Familiarity in Languages	No. of Respondents (n = 584)	Percentage*
1.	Tamil	531	90.9
2.	English	584	100
3.	Hindi	54	9.2
4.	Others	38	6.5

(Non-addictive percentage)

*Table 8. Distribution of the respondents according to their opinion on motivation for pursuing higher education*

S. No.	Motivation for Pursuing Higher Education	No. of Respondents (n = 584)	Percentage
1.	Family members	329	56.3
2.	Class Teachers	96	16.4
3.	Library Staff	31	5.3
4.	Alumni	50	8.6
5.	Friends	78	13.4

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Table 9 shows the distribution of the respondents based on their future plans after obtaining MBA degree. 58% of the respondents plan to work after completion of their MBA course. 26.9% of the respondents are keen on starting a new business after completion of their MBA course. 8.2% of the respondents plan to do social service after completion of their MBA course. 6.8% of the respondents plan to caring family business after completion of their MBA course. It indicates that most of the MBA students are interested in seeking employment after completing their course.

Table 10 shows the distribution of the respondents based on their perception towards career websites browsed to collect the career related information. 59.8% of the respondents browse TNPSC websites. 36.5% of the respondents browse other websites. 21.1% of the respondents browse IBPS website. 19.5% of the respondents browse career website. 16.3% of the respondents browse SSC website. It shows that most of the MBA students are searching for job opportunities in Tamilnadu Government and Banking sectors.

Table 11 shows the distribution of the respondents based on their opinion on problems faced while receiving career related information from the library. 58% of the respondents state that there is no flex-

*Table 9. Distribution of the respondents according to their opinion on after completion of MBA degree*

S. No.	After Completion of MBA Degree	No. of Respondents (n = 584)	Percentage
1.	Employment	339	58.0
2.	New business	157	26.9
3.	Caring family business	40	6.8
4.	Social service	48	8.2

*Table 10. Distribution of the respondents according to their perception towards visited career websites to collect the career related information*

S. No.	Career Websites	No. of Respondents (n = 584)	Percentage*
1.	www.ibps.in	129	22.1
2.	www.tnpsc.gov.in	349	59.8
3.	www.india.gov.in	79	13.5
4.	www.ssc.nic.in	95	16.3
5.	www.upsc.gov.in	64	11.0
6.	www.employmentnews.gov.in	41	7.0
7.	www.jobs.com	49	8.4
8.	www.jobstreet.com	62	10.6
9.	www.monster.com	42	7.2
10.	www.timesjob.com	39	6.7
11	www.career.com	114	19.5
12	www.naukri.com	80	13.7
13	other websites	213	36.5

(Non-addictive percentage)

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*Table 11. Distribution of the respondents according to their opinion on problems faced while receiving career related information from the library*

S. No.	Problems Faced While Receiving Career Related Information	No. of Respondents (n = 584)	Percentage*
1.	There is no authentic data related to career development	293	50.2
2.	Availability of large number of online resources for career development which leads to confusion in selecting related information	278	47.6
3.	My social and economic conditions does not afford me to acquire career information	292	50.0
4.	Lack of my technological skills to access e-resources regarding career development	328	56.2
5.	There is no flexibility in library timings	339	58.0

(Non-addictive percentage)

ibility in library timings. 56.2% of the respondents state that lack of their technological skills to access e-resources regarding career development. 50.2% of the respondents state that there is no authentic data related to career development. 50% of the respondents state that their social and economic conditions do not afford them to acquire career information. 47.6% of the respondents state that the availability of large number of online resources for career development leads to confusion. It indicates that most of the respondents are facing problem while receiving career related information from the library.

Table 12 shows the distribution of the respondents based on their perception of career development related resources provided by the Library and its corresponding usefulness. 52.9% of the respondents feel that books are useful at a low level. 37.0% of the respondents feel that books are useful at a moderate level. 58.9% of the respondents feel that journals are useful at a low level. 58.9% of the respondents feel that news papers are useful at a low level. 54.3% of the respondents feel that Newsletters/ Pamphlet are useful at a moderate level. 64.4% of the respondents feel that online resources are useful at a low level. 69.8% of the respondents feel that computer facilities are low level useful. 52.9% of the respondents feel that the Internet facilities are moderate level useful. 43.7% of the respondents feel that the Job Portals are high level useful. 49.6% of the respondents feel that the Audio visual aids are moderate level useful.

49.5% of the respondents feel that the overall level of usefulness of career development related resources are moderate level useful. 27.7% of the respondents feel that the overall level of usefulness of career development related resources are low level useful. And 22.8% of the respondents feel that the overall level of usefulness of career development related resources are high level useful. It indicate that most of the resources provided by the libraries are Moderate level of useful

Table 13 shows the perception towards the various levels of library services and sources helpful for Career Development wise distribution of the respondents. 68.5% of the respondents are feels Separate competitive exam Section are poor level useful. 53.1% of the respondents are feels Guidance and Counseling for career development are fair level useful. 37.5% of the respondents are feels Guidance for Continuing education are fair level useful. 62.7% of the respondents are feels Invites experts talk about career development are poor level useful. 43.3% of the respondents are feels Invites top leading companies for the campus placement are fair level useful. 43.3% of the respondents are feels Job fair are fair level useful. 50.3% of the respondents are feels Alumni Networks are fair level useful. 39.5% of the respondents are feels formulated competitive exam aspirants discussion forum are fair level useful.

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Table 12. Distribution of the respondents according to their perception towards various levels of usefulness of career development related resources provided by the library

S. No.	Usefulness of Resources	No. of Respondents (n = 584)		
		Low Level Useful	Moderate Level Useful	High Level Useful
1.	Books	309 (52.9%)	216 (37.0%)	59 (10.1%)
2.	Journals	344 (58.9%)	140 (24.0%)	100 (17.1%)
3.	Newspapers	344 (58.9%)	140 (24.0%)	100 (17.1%)
4.	Newsletters/ Pamphlet	173 (29.6%)	317 (54.3%)	94 (16.1%)
5.	Online Resources	376 (64.4%)	81 (13.9%)	127 (21.7%)
6.	Computer facilities	408 (69.8%)	70 (12.0%)	106 (18.2%)
7.	Internet facilities	209 (35.8%)	309 (52.9%)	66 (11.3%)
8.	Job Portals	215 (36.8%)	114 (19.5%)	255 (43.7%)
9.	Audio visual aids	158 (27.1%)	290 (49.6%)	136 (23.3%)
10.	Overall level of usefulness about career development related resources provided by library	162 (27.7%)	289 (49.5%)	133 (22.8%)

46.8% of the respondents are feels Job alert service through Notice Board are poor level useful. 62.2% of the respondents are feels Job alert service through social media are poor level useful. 47.4% of the respondents are feels Job alert service through email group are fair level useful. 57.7% of the respondents are feels career development related workshops are fair level useful.

There are 49.0% of the respondents are feels overall level of career development related services and sources are fair level useful. 30.3% of the respondents are feels overall level of career development related services and sources are poor level useful. 20.7% of the respondents are feels overall level of career development related services and sources are good level useful. It indicates that the libraries are offering fair level usefulness of career related services and sources to the MBA students.

Table 14 shows perception towards career development services provided outside the campus by the Library wise distribution of the respondents. 43.5% of the respondents are feels career guidance and counseling outside the Institute are fair level useful. 61.1% of the respondents are Internship programme outside the Institute are poor level useful. 45.9% of the respondents are feels placement agencies outside the Institute are fair level useful. 66.3% of the respondents are feels Job Fair outside the Institute are fair level useful. 42.6% of the respondents are feels career guidance through community agencies outside the Institute are good level useful. 55.8% of the respondents are feels Industrial Visit are poor level useful.

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*Table 13. Distribution of the respondents according to their perception towards the various levels of library services and sources helpful for career development*

S. No.	Helpful Services and Sources for Career Development	No. of Respondents (n = 584)		
		Poor	Fair	Good
1.	Separate competitive exam Section	400 (68.5%)	71(12.2%)	113 (19.3%)
2.	Separate Research Cabin	208 (35.6%)	243 (41.6%)	113 (22.8%)
3.	Guidance and Counseling for career development	171 (29.3%)	310 (53.1%)	103 (17.6%)
4.	Guidance for Continuing education	163 (27.9%)	219 (37.5%)	202 (34.6%)
5.	Invites experts talk about career development	366 (62.7%)	120 (20.5%)	98 (16.8%)
6.	Invites top leading companies for the campus placement	212 (36.3%)	253 (43.3%)	119 (20.4%)
7.	Job Fair	211 (36.1%)	253 (43.3%)	120 (20.6%)
8.	Alumni networks	233 (39.9%)	294 (50.3%)	57 (9.8%)
9.	Formulated competitive exam aspirants discussion forum	203 (34.7%)	231 (39.6%)	150 (25.7%)
10.	Job alert service through Notice Board	273 (46.7%)	208 (35.7%)	103 (17.6%)
11.	Job alert service through social media	363 (62.2%)	118 (20.2%)	103 (17.6%)
12.	Job alert service through email group	224 (38.4%)	277 (47.4%)	83 (14.2%)
13.	Career development related workshops	143 (24.5%)	337 (57.7%)	104 (17.8%)
14.	Overall level of career development related services and sources	177 (30.3%)	286 (49.0%)	121(20.7%)

39.9% of the respondents are feels overall level of career development related Services provided outside the campus by the Library are fair level useful. 39.6% of the respondents are feels overall level of career development related Services provided outside the campus by the Library are poor level useful.

*Table 14. Distribution of the respondents according to their perception towards Career Development Services provided outside the campus by the library*

S. No.	Career Development Services Provided Outside the Campus by the Library	No. of Respondents (n = 584)		
		Poor	Fair	Good
1.	Career Guidance and counseling outside the Institute	210 (36.0%)	254 (43.5%)	120 (20.5%)
2.	Internship programme outside the Institute	357 (61.1%)	113 (19.4%)	114 (19.5%)
3.	Placement Agencies outside the Institute	194 (33.2%)	268 (45.9%)	122 (20.9%)
4.	Job Fair outside the Institute	387 (66.3%)	95 (16.3%)	102 (17.4%)
5.	Career guidance through Community agencies outside the Institute	127 (21.7%)	208 (35.6%)	249 (42.7%)
6.	Industrial Visit	326 (55.8%)	134 (22.9%)	124 (21.3%)
7.	Overall level of Career Development related Services provided outside the campus by the Library	231(39.6%)	233 (39.9%)	120 (20.5%)

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20.5% of the respondents are feels overall level of career development related services provided outside the campus by the Library are good level useful. It indicate that the overall level of career development related Services provided outside the campus by the Library is not much enough for the MBA students

Table 15 shows the perception of respondents towards their career choice. 58.9% of the respondents disagree that they are capable of making their own career choice. 49.0% of the respondents disagree

*Table 15. Distribution of the respondents according to their perception towards career choice*

S. No.	Perception Towards Career Choice	No. of Respondents (n = 584)		
		Disagree	Neutral	Agree
1.	I am capable of making my own career choice	344 (58.9%)	94 (17.0%)	139 (24.1%)
2.	I seek my parent's advice for career choice	99 (49.0%)	96 (32.7%)	180 (18.3%)
3.	I consult the Librarian in making any career choice	141 (43.0%)	201 (33.7%)	290 (23.3%)
4.	I consult the placement officer in making career choice	286 (67.5%)	231 (16.1%)	114 (16.4%)
5.	I consult my friends before making any career choice	191 (34.4%)	152 (39.6%)	272 (26.0%)
6.	I seek advice of my seniors in making career choice	107 (37.5%)	219 (38.5%)	228 (24.0%)
7.	I consult the Alumni of my institute in making career choice	251 (36.1%)	225 (40.1%)	84 (23.8%)
8.	I consult industry professionals before making career choice	197 (30.8%)	140 (49.7%)	175 (19.5%)
9.	I go by the market trend in deciding my career choice	136 (46.6%)	211 (39.0%)	288 (14.4%)
10.	Overall level of Career choice	394 (30.0%)	234 (49.3%)	121 (20.7%)

with seek their parent's advice for career choice. 43.0% of the respondents disagree with the Librarian in making any career choice. 67.5% of the respondents disagree with the placement officer in making career choice. 39.6% of the respondents are neutral with consult their friends before making any career choice. 38.5% of the respondents are neutral with seeking advice from the seniors in making career choice. 40.1% of the respondents are neutral with Alumni of their institute in making career choice. 49.7% of the respondents are neutral with consulting industry professionals before making career choice. 46.6% of the respondents disagree with market trend in deciding their career choice. 39.0% of the respondents are neutral with market trend in deciding their career choice. 49.3% of the respondents are neutral with overall level of career choice. 30.0% of the respondents disagree with overall level of career choice 20.7% of the respondents agree with overall level of career choice.

Table 16 shows the perception towards the various level of satisfaction about resources and services provided by library for career development wise distribution of the respondents. 53.3% of the respondents are slightly satisfied with availability of resources. 40.8% of the respondents are highly satisfied



*Table 16. Distribution of the respondents according to their perception towards various level of satisfaction about Resources and Services provided by library for career development*

S. No.	Satisfaction About Resources and Services	No. of Respondents (n = 584)		
		Slightly Satisfied	Moderate Satisfied	Highly Satisfied
1.	Availability of resources	311(53.3%)	238 (40.8%)	122 (20.9%)
2.	Rendering services	109 (33.0%)	238 (26.2%)	122 (40.8%)
3.	Career development activities and Programmes	164 (36.6%)	201 (34.5%)	201 (28.9%)
4.	Career development activities outside the campus	193 (53.8%)	169 (20.9%)	206 (25.3%)
5.	Overall level of satisfaction about resources and services provided by library	153 (34.4%)	314 (44.9%)	121 (20.7%)

with rendering services. 36.6% of the respondents are slightly satisfied career development activities and programmes. 53.8% of the respondents are slightly satisfied with Career development activities outside the campus.

44.9% of the respondents are moderate satisfied with. 34.4% of the respondents are slightly satisfied with overall level of satisfaction about resources and services provided by library. 20.7% of the respondents are highly satisfied with the overall level of satisfaction about resources and services provided by library. It shows that the overall level of satisfaction about resources and services provided by library of most respondents is moderate.

$H_1$  = There is a significant difference between the gender of the respondents and overall level of usefulness about career development related resources provided by library.

$H_0$  = There is no significant difference between the gender of the respondents and overall level of usefulness about career development related resources provided by library.

It is inferred from the table 17 that there is a significant difference between the gender of the respondents and various dimensions of usefulness about career development related resources provided by library such as books, journals, newspapers, newsletters/pamphlet, computer facilities, job portals and audio visual aids. However there is no significant difference between the gender of the respondents and various dimensions of usefulness about career development related resources provided by library such as online resources and internet facilities. Further there is a significant difference between the gender of the respondents and overall level of usefulness about career development related resources provided by library. It is concluded that gender of the respondents has influence the level of perception towards overall level of usefulness about career development related resources provided by library. The mean score ( $\bar{X} = 23.88$ ) indicates that female respondents have had high level of favourable perception towards usefulness about career development related resources provided by library such as books, journals, newspapers, newsletters/pamphlet, computer facilities, job portals and audio visual aids.

'Z' test was used to test the above hypothesis and it was found that there is a significant difference between the gender of the respondents and overall level of usefulness about career development related

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Table 17. 'Z' Test between the gender of the respondents and perception towards usefulness of career development related resources provided by the library

S. No	Career Development Related Resources	Gender	Sample Size (n=584)	$\bar{X}$	S.D.	Statistical Inference
1	Books	Male	318	1.88	1.120	Z = 2.329 0.020<0.05 Significant
		Female	266	1.85	1.143	
2	Journals	Male	318	1.62	.889	Z =2.183 0.023<0.05 Significant
		Female	266	1.72	1.060	
3	Newspapers	Male	318	1.85	1.116	Z =3.403 0.000<0.01 Significant
		Female	266	1.89	1.167	
4	Newsletters/ Pamphlet	Male	318	3.30	1.242	Z = 3.017 0.006<0.01 Significant
		Female	266	3.30	1.246	
5	Online Resources	Male	318	2.45	1.090	Z = 2.298 0.021<0.05 Not Significant
		Female	266	2.58	1.257	
6	Computer facilities	Male	318	2.36	1.185	Z =2.417 0.027<0.05 Significant
		Female	266	2.40	1.156	
7	Internet facilities	Male	318	2.71	.965	Z =1.334 0.183>0.05 Not Significant
		Female	266	2.61	.922	
8	Job Portals	Male	318	3.65	1.378	Z =2.322 0.021<0.05 Significant
		Female	266	3.91	1.259	
9	Audio visual aids	Male	318	3.78	1.115	Z = 2.667 0.016<0.05 Significant
		Female	266	3.62	1.185	
10	Overall level of usefulness about career development related resources provided by library	Male	318	23.62	3.652	Z = 4.867 0.000<0.01 Significant
		Female	266	23.88	3.546	

resources provided by library ( $Z = 4.867$ ,  $0.000 < 0.01$ , Significant). It is seen from table that the calculated value of the 'Z' test is more than the table value at the 1 percent level of significance. Hence Research Hypothesis is accepted.

It is inferred from the table 18 that there is a significant difference between the gender of the respondents and various dimensions of library services and sources helpful for Career Development such as separate competitive exam section, separate research cabin, guidance and counseling for career development, guidance for continuing education, invites top leading companies for the campus placement, alumni networks, formulated competitive exam aspirants discussion forum, job alert service through notice board, job alert service through social media, job alert service through email group and career development related workshops. However there is no significant difference between the gender of the respondents and various dimensions of library services and sources helpful for Career Development such as such as job fair and invites experts talk about career development. Further there is a significant

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Table 18. 'Z' Test between the gender of the respondents and perception towards various levels of library services and sources helpful for career development

S. No	Library Services	Gender	Sample Size (n=584)	$\bar{X}$	S.D.	Statistical Inference
1.	Separate competitive exam Section	Male	318	2.52	1.120	Z = 2.623 0.017<0.05 Significant
		Female	266	2.45	1.136	
2.	Separate Research Cabin	Male	318	2.88	1.087	Z =2.792 0.015<0.05 Significant
		Female	266	2.95	1.038	
3.	Guidance and Counseling for career development	Male	318	2.88	.954	Z =3.745 0.000<0.01 Significant
		Female	266	2.83	.864	
4.	Guidance for Continuing education	Male	318	3.58	1.352	Z = 2.049 0.041<0.05 Significant
		Female	266	3.35	1.418	
5	Invites experts talk about career development	Male	318	2.48	.998	Z = 2.625 0.017<0.05 Not Significant
		Female	266	2.54	1.061	
6	Invites top leading companies for the campus placement	Male	318	3.54	1.201	Z =2.150 0.025<0.05 Significant
		Female	266	3.55	1.191	
7	Job Fair	Male	318	3.53	1.180	Z =0.481 0.631>0.05 Not Significant
		Female	266	3.58	1.167	
8	Alumni Networks	Male	318	2.81	1.069	Z =2.630 0.020<0.05 Significant
		Female	266	2.87	.984	
9	Formulated competitive exam aspirants discussion forum	Male	318	2.97	1.113	Z = 2.498 0.017<0.05 Significant
		Female	266	3.01	1.104	
10	Job alert service through Notice Board	Male	318	2.00	1.201	Z = 4.145 0.000<0.01 Significant
		Female	266	1.99	1.199	
11	Job alert service through social media	Male	318	2.62	1.073	Z =2.039 0.042<0.05 Significant
		Female	266	2.44	1.045	
12	Job alert service through email group	Male	318	2.74	.925	Z = 2.410 0.027<0.05 Significant
		Female	266	2.77	.934	
13	Career development related workshops	Male	318	3.45	1.101	Z = 4.431 0.000<0.01 Significant
		Female	266	3.41	1.166	
14	Overall level of helpful of career development related services and sources	Male	318	38.00	4.054	Z = 4.760 0.000<0.01 Significant
		Female	266	37.73	4.584	

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difference between the gender of the respondents and overall level of library services and sources helpful for Career Development ( $Z = 4.760, 0.000 < 0.01$ , Significant). It is concluded that gender of the respondents has influence the level of perception towards overall level of library services and sources helpful for Career Development. The mean score ( $\bar{X} = 4.584$ ) indicates that female respondents have had high level of favourable perception towards library services and sources helpful for Career Development such as separate competitive exam section, separate research cabin, guidance and counseling for career development, guidance for continuing education, invites top leading companies for the campus placement, alumni networks, formulated competitive exam aspirants discussion forum, job alert service through notice board, job alert service through social media, job alert service through email group and career development related workshops.

It is inferred from the table 19 that there is a significant difference between the gender of the respondents and various dimensions of perception towards career development related Services provided outside the campus by the Library such as career guidance and counseling outside the institute, internship programme outside the institute, placement agencies outside the institute, job fair outside the institute and industrial visit. However there is no significant difference between the gender of the respondents and dimension of perception towards career development related services provided outside the campus by the Library such as career guidance through community agencies outside the institute. Further there is a significant difference between the gender of the respondents and perception towards overall level of career development related services provided outside the campus by the Library ( $Z = 3.665, 0.000 < 0.01$ ,

*Table 19. 'Z' Test between the Gender of the respondents and perception towards career development services provided outside the campus by the library*

S. No.	Career Development Services Provided Outside the Campus	Gender	Sample Size (n=584)	$\bar{X}$	S.D.	Statistical Inference
1.	Career Guidance and counseling outside the Institute	Male	318	2.86	1.013	Z = 2.092 0.040 < 0.05 Significant
		Female	266	2.86	.992	
2.	Internship programme outside the Institute	Male	318	2.60	1.168	Z = 2.322 0.021 < 0.05 Significant
		Female	266	2.48	.995	
3.	Placement Agencies outside the Institute	Male	318	2.91	1.018	Z = 3.057 0.005 < 0.01 Significant
		Female	266	2.91	.977	
4.	Job Fair outside the Institute	Male	318	2.50	1.088	Z = 2.628 0.017 < 0.05 Significant
		Female	266	2.45	1.046	
5.	Career guidance through Community agencies outside the Institute	Male	318	3.82	1.239	Z = 2.557 0.022 < 0.05 Not Significant
		Female	266	3.88	1.312	
6.	Industrial Visit	Male	318	2.68	1.113	Z = 2.305 0.025 < 0.05 Significant
		Female	266	2.65	1.120	
7.	Overall level of Career Development related Services provided outside the campus by the Library	Male	318	17.38	2.678	Z = 3.665 0.000 < 0.01 Significant
		Female	266	17.23	2.683	

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Significant). It is concluded that gender of the respondents has influence the level of perception towards overall level of career development related services provided by the library outside the campus. The mean score ( $\bar{X} = 17.38$ ) indicates that male respondents have had high level of favourable perception towards career development related Services provided outside the campus by the Library such as career guidance and counseling outside the institute, internship programme outside the institute, placement agencies outside the institute, job fair outside the institute and industrial visit.

It is inferred from the table 20 that there is a significant difference between the gender of the respondents and various dimensions of perception towards career choice such as I am capable of making my own career choice, I seek my parent’s advice for career choice, I consult the Librarian in making any career choice, I consult the placement officer in making career choice, I consult my friends before making any career choice, I seek advice of my seniors in making career choice and I consult industry professionals before making career choice.

*Table 20. ‘Z’ Test between the gender of the respondents and perception towards career choice*

S. No.	Career Choice	Gender	Sample Size (n=584)	$\bar{X}$	S.D.	Statistical Inference
1	I am capable of making my own career choice	Male	318	2.63	1.186	Z = 2.140 0.032<0.05 Significant
		Female	266	2.64	1.218	
2	I seek my parent’s advice for career choice	Male	318	1.82	1.032	Z =2.582 0.021<0.05 Significant
		Female	266	1.86	1.104	
3	I consult the Librarian in making any career choice	Male	318	2.75	1.145	Z =3.901 0.000<0.01 Significant
		Female	266	2.83	1.157	
4	I consult the placement officer in making career choice	Male	318	2.36	1.114	Z = 3.027 0.002<0.01 Significant
		Female	266	2.36	1.012	
5	I consult my friends before making any career choice	Male	318	2.41	1.428	Z = 2.125 0.035<0.05 Not Significant
		Female	266	2.39	1.400	
6	I seek advice of my seniors in making career choice	Male	318	3.19	1.316	Z =2.444 0.023<0.05 Significant
		Female	266	3.24	1.292	
7	I consult the Alumni of my institute in making career choice	Male	318	3.19	1.277	Z =0.808 0.419>0.05 Not Significant
		Female	266	3.27	1.278	
8	I consult industry professionals before making career choice	Male	318	3.31	1.294	Z =2.540 0.023<0.05 Significant
		Female	266	3.37	1.277	
9	I go by the market trend in deciding my career choice	Male	318	1.74	.870	Z = 2.703 0.013<0.05 Significant
		Female	266	1.79	.972	
10	Overall level of Career choice	Male	318	23.39	3.763	Z = 2.226 0.038<0.05 Significant
		Female	266	23.77	3.695	

## ***Role of Libraries in Career Development Among the Students***

However there is no significant difference between the gender of the respondents and dimension of perception towards career choice such as i consult the alumni of my institute in making career choice. Further there is a significant difference between the gender of the respondents and perception towards overall level of career choice ( $Z = 2.226$ ,  $0.038 < 0.05$ , Significant). It is concluded that gender of the respondents has influence the level of perception towards overall level of career choice. The mean score ( $\bar{X} = 23.77$ ) indicates that female respondents have had high level of favourable perception towards career choice than male such as capable of making my own career choice, seek parent's advice for career choice, consult the Librarian in making any career choice, consult the placement officer in making career choice, consult my friends before making any career choice, seek advice of my seniors in making career choice and consult industry professionals before making career choice.

## **Suggestions**

It is found that half of the respondents have had moderate level and the remaining one-thirds of the respondents have had low level of perception towards various resources provided by library for career development among the MBA graduates such as books, journals, newspapers, newsletters/ pamphlet, online resources, computer facilities, internet facilities, job portals and audio visual aids.

However it is also observed that half of the respondents have had moderate level and the remaining one-thirds of the respondents have had low level of perception towards various resources provided by library for career development among the MBA graduates. Further nearly half (49.5 percent) of the respondents have had moderate levels of perception towards overall level of usefulness of career development related resources provided by library, 27.7 percent of the respondents have had low level of perception towards overall level of usefulness of career development related resources provided by library and the remaining 22.8 percent of the respondents have had higher level of perception towards overall level of usefulness of career development related resources provided by library.

According to this study, The Librarians may collect and distribute good and appropriate Newsletters / Pamphlet for the career development of MBA students.

According to this study, In order to provide better services to its students, Colleges / Universities should collect all types and up-to-date books and periodicals on career development.

According to this study, the librarians may make an arrangement to conduct Career exhibitions and guidance sessions. And the Librarian may organize career development activities for MBAs in every weekend.

## **CONCLUSION**

The development of a nation relies to a large extent on the development and capacity of available human resources to meet the needs of the nation. In the present scenario, the young generation should be provided with adequate career information, guidance, career counseling through seminars and discussion groups to enhance the career development of the MBA students. Moreover, career development activities can impact MBA students' decision to stay in college / universities and increase their likelihood of higher studies. Career development can support management students in making transitions between college and the world of work and ultimately increase their chance of getting a better job and life opportunities.

Researchers in and around Trichy and Pudukkottai academic libraries have examined the support given for career development. There is an intense competition in colleges to attract students to their colleges and career development activities play a major decisive role. At present, most of the academic libraries in Trichy and Pudukkottai districts are providing career information but only few are interested in providing proper guidance to the students in the selection of suitable careers. This study has concluded that these libraries have to give more attention when it comes to collecting different types of up-to-date resources on career development in their Library. Also the Librarian, besides the regular routine, has to take up additional workload for carrying out career development activities such as being a part of the team comprising of college and university staff dedicated especially for the career guidance and other activities related to career development with commitment.

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## **KEY TERMS AND DEFINITIONS**

**Career Assessment:** To helps the students to increase their self-awareness, understand their interests, aptitudes, values, skills, and the job market.

**Career Development:** Career development is distinctive lifelong processes for every individual for further learning, managing, work, and transitions in order to move ahead and participate effectively in professional and communal life.

**Internships:** It is a period of work experience provide by an employer to furnish the students exposure to the work.

**Job Shadowing:** The students can observe someone doing their job for an hour, one person allowing interaction with several staff and observation of different activities.

**Work Study:** Doing part-time jobs on or off campus while studying.

## Chapter 4

# Use and Access of E-Resources in College Libraries: A Case Study of Selected First Grade Colleges in Bengaluru in India

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### **ABSTRACT**

*The present examination intends to investigate the inspirational factors and use e-resources among the understudies and employees of college libraries in Karnataka, India. The target of this investigation is to discover the reason for utilizing the e-resources among the understudies and employees of the college libraries in Karnataka, India and to discover spurring factors among the understudies and employees of the college libraries in Karnataka, India. Information was gathered; however, an organized survey to understudies and workforce from 75 NAAC accredited college libraries in Karnataka, India. Results find that motivational factors are that e-resources keeps them updated, provide fast and reliable communication, easy publication, and provide access to various documents.*

### **INTRODUCTION**

In the present digital environment, all the academic libraries have both printed and e-Resources. (Jeevan, 2011) states that “As any work encoded and made available for access through the use of a computer. It includes both online data and electronic data in physical formats” (Sturges, 1997) defined in the International Encyclopaedia of Library and Information Science about e-Resources as “It is electronic document is a result of integrating classical book structure”. Therefore, e-Resources are source which encoded in electronically encoded and available online. E-Resources plays dominant role and facilitates to access the information by many users. Simultaneously, for procuring e-Resources, the academic libraries are spending sizable amount on e-journals, e-books, e-databases, ETD, e-reports, e-magazine, e-newspapers,

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and so on. The only way to equate the amount spent for e-Resources will be through effective utilization. It is very important that users should have knowledge on accessing the e-Resources.

## **REVIEW OF LITERATURE**

Sharma, Singh, & Sharma, (2011) conducted a study under the title “Usage and acceptability of e-Resources in National Dairy Research Institute (NDRI) and National Bureau of Animal Genetic Resources (NBAGR), India”. This paper intended to note the use of e-Resources by teachers and research students in the National Dairy Research Institute (NDRI) and the National Bureau of Animal Genetic Resources (NBAGR).

Bhat, Ahmad & Ganai, (2016) in their study on “Impact of e-Resources on Budget Appropriation in Agricultural Libraries of Northern India” Used survey method has been adopted for data collection. This study showed that yet the major chunk of the allocated budget is spent for acquisition of print books across all the seven libraries under the scope of the present study.

Tamrakar & Garg, (2016) in their study revealed that frequency of use of e-Resources, information alert services, awareness towards the e-Resources, purpose of using the e-Resources, from their article.

Natarajan, (2017) in his article entitled on “Use and impact of e-Resources by science students of Jimma University, Ethiopia” Used questionnaires method to collect data, major results are, 85.8% of students are using e-Resources daily, 81.1% of students are accessing e-Resources in a library, and other 10% of the students are using in computer centre.

Reddy & Reddy, (2017) in their study on “Utilization of e-Resources by the Engineering College librarians in Acharya Nagarjuna University area, Andhra Pradesh” the findings of the study revealed that (28.6%) of the engineering college libraries is not publicizing e-sources. A significant percentage of users (38.7%) replied that their libraries are not publicizing e-sources.

Shuling, (2007) conducted a study on “Investigation and analysis of current use of e-Resources in university libraries” revealed that university libraries are the best place for access and use of Electronic Information Resources.

Kumar & Naik, (2015) have jointly conducted a study on “Usage of Wi-Fi Service among Users’ of Bangalore Medical College and Research Institute Library, Bangalore”. The main objectives of the study are to explore the students’ awareness on IT based resources and to study the purpose of using Wi-Fi service.

## **Methodology**

The investigator used various research methods such as questionnaires; interview, observation, etc. have been used. For this study, a questionnaire-based survey method, was taken along with survey of literature, personal visits, informal interviews, and opinion of experts of library professionals were considered. Further, the researcher has distributed questionnaire to 1260 respondents. Out of 1260 questionnaires the researcher has received 900 filled-in questionnaires from the respondents. The collected questionnaires were edited, tabulated and used for analysis.

There are, 75 NAAC accredited Colleges in Bangalore University affiliated college of Karnataka, India each of these institutes has libraries catering to users’ needs.

*Table 1. Gender wise respondents*

SI. No	Gender	No. of Respondents	Percentage
1	Male	482	53.56
2	Female	418	46.44
<b>Total</b>		900	100

Further keeping in view the enormity of the task, the investigator intends to limit the scope of this study to cover only those Colleges affiliated to Bangalore University affiliated and NAAC accredited Government, Government Aided, and Autonomous colleges. Further the study exclude technical degree college i.e. Bed, B.Ed.

## **OBJECTIVES**

1. To find out awareness and use of e-Resources among the students and faculty members of the colleges affiliated to Bangalore University.
2. To identify the purpose and reasons for using the e-Resources among the student and faculty members of the colleges affiliated to Bangalore University.
3. To find out searching of e-Resources among the students and faculty members of the colleges affiliated to Bangalore University.
4. To trace out the problems faced by students and faculty members of the colleges affiliated to Bangalore University.

### Hypothesis

1. Null hypothesis (H01): There is no significant difference between the respondents basic variables with motivation factors used for accessing the e-Resources.
2. Null hypothesis (H02): There is no significant difference between the respondents' basic variables with electronic resources available in the libraries.
3. Null hypothesis (H03): There is no significant difference between the respondents' basic variables with electronic service available in the college libraries.

## **DATA ANALYSIS AND INTERPRETATION**

### **Population Study**

The gender wise distribution of users selected for the study is given below table for getting exact results, the final year students and faculties are taken to the study because they have sufficient skills about electronic information resources.

It is found from the above that majority of respondents 482(53.56%) were from male and rest of the respondents were female. Hence it is rounded more number of responses were from male community.

## Use and Access of E-Resources in College Libraries

Table 2. Status-wise distributions of respondents

SI. No	Status	No. of Respondents	Percentage
1	Faculty	167	18.56
2	Students	733	81.44
<b>Total</b>		<b>900</b>	<b>100</b>

It is noticed from the above table and figure that majority of respondents 733(81.44%) were students and rest of the respondents 167(18.56%) were faculty members. The data indicates that two categories of users. But their level of required information is varies. Faculty and students need may be different purpose.

### Use of e-Resources

The investigator wanted to find out how many respondents were using the e-Resources. The data collected in this regard is given in the table 3

It is found from the above table and figure that 820 (91.11%) of the respondents were using e-resource, remaining 80 (8.89%) of the respondents were not using the e-resources. Hence, majority of respondents used the electronic information resources in the college library.

### Awareness and Use of e-Resources

If the users are aware of e-Resources, then only they will use the resources. In order to find out the usage of e-Resources data have been collected from the students and faculty members of colleges affiliated to Bangalore University and analysed data is given in the table 4

It is noted that majority of respondents 782 (95.37%) were aware and using e-newspapers 736 (89.76%), 633 (77.20%), 591 (72.07%), and 527 (64.27%) were aware and using of e-Resources such as search engines (89.76%), Electronic theses and dissertations (77.20%), e-books (72.07%), and e-magazines (64.27%). It also noted that library website, subject gateways and e-standards were least used by the respondents. Overall, majority of the respondents were aware of the e-newspapers, search engines, ETDs, e-books, and e-magazines.

### Learn to Access e-Resources

In this study the researcher was interested to know through which source the users were aware of e-Resources. In this regard the collected data from the respondents is given in the table 5.

Table 3. Use of e-Resource

Sl. No.	Usage	No. of Respondents	Percentage
1	Yes	820	91.11
2	No	80	8.89
<b>Total</b>		<b>900</b>	<b>100.00</b>

*Table 4. Awareness and use of e-Resources*

Sl. No.	Variables	No of Respondents N=820	%
1	e-Journals	349	42.56
2	e-Books	591	72.07
3	E-Databases	302	36.83
4	ETD	633	77.2
5	e-Magazine	527	64.27
6	e-Newspapers	782	95.37
7	e-Reports	288	35.12
8	e-Standards	107	13.05
9	Web Portal	311	37.92
10	Subject Gateway	156	19.02
11	Search Engines	736	89.76
12	Library Website	165	20.12

It is noted from above table and figure that almost equal number of respondents 770 (93.90%) and 769 (93.78%) which is highest number of respondents stated that they learn to access e-Resources through friends and self, next highest of respondents have stated that they have learned through workshop 630 (76.82%). Except for teachers, other sources such as librarians, training, and course found less than 10 percent. Overall, majority of the respondents learnt thorough friends, self and workshop.

### **Organizing User Awareness Programme**

There are different levels of training/orientation programme which helps for effective searching of information. There is lot of changes happening in the e-Resources, which needs updating the knowledge of e-Resources. In this connection, the researcher is intended to know whether user awareness program is organized or not. The details of the same are presented in the table 6.

*Table 5. Learn to access e-Resources*

Sl. No.	Variables	No of Respondents N=820	%
1	Self	769	93.78
2	Through Friends/ Colleagues	770	93.90
3	Through Teachers	100	12.20
4	Through Librarians	71	8.66
5	Training	62	7.57
6	Course offered by the library	53	6.34
7	By attending workshop, conference, seminars etc.	630	76.82

## Use and Access of E-Resources in College Libraries

Table 6. Organizing User Awareness Programme

Sl. No.	Awareness	No. of Respondents	Percentage
1	Yes	94	10.44
2	No	806	89.56
<b>Total</b>		<b>900</b>	<b>100</b>

In the above table, the researcher observed that highest number of respondents 806 (89.56%) stated that user awareness programme is not organized from the institution, and only 94 (10.44%) of the respondents have stated that user awareness programme is organized.

### Frequency of Organizing User Awareness Programme

Since, the technological changes are inevitable and keep changing the users also should update their knowledge on ICT skills. To develop ICT skills user awareness programme helps. Hence data regarding frequency of organizing user awareness programme is displayed in table 7.

It is found from above table that 60 (63.82%) of the respondents were expressed that user awareness programme is organized periodically and 34 (36.18%) respondents stated that user awareness programme is not organized periodically.

### Purpose of Using e-Resources

Users will access the e-Resources for various purposes. By knowing the purpose, the librarians can take a decision to collect more information, which are being utilized by more number of respondents. In this regard, data have been collected from the respondents and the same is presented in the table 8.

The above table and figure shows that majority of the respondents 735 (89.63%) were using e-Resources to update and learn more about their career, followed by 683 (83.30%) and 618 (89.63%) of the users use the e-Resources for entertainment and doing the assignment. Next highest respondents have stated that they used e-Resources for preparing their examination 445 (54.27%), searching jobs for their future developments 425 (54.27%) and only 89 (10.85%) of the respondents used for teaching purpose. It could be seen clearly from the table that majority of the respondents using e-Resources for learning purpose.

Table 7. Frequency of organizing user awareness programme

Sl. No.	Variables	No. of Respondents N=94	Percentage
1	Organised Periodically	60	63.82
2	Not Organised Periodically	34	36.18
<b>Total</b>		<b>94</b>	<b>100.00</b>



*Table 8. Purpose of Using e-Resources*

Sl. No.	Variables	No. of Respondents N=820	Percentage
1	Teaching	89	10.85
2	Learning	735	89.63
3	For Assignment	618	75.37
4	For Examination	445	54.27
5	Looking for job	425	51.83
6	Entertainment	683	83.30

### **Comfortable Format for Accessing e-Resource**

There are many file formats available. But only some formats are frequently used in the website, which are PDF, HTML, WORD, and PPT etc. The researcher was interested to know which file formats the users are interested, so that the interested files can be uploaded into website. In this regard, data collected is displayed in table 9.

From the above table it is found that majority of the respondents 760 (92.68%) stated that PDF format is the comfortable format. Other respondents 424 (51.70%), 254 (31.00%) and 87 (10.60%) were comfortable with formats such as Word, PPT and HTML. Overall, PDF and WORD were the most preferred formats.

### **Relevant Electronic Information Requirement**

The data regarding sources through which the respondents were looking for information is presented in the table 10.

It is also clear from the table that majority of respondents used search engines for looking relevant electronic information and their percentage is 689 (84.02%) followed by 605 (73.78%) of respondents also search in University/Library website. Very few of respondents 78 (9.51%) and 65 (7.92%) have searched through online database and subject gateways/directories/portals.

It is clearly seen from above table that more number of respondents used search engines to get electronic information.

*Table 9. Comfortable format for accessing e-Resource N=820*

Sl. No.	Variables	No. of Respondents	Percentage
1	HTML	87	10.60
2	Word	424	51.70
3	PDF	760	92.68
4	PPT	254	31.00

## Use and Access of E-Resources in College Libraries

Table 10. Relevant electronic information requirement

Sl. No.	Variables	No. of Respondents N=820	Percentage
1	University/Library Website	605	73.78
2	Subject Gateways/ Directories/Portals	65	7.92
3	Search Engines	689	84.02
4	Online Databases	78	9.51

## Preferred Resources for Academic Activities

In these days users are using both printed and e-Resources. Conducting a study in this aspect will help the librarians to procure the mode of documents based on the users' expectations. In this point, the researcher has collected data from the respondents which are given in table 11.

It is noted from the table 4.3.9 that out of 900 (100%) respondents, 515 (57.22%) of respondents expressed that they prefer e-Resources followed by 385 (42.78%) respondents preferred print format. Hence, it is noted that majority of the respondents preferred electronic version of e-Resources.

## Reasons for Using e-Resources

Reasons for using e-Resources have been collected from the respondents and the same is displayed in the table 12.

It is found from table that majority of the respondents 498 (96.70%) followed by 421 (81.75%) have reported that up to date information and full-text searching were the main reasons for looking e-Resources. The third highest respondents 306 (59.42%) have reported that quick retrieval was reason. Free availability and links to other resources were the least opted options by the respondents for reasons

Table 11. Preferred resources for academic activities

Sl. No.	Preferred Resources	No of Respondents	Percentage
1	Print	385	42.78
2	Electronic	515	57.22
<b>Total</b>		<b>900</b>	<b>100.00</b>

Table 12. Reasons for using e-Resources N=515

Sl. No.	Reasons for e-Resources	No. of Respondents	Percentage
1	Quick Retrieval	306	59.42
2	Up-to-Date Information	498	96.70
3	Free Availability	141	27.38
4	Full-text searching	421	81.75
5	Links to other sources	114	22.14

to use e-Resources. To sum-up, majority of the respondents have used e-Resources because of up-to-date information, full-text searching and quick retrieval were the major reasons for accessing e-Resources.

### **Motivating Factor to Use e-Resources**

Some of the major motivating factors identified were listed in the table. Data regarding motivating factors were collected from the respondents, which are displayed in the table 13.

It is found from above table that the highest number of respondents 384 (46.32%), 308 (37.56%), 274 (33.41%) and 377 (41.10%) strongly agreed and stated that helped them to keep up-to-date areas of research interest, provided fast and reliable communication, user friendly search engines and provided access to various documents easily. On the other hand, more number of respondents 246 (30.00%) have agreed that it is easy to publish documents followed by second highest respondents have given neutral opinion for easy to publish documents.

Overall, majority of the respondents strongly agreed and agreed for e-Resources keeps them update, provides fast and reliable communication, user friendly makes easy to publish and provides access to various documents.

### **Search of E-Resources**

Searching of required information needs some knowledge. Therefore, various means adopted for searching the documents through electronic mode. Some of them will directly type the URL, some use search engines, title, author and others may use Boolean logic operators (AND, OR, NOT). These search techniques are used to retrieve relevant information. The researcher has collected the data from the respondents with regard to search technique used. The analysis data is given in table 14.

The above table shows that 719 (87.68%) of respondents were searching of required information using author or title of books or article, whereas 678 (82.68%) and 519 (63.29%) of the respondents were

*Table 13. Motivating factor to use e-Resources N=820*

SI.No	Factors	SA	A	N	D	SD
1	Helps to keep up-to-date with areas of research interest/course work	384	276	76	45	39
		46.32%	33.66%	9.27%	5.49%	4.76%
2	Provides fast and reliable communication	308	295	133	49	35
		37.56%	35.98%	16.28%	5.98%	4.27%
3	User-friendly search engines helps to retrieve the documents easily	274	269	208	48	21
		33.41%	32.80%	25.37%	5.86%	2.56%
4	Makes easy to publish documents in journals, conferences, etc.	165	246	253	105	51
		20.12%	30.00%	30.85%	12.80%	6.22%
5	Provides access to various documents in different formats	337	217	162	67	37
		41.10%	26.46%	19.76%	7.56%	4.51%

## Use and Access of E-Resources in College Libraries

searching their required information through search engines and directly typing the URL of website, and 369 (45.00%) respondents searched through Boolean Logic Operators.

Hence, majority of the respondents used various search techniques such as using author/title, using search engine, directly typing URL and last one was using Boolean logic operators.

### Problems Faced While Searching e-Resources

Problems faced while searching e-Resources from the respondents. After collection data it was analyzed and displayed in the table 15.

Above table shows that the respondents have faced were problems while accessing the e-Resources. Major problem is difficult to read from a computer 807 (98.41%), 686 (83.66%) of the respondents faced lack of speed, 603 (73.54%) of respondents were faced difficulty in accessing full-text article from online,

Table 14. Searching of required information N=820

Sl. No.	Search	No. of Respondents	Percentage
1	Directly typing the URL	519	63.29
2	Using the search engines	678	82.68
3	Using Boolean Logic Operators	369	45.00
4	Using the author/title name	719	87.68

Table 15. Problems faced while searching e-Resources N=820

Sl. No.	Major Problems Faced	No. of Respondents	Percentage
1	Lack of system speed	686	83.66
2	Difficulty in accessing full text	603	73.54
3	Core journals are few in number	261	31.83
4	Payment facility made very difficult	322	39.27
5	Difficulty to read from a computer	807	98.41

Table 16. Respondents opinion on e-Resources

Sl.No	Opinion	SD	D	N	A	SA
1	E-Resources is a pre-requisite to satisfy the information needs, in the present scenario	331	219	224	46	0
		40.37%	26.71%	27.32%	5.61%	0%
2	E-Resources act only as a supplement to the print medium	15	367	48	389	1
		1.83%	44.76%	5.85%	47.44%	0.12%
3	E-Resources badly affect the reading habit, so it is not be encouraged	130	333	141	202	14
		15.85%	40.61%	17.20%	24.63%	1.71%

322 (39.27%) respondents were faced payments facility made very difficult and 261 (31.83%) of the respondents reported that having core journals are few in number in their institution. Overall difficulty to read from a computer was the major problem faced by the respondents.

### **Respondents Opinion on e-Resources**

Respondents opinion on e-Resources were collected and displayed in the table 16.

It is found from the table 16 that highest number of respondents 331 (40.37%) have strongly agreed for e-Resources is a pre-requisite to satisfy information needs in the present scenario, followed by more or less equal number of respondents 224 (27.32%) and 219 (26.71%) have neither disagreed nor agreed and disagreed and only 46 (5.61%) have agreed.

Conversely, for e-Resources act only as a supplement to the print medium, highest number of respondents 389 (47.44%) have agreed and second highest 367 (44.76%) have disagreed, third and lastly few of (1.83% and 0.12%) respondents showed that strongly agreed and strongly disagreed.

For e-Resources badly affect the reading habit, 56.46% have strongly disagreed and agreed. Overall, majority have disagreed for e-Resources, which is a pre-requisite to satisfy the information needs, almost equal respondents have agreed and disagreed for e-Resources act as supplement to print resources and majority have disagreed and strongly disagreed for e-Resources affects badly the reading habits.

### **Satisfaction With e-Resources**

Users' opinion with regard to e-Resources such as e-journals, e-book, databases, etc. will help the libraries to take appropriate decision on selection process. Data regarding this have been collected from the respondents is presented in table 17.

*Table 17. Satisfaction with e-Resources*

SI.No	e-Resources	Excellent	Good	Satisfactory	Poor	Not Available
1	Electronic Journal	0	0	56	278	486
		0%	0%	6.83%	33.90%	59.27%
2	E-books	0	50	220	72	478
		0%	6.10%	26.83%	8.78%	58.29%
3	Online Database	0	176	40	588	16
		0%	21.46%	4.88%	71.71%	1.95%
4	E-Thesis/ Dissertations	0	0	211	114	495
		0%	0%	25.73%	13.90%	60.37%
5	CD ROM based databases	205	63	101	436	15
		25.00%	7.68%	12.32%	53.17%	1.83%
6	e-Reports	47	206	476	88	3
		5.73%	25.12%	58.05%	10.73%	0.37%
7	e-Standards	72	213	402	130	3
		8.78%	25.98%	49.02%	15.85%	0.37%

## **Use and Access of E-Resources in College Libraries**

For opinion on electronic information resources available in the college library, for e-Journals majority of the respondents 486 (59.27%) have stated that e-Journals were not available in the library. The next highest stated that poor 278 (33.90%) and satisfactory 56 (6.83%).

It was also noticed for e-Books majority of the respondents 478 (58.29%) have stated that e-book are not available followed by 220 (26.83%) were satisfied and least number of respondents rated as poor and good.

With regard to online databases 588 (71.71%) rated as poor followed by 176 (21.46%) rated as good, 40 (4.88%) of respondents opinion satisfactory, 16 (1.95%) of respondents rated as not available and no one stated as excellent.

For e-Theses and dissertations 495 (6.37%) respondents stated that e-theses and dissertation were not available, 211 (25.73%) rated satisfactory and only 114 (13.90%) have rated as poor.

For CD ROM databases, majority of the respondents 436 (53.17%) have rated it as poor followed by 205 (25.00%) rated as excellent and others least preformed.

For e-Reports 476 (58.05%) rated as satisfactory followed by next highest respondents 206 (25.12%) rated it as good. The next preferred one was poor 88 (10.73%) and excellent 47 (5.73%).

With regard to e-Standards, almost 35% rated as excellent and good and highest number of respondents 402 (49.02%) rated as satisfactory.

Overall, majority of the colleges do not have e-Journals, e-Books and e-Theses & dissertations and e-Reports and opinion for e-reports and e-standards ranged from satisfactory to excellent, whereas for other sources such as CD-ROM database and online databases they rated as poor.

## **T-Test Results for Gender With Motivating Factors**

Significant difference found between the respondents gender with motivating factors such as keeping up-to-date with areas of research interest/course work and user friendly search engines helps to retrieve documents easily, whereas no significant difference found between the respondents gender with motivating factors of e-Resources such as providing fast reliable communication, ease to publishing documents to journals, conference etc. and access to various documents in different formats.

## **T-test Results for Gender With EIRs Available in the Library**

There is no significant difference found between the respondents gender with availability of EIRs available in the college library such as e-journal, e-Books e-Theses, e-Reports, CD-ROMs based database, online database and e-standards.

## **Findings**

- Majority of respondents used the electronic information resource in the college library.
- Majority of the respondents are aware of the e-newspapers, search engines, ETDs, e-books, and e-magazines.
- Majority of the respondents learnt thorough friends, self and workshop.
- Highest number of respondents 806 (89.56%) stated that user awareness programme is not organized from the institution, and only 94 (10.44%) of the respondents have stated that user awareness programme is organized.

- Majority of the respondents are using e-Resources for learning purpose.
- Majority of the respondents 760 (92.68%) stated that PDF format is the comfortable format.
- More number of respondents used search engines to get electronic information.
- Majority of the respondents preferred e-Resources.
- Majority of the respondents have used e-Resources because of up-to-date information, full-text searching and quick retrieval were the major reasons for accessing e-Resources.
- Majority of the respondents strongly agreed and agreed for e-Resources keep them update, provides fast and reliable communication, user friendly makes easy to publish and provides access to various documents.
- Majority of the respondents used various search techniques such as using author/title, using search engine, directly typing URL and last one was using Boolean logic operators.
- Difficulty to read from a computer was the major problem faced by the respondents.
- Majority have disagreed for e-Resources, which is a pre-requisite to satisfy the information needs, almost equal respondents have agreed and disagreed for e-Resources are supplement to print resources and majority have disagreed and strongly disagreed for e-Resources affects badly the reading habits.
- Majority of the colleges do not have e-Journals, e-Books and e-Theses & dissertations and e-Reports and opinion for e-reports and e-standards ranged from satisfactory to excellent, other sources such as CD-ROM database and online databases they rated as poor.

### Suggestions

- Majority of the respondents preferred e-Resources when comparing with print resources. They have also given some of the reasons, such as up-to-date information, full text searching, quick retrieval, and links to other sources for use of e-Resources. Hence, steps should be taken to improve the collection of e-Resources.
- It was noticed that majority of the respondents were not aware of Boolean logic operators. Hence, users should be educated on how to use Boolean logic operators, which is one of the best retrieval methods for retrieving relevant information.
- One of the major problems faced by the respondents were they found difficulty to read through computer. Lack of speed and difficulty in accessing full text articles were the other major problems faced by the respondents. For accessing e-Resources, the internet bandwidth should be high. Hence steps should be taken up eliminate the above mentioned problems; in order to access the resources are effectively.

## CONCLUSION

These days the college libraries also spending sizable amount for subscription of print resources. If the users are not well educated to access the available resources, it will be great loss to the institutions as well as individuals. In this regard, the investigator wanted to know the perception of electronic resources and how effectively, the resources were utilized. This study will help the investigator to know their status in usage of e-Resources and suggested remedies.

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## **KEY TERMS AND DEFINITIONS**

**College Libraries:** Academic library refers to a library that supports a college or university. Colleges and universities may have more than one library. Find out how academic libraries are different than school and public libraries!

**Database:** A database is a collection of information that is organized so that it can be easily accessed, managed and updated. Data is organized into rows, columns and tables, and it is indexed to make it easier to find relevant information.

**E-Resources:** Electronic resources (or e-resources) are materials in digital format accessible electronically. Examples of e-resources are electronic journals (e-journal), electronic books (e-book) online databases in varied digital formats, Adobe Acrobat documents (.pdf), webpages.

**Internet:** The Internet is a collection of computers that share information. Home users commonly use a phone modem, cable modem, or DSL connection to connect to the Internet. An Internet Service Provider (ISP) connects the home user to other computers.

**Search Engine:** Internet search engine is a software system that is designed to carry out web search (Internet search), which means to search the World Wide Web in a systematic way for particular information specified in a textual web search query. The search results are generally presented in a line of results, often referred to as search engine results pages.

# Chapter 5

## Usage of Electronic Resources, Internet, and Choices of Resources in College Libraries of India: A Study

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### **ABSTRACT**

*In this chapter, the author investigates the user choices of e-resources among users of college libraries in Karnataka, India. The scholar identifies purpose of using internet by staff and students as well as assessing their information. Findings shows that majority of users are using internet to their career development 99.60%. 99.42% of respondents are using internet for communicate purpose. Majority of staff do not choose e-books and e-reports. Students are also not choosing e-theses and dissertations. Regarding journals, the majority of students' choices are print versions.*

### **INTRODUCTION**

Library is learning center for learning minds. The colleges are the centers for higher education and training. The college libraries play an important role in promoting education in colleges and the students and faculties are the users. Online information or digital information resources are increasingly becoming available due to advance growth Information and communication technologies. As a result, the use of Internet and its online resources and services is growing more rapidly indicating a shift in user's preferences towards online services.

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The same time, the demand of users has also been changed. In these situations, library services are more users' oriented and online services like Web-OPAC, institutional repository, electronic information resources and other may be provided.

## **College Libraries**

Every college must have a good library and it occupies a prominent position in college campus and it is the pulsing heart of the college (Narasappa, 2016). In India, the UGC has provided generous funds to purchase reference books and textbooks as well as construction of library building (UGC, 2019). As a result of it, the classroom teaching is now supplemented by library usage. Books on latest teaching methods provide exhaustive knowledge of the subjective to the students.

Internet can be called 'the information communication system established by the national and international linking of material stored on electronic database and made accessible throughout the world through telephone, cable and other telecommunication links' (Mudawi, 2005).

Internet is moving to be single most significant phenomena offering never-ending opportunities. The use of internet in the libraries is rapidly increasing and is changing the traditional functions and services of the libraries internet is being used as an efficient medium for access, storing and dissemination of information worldwide (Naik, et al. 2019). Hence, Internet is the gateway for libraries and information centers to electronic information era and different organizations/institutions, research centers and individual all over the world generate information in digital form on the internet. Creation of digital resources with the establishment of digital library is the need of the day.

## **Methodology**

The investigator has randomly distributed questionnaire to 1260 respondents among 4 districts of Karnataka in India and each district 325 questionnaires' were distributed. Out of 1260 questionnaires the researcher has received 900 filled-in questionnaires from the respondents. The collected questionnaires were edited, tabulated and used for analysis. Further study related to all the colleges come under the Bangalore University of Karnataka state.

## **REVIEW LITERATURE**

Kumar and Naik (2015) have jointly conducted a study on "Usage of Wi-Fi Service among Users' of Bangalore Medical College and Research Institute Library, Bangalore". The main purpose among 75% of users was to avail this facility for searching articles through an online database.

Mittal and Sharma (2015) in their study on "Use of Digital Resources by CCSHAU, Hisar library users; A case study" analyzed that 55.73% users use the Internet in their daily life and there are only 3.05% users who use the internet monthly.

Hajam (2015) has conducted a study on "Users' perception towards the use of electronic journals (e-journals) at University of Kashmir". The studies showed that 80.6% respondents prefer both print and electronic medium for reading e-journals. 13.1% of the respondents have shown their preference towards electronic format and 6.3% are inclined towards the print format for reading.

*Table 1. Status-wise distributions of respondents*

Sl. No	Status	No. of Respondents	Percentage
1	Faculty	167	18.56
2	PG Students	233	25.89
3	UG Students	500	55.56
<b>Total</b>		<b>900</b>	<b>100.00</b>

Kalbande and Chavan (2015) both have conducted a study on “Use of digital library resources by the Engineering College faculty members affiliated to Pune University, Pune”. 44.10 percent of the faculty members stated that limited access to the internet is the main impediment to use digital resources.

‘Adequate knowledge of information technology and its application in libraries with a positive attitude can make the real difference between the real and desired situation. Again the author expressed professor should be IT skilled’. Narasappa, (2016) ‘Data and Communication Technologies have changed the universe of grant on the loose.

Information Communication Technology (ICT) is an electronic method for capturing, preparing, putting away and conveying data. Electronic data assets are having an edge over their print partners in offering different and remote openness to data free from time and physical hindrances’ Narasappa and Dharani Kumar (2018).

## **OBJECTIVES**

The main objectives of the study are as follows:

- To know Frequency access of Internet among First Grade Colleges in Karnataka, India.
- To find out purpose of accessing the internet and e-resources available in First Grade Colleges in Karnataka, India among respondents.
- Measure the level of preferred choice for print vs. electronic format information Sources available in First Grade Colleges in Karnataka, India among the respondents.

## **DATA ANALYSIS AND INTERPRETATION**

### **Population Study**

It is noticed from the above table that majority of respondents 500 (55.56%) were UG students, 25.89% were PG students and rest of the respondents 167 (18.56%) were faculty members. Hence, majority of the respondents were from UG students.

It is observed from the above table that maximum number of respondents 396 (44.00%) were from 21 to 27 age group followed by 299 (33.22%) from 18-20 age group. others of the age group are 28-32, 33-37, 38-42 and above 42 age group varied from 67 (7.44%) to 32 (3.56%). Overall, majority of the respondents (77.22%) were between 18-27 age group and remaining age group constituted (22.78%).

## Usage of Electronic Resources, Internet, and Choices of Resources in College Libraries of India

Table 2. Age-wise distribution of respondents

Sl. No	Age	No. of Respondents	Percentage
1	18-20	299	33.22
2	21-27	396	44
3	28-32	56	6.22
4	33-37	50	5.56
5	38-42	67	7.44
6	above 42	32	3.56
<b>Total</b>		<b>900</b>	<b>100</b>

Table 3. Types of institutions

Sl. No	Institutions	No. of Respondents	Percentage
1	Government	252	28
2	Aided	443	49.22
3	Autonomous	205	22.78
<b>Total</b>		<b>900</b>	<b>100</b>

From the above table, it is found that maximum number of respondents 443 (49.22%) were from Aided Colleges, 252 (28.00%), were from Government Colleges and 205 (22.78%) were from Autonomous Colleges. Combining all it is found that majority of the respondents were from Government Aided Colleges.

### Frequency of Access to Internet

In order to find out the respondents frequency to use of internet the researcher has collected from the respondents and analyzed. The analyses data is given in table 4.

It is noted from above table and figure that 563 (62.56%) respondents were using the internet daily followed by an almost equal number of respondents 86 (9.56%), 88 (9.78%) and 80 (8.89%) were using alternate days and weekly and whenever needed. Hence, it is found that majority of respondents were using the internet daily followed by remaining were using alternative days, weekly and whenever needed.

Table 4. Frequency of access to internet

Sl. No	Internet-use	No. of Respondents	Percentage
1	Daily	563	62.56
2	Alternate days	86	9.56
3	Weekly	88	9.78
4	Monthly	80	8.89
5	Whenever needed	83	9.22
<b>Total</b>		<b>900</b>	<b>100</b>

## **Purpose of Accessing Internet and e-Resources**

In order to find out the respondents purpose of accessing internet and e-resources. The analyses data is given in table 5.

Above table and figure shows that purpose of accessing internet and e-resources. Out of total 900 respondents, the first maximum number of respondents of Government first grade college respondents were using internet for (81.35%) career development 73.81% for communication with each other at the same time majority of Aided college respondents are using internet to (89.84%) updating their knowledge followed by for communication (87.36%) teaching and preparation of seminar (89.16%). For Majority of respondents of Autonomous colleges were using internet for career development (99.60%) followed by 98.42% of respondents are using internet to communication, 97.63% of respondents using internet to search subject related information.

## **Preferred Choices for Print vs. Electronic Format Information Sources**

In order to find out the respondents Preferred Choices for Print and Electronic Format Information Sources. The analyses data is given in table 6.

From the above table majority of teachers were 55.69% interested in electronic version of Journals and same time 44.31% of teachers are interested in print version of Journals. Whereas maximum number of 67.38% and 59.20% of PG Students and UG Students are respectively interested to read print journals and minimum number (32.62%, 40.80%) of PG and UG students were interested in electronic version of Journal. Overall 58.56% of respondents are interested in print version of journal and 41.44% of respondents are interested e-Journals.

Regarding books majority of teachers respondents 62.87% expressed that they used print version of Books and 37.13% of teachers are stated that they used e-books. Whereas PG and UG students 79.40%, 79.60% were used respectively print books and 26.60%, 20.40% of students used e-books. Hence, overall 76.44% majorities of users are used Print books and 23.56% are used e-Books.

For theses and dissertation Majority of teachers choice 73.65% were e-Theses dissertation, but in opposite of teacher PG & UG students are not (27.90% & 15.00%) using e-Theses and dissertation. 72.10% of PG students and 85.00% of UG students choice is print theses and dissertation.

*Table 5. Purpose of accessing internet and e-Resources*

SI. No	Purpose for Accessing Internet	Govt. N=252	%	Aided N=443	%	Autonomous N=253	%
1	Research work/Project	132	52.38	378	85.33	206	81.42
2	Teaching/ Seminar	169	67.06	395	89.16	241	95.26
3	For communication	186	73.81	387	87.36	249	98.42
4	For subject specialization	147	58.33	265	59.82	247	97.63
5	Updating subject knowledge and GK	159	63.10	398	89.84	205	81.03
6	Career development	205	81.35	385	86.91	252	99.60
7	Others	65	25.79	287	64.79	85	33.60

**Usage of Electronic Resources, Internet, and Choices of Resources in College Libraries of India**

*Table 6. Preferred choices for print vs. electronic format information sources*

Information Sources	Categories												Total (N=900)			
	Staff (N=167)				PG Students (N=233)				UG Students (N=500)							
	Print	%	Electronic	%	Print	%	Electronic	%	Print	%	Electronic	%	Print	%	Electronic	%
Journals	74	44.31	93	55.69	157	67.38	76	32.62	296	59.2	204	40.8	527	58.56	373	41.44
Books	105	62.87	62	37.13	185	79.4	48	20.6	398	79.6	102	20.4	688	76.44	212	23.56
Theses/ Desertions	44	26.35	123	73.65	168	72.1	65	27.9	425	85	75	15	637	70.78	263	29.22
Magazines	112	67.07	55	32.93	186	79.83	47	20.17	396	79.2	104	20.8	694	77.11	206	22.89
Newspapers	79	47.31	88	52.69	196	84.12	37	15.88	488	97.6	12	2.4	763	84.78	137	15.22
Reports	84	50.3	83	49.7	199	85.41	34	14.59	174	34.8	326	65.2	457	50.78	443	49.22
Reference Sources	79	47.31	88	52.69	174	74.68	59	25.32	452	90.4	48	9.6	705	78.33	195	21.67
Conf. proceedings	55	32.93	112	67.07	166	71.24	67	28.76	486	97.2	14	2.8	707	78.56	193	21.44
Reviews	69	41.32	98	58.68	169	72.53	64	27.47	471	94.2	29	5.8	709	78.78	191	21.22

Whereas, Magazines maximum number 67.07%, 79.83% and 79.20% of teachers, PG students and UG students are respectively choice print version. Minimum number 32.93%, 20.17% and 20.80% of teachers, PG students and UG students are respectively choice electronic version. Overall maximum number of respondents' choice is print version of magazines.

Regarding newspapers maximum number 52.69% of teachers are used in electronic version. At same time PG (15.88%) and UG (2.40%) students are not using e-version of newspapers. Maximum number of PG (84.12%) and UG (97.60%) students are choice is print version of newspapers. Hence here teachers' choice is e-version but students' choice print version.

For reports almost same number 50.78% of all respondents' interest is print version, at the same time 49.22% of teachers also using e-version.

Next are to respondents choice reference materials. 52.69% of teachers' opinion is electronic version and 47.3% of teacher choice is print version. But maximum 74.68% PG students, 90.40% UG students' choices are print version. 25.32% of PG Students and 9.60% UG students' choice are e-version. Hence maximum numbers of teachers are uses e-version of reference materials and students' choice is print versions.

Whereas, conference proceedings maximum 67.07% of teachers' choice is e-version and almost 32.93% of response choice is print version. Maximum number of PG (71.24%) and UG (97.20%) students stated that their choice is print version. Hence, maximum numbers of teachers are using e-version and students are print versions.

For reviews maximum number 78.78% of respondents are also using print version and minimum number 21.22% of respondents are using e-version.

**Findings**

- Majority of respondents 500 (55.56%) are from UG students. Maximum number of respondents 396 (44.00%) are from 21 to 27 age group.



- Majority of respondents 443 (49.22%) are from Aided Colleges. Majority of respondents of Government first grade college respondents were using internet for (81.35%) career development.
- Majority of Aided college respondents are using internet to (89.84%) updating their knowledge. Majority of respondents of Autonomous colleges are using internet for career development (99.60%) followed by 98.42% of respondents are using internet to communication.
- Majority of teachers are 55.69% interested in electronic version of Journals. Maximum number of 67.38% and 59.20% of PG Students and UG Students are respectively interested to read print journals.
- Majority of respondents 76.44% expressed that they used print version of Books. Majority of teachers' choice 73.65% were e-Theses and dissertation.
- Majority of students choices are print theses and dissertation. Majority 67.07%, 79.83% and 79.20% of teachers, PG students and UG students are respectively choice print version of newspapers. Conference proceedings maximum 67.07% of teachers choice is e-version but students' choices is print version.

## **CONCLUSION AND SUGGESTIONS**

From the above findings we can see that majority of respondents of Government first grade college respondents were using internet for only their career development. They have use internet others purpose like teaching, showing guideline students etc. Aided college respondents are using internet to updating their knowledge. Aided college faculty is using well purpose for internet but they have to use internet for subject related. Autonomous colleges are using internet for career development, for using communication. These users are slowly with research work for using internet. In this filed they have to use.

Teachers are interested in electronic version of Journals. But they can read even print also and give guideline to students. PG Students and UG Students are print journals. Hence, concerned authority should take step to use of e-Journals of students. All users of First Grade Colleges in Karnataka that they used print version of Books. Hence Librarians of these colleges should take awareness about e-Books to users. Students' choices are print theses and dissertation. Concerned authority should take awareness program among students about e-Theses and dissertation. This is age of electronic but majority of Teachers, PG students and UG students are respectively choice print version of newspapers. Hence, librarians should create awareness about e-Newspaper among the users.

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## **KEY TERMS AND DEFINITIONS**

**E-Resources:** Electronic resources (or e-resources) are materials in digital format accessible electronically. Examples of e-resources are electronic journals (e-journal), electronic books (e-book) online databases in varied digital formats, Adobe Acrobat documents (.pdf), webpages.

**Internet:** The internet is a collection of computers that share information. Home users commonly use a phone modem, cable modem, or DSL connection to connect to the Internet. An Internet Service Provider (ISP) connects the home user to other computers.

**Online Resources:** In general, web pages and documents on the Internet that provide useful information. While an online resource is typically data and educational in nature, any support software available online can also be considered a resource.

**Search Engine:** Internet search engine is a software system that is designed to carry out web search (Internet search), which means to search the world wide web in a systematic way for particular information specified in a textual web search query. The search results are generally presented in a line of results, often referred to as search engine results pages.

## Chapter 6

# Online Database Use by Science Research Scholars of Alagappa University, Karaikudi: A Study

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### **ABSTRACT**

*The main aim of this chapter is to create awareness among the researchers about online database resources and to promote effective access to electronic products. A well-equipped and well managed library is the foundation of modern education structure. It is said that education without library services is like a body without soul, a vehicle without and engine, and building with bricks but no cement. The library is the chief instrument for accumulating and using our intellectual heritage. This research work will bring out tremendous changes in the working style of the libraries. University library is a way of making educational and research data and information available to faculty, researchers, students, and others at the institutions and worldwide. A well-structured questionnaire was employed to test the variables using statistical tools.*

### **INTRODUCTION**

Information has become a necessity for everyone and everyone and everybody needs information for some purpose or the other. Education and research activities require more and more information. Students need it for pursuing academic studies. A database is a computerized collection of logically related set of data or records about something that are stored, organized or structured in the computer. It is the collection of data or information stored in a form that may be accessed by more than one user in a way

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that makes it easy to retrieve needed information. The study endeavors to find out the level of awareness and use of online databases by the science researchers in Alagappa University Karaikudi.

## **ABOUT THE UNIVERSITY**

Alagappa University has been the creation of large hearted philanthropist and educationist Dr.RM.Alagappa Chettiar. It was brought into existence by a Special Act of the Government of Tamil Nadu in May 1985. The University is accredited with A+ Grade with CGPA of 3.64 in the third cycle by the National Assessment and Accreditation Council (NAAC). It is graded as Category-1 by MHRD and ranked 28th by NIRF 2019. It has bagged 104th place in QS BRICS ranking. The University has 44 Departments, 9 Centres and 2 Constituent Colleges on its campus. 46 Affiliated Colleges are located in the districts of Sivagangai and Ramanathapuram. The University offers education through Regular, Distance and Online modes. The University is having International Collaborations with institutions from China, Singapore, Malaysia, Japan, Australia, U.S.A, U.K, Germany, Finland and South Korea. Innovative programmes are designed and offered at the University. 41 International exchange programmes attract the attention of the teachers and students from abroad. The University's motto is "Excellence in Action" and the University keeps before it the vision of excellence in all spheres of its action.

## **REVIEW OF LITERATURE**

Mauti, Chege, and Kiplag (2018) in their study entitled "Evaluating Access and Use of Information Resources by Postgraduate Students at the Adventist University of Africa Library in Kenya", conducted a sample study on 142 postgraduate students out of 473. Stratified and purposive sampling techniques were used. From the research findings, the majority of the respondents indicated that books form the highest percentage of resources found in the library as represented by 48.6%, Books were rated highest with a mean of 4.34, an indication that respondents considered them to be very good, It was established that 48.6% of the postgraduate students access the information resources through the information literacy skills.57.8% of the respondents do not have adequate information technology skills. The study recommended more print-based journals to be subscribed to cover all the programs and suggested the University to ensure that all students are computer literate in order to gain skills that enable them to retrieve information using Information Communication Technology (ICT)

Papanna and Ravvivenkat (2017) in their study entitled "Information Sources and Services in First Grade College Libraries of Chitradurga District: A Survey", did a survey empowered with a structured questionnaire and distributed to college librarians. The study indicates that out of (27.31%) college libraries 23 have separate independent budget, it is suggested that the college authorities must focus on building the infrastructure in libraries, provide professional manpower to libraries, set in motion the concept of introducing library automation in libraries, framing a policy for collection building and rules for providing services to library users in an effective and efficient manner.

Olajide and Adio (2017) in their study entitled "Effective utilisation of university library resources by undergraduate students: A case study of Federal University Oye-Ekiti, Nigeria". The research design used for this study is the descriptive research design of the survey type and the instrument used was a structured questionnaire administered to students in the university. The sample study is 400 targeted

undergraduate students to whom four hundred copies of the questionnaire were distributed across the four faculties of the university while three hundred and eighty-four (384) copies of questionnaires were returned and found useable/fit for the analysis representing a response rate of 96%. It was revealed in the study that erratic power supply, functional resources, adequate reading space and lack of physical facilities.

Bhagachand (2016) in his study entitled “Survey of Library Collection, Staffing Pattern and Services in Urban and Rural College Libraries, Nashik, Maharashtra: A Comparative Study”, looked at resources available in all aided general degree college libraries in terms of college libraries facilities, print and non- print resources and human, resources, ICT facilities, services available in the library. The research type used was a descriptive survey. The target population for this study was made up of forty aided general degree college libraries in Nashik District, of which 14 colleges are located in the urban area and 26 are located in rural area. The ultimate objective of the library is to provide maximum services to its users. The study reveals that almost all libraries in the urban area have computers, printers and ICT equipment. On the contrary, a majority of rural area college libraries don’t have basic ICT equipment. Further, few libraries have in the urban area have LAN facilities and none of the libraries in the rural area have such facility.

Patil (2016) in his study entitled “Pattern of Usage of College Library Resources by Teaching Faculty of R. A. Podar College of Commerce & Economics, Mumbai”. For the present study, 42 teachers from both Junior and Degree College were selected and administered with a questionnaire to collect data from them. The findings of the study derived from the majority of the teachers i.e. 69% visit the library on a weekly basis; 79% teachers make use of library with a gap of more than a month: 60% teachers do not use online resources. There are a few reasons found out in the study such as computers are of old configurations, the speed of the internet being very low and there are no dedicated computers for teachers.

Kumar and Amsaveni (2015) in their study entitled “Use of Library Resources and services by the students of Aided Minority Christian Autonomous Degree colleges of Bengaluru: A study”, examined using a well-structured questionnaire. It was distributed to the college students, 90% of the students responded and the maximum number of users have visited on daily basis i.e. 69% followed by mainly visited to read newspaper 82.2%, 79% of the respondents were satisfied the library resources and services. Based on the findings of the study users are suggesting the library authorities conduct the user orientation programme to conduct regular and to create an ICT Technologies, digitization, telecommunication, advanced computer and reprographic services to implement.

Onifade, Ogbuiyi and Omeluzor (2013) in their study entitled “Library resources and service utilization by postgraduate students in a Nigerian private university”. The study described the prescribed questionnaire that was used as the main instrument for data collection. A hundred copies of the questionnaire were randomly distributed and seventy-six copies of the questionnaire were returned, representing 76%. The major findings were the majority of the postgraduate students do not use the library regularly. Their main purpose of visiting the library is to consult research materials. They used more internet sources and their major challenge was lack of time. They were also averagely satisfied with the library services. Suggestions were offered to improve the library services. It recommended having more internet points so that adequate points will be dedicated to postgraduate students.

Kadli and Kumbar (2013) in their study entitled “Library Resources, Services and Information Seeking Behaviour in Changing ICT Environment: A Literature Review” revealed that the literature reviews are generally more useful to all practitioners than any one individual piece of research because they allow one piece of research to be viewed within the wider context of others. They make sense of a body of research and present an analysis of the available literature so that the reader does not have to access

each individual research report included in the review. This is important because there is an increasing amount of literature available for any researcher on library resources.

Deval (2012) in his study entitled “Use and Assessment of Digital Information Resources : An User’s Perspective of GGSIP University Library”, examined the use of digital information resources. A questionnaire was designed and seventy of their circulated among the users. Out of these seventy questionnaires, sixty (85.71%) were received back from the respondents. It revealed that 56.66% of the respondents were very often using the digital information resources, 60% (36) of the user accessed digital information resources for academic and research purpose, 66.66% of the respondents considered e-journals as the most relevant digital information resources. It is easily concluded from the study that in many ways the collection of digital information resources becomes the need of a university library and should be developed on the same line as their counterpart print resources.

Ajebomogun (2009) in his study entitled “Evaluation of the Teaching and the Effect of Library Use Course at the Federal College of Education, Abeokuta, Nigeria”, distributed questionnaire to obtain data in schools and colleges. Out of 550 questionnaires sent to students, 540 were returned giving a response rate of 98% and 100% for librarians. The study reveals that 100% of the professional librarians agreed that they give instruction to fresh students on the use of the library. The study also revealed that students make the best use of the available facilities in the library. The support of ICT facilities has improved the job performances of the librarian at FCE, Abeokuta. The college curriculum must be updated in line with the global trend in information provision and services. Highly networked computer system made it sufficient for students to use and the college management should improve on the library facilities in order to meet the information needs of their students.

Lee (2005) in his study entitled “Knowledge Management and the Role of Libraries”, explained that the latest information technology should be used to build library infrastructures, which includes upgraded intranet, extranet, and Internet, and available software programs to facilitate, analyze, organise, store, and share internal and external information resources for effective knowledge exchange among users, resource persons (faculty, researchers, and subjects specialists, etc.), publishers, government agencies, businesses, industries, and other organizations via multiple channels and layers. In recent years, many of the newly developed information technologies for database and information/document management can be utilized in knowledge management. Data warehousing, data mining, text mining, content management, knowledge extraction, knowledge mapping, groupware, and information visualization, etc. are some of them.

Lohar and Kumbar (2005) in their study entitled “Teachers attitudes towards Library Resources and Services in Aided and Unaided First Grade Colleges in Shimoga District : A Survey”, designed a well-structured questionnaire to elicit the opinion of the faculty members and these were personally distributed among the faculties of aided and unaided colleges. The result indicates that overall 48.8% of teacher respondents visit the library every day. A majority (51.2%) of the faculty members indicated that the reading materials are “easy to access”. Again, a majority of the respondents (50.8%) find the information given in the card catalog to be useful and adequate, 79.2% faculty members are aware of the Internet, and (69.2%) sought help from the library staff ‘sometimes’ for finding reading materials. Based on this analysis, it is obvious that independent library building is necessary for most of the colleges and also financial support has to be provided to the librarian.

Manjunatha and Shivalingaiah (2003) in their study entitled “Electronic Resource Sharing in Academic Libraries” revealed that in the age of digital evaluation escalating price of electronic information and resource sharing are critical for the effective functioning of libraries. Increased availability of infor-



mation in digital format and high costs of journal subscription compels the libraries to work together. Technical advancements provide a platform for digital resource sharing and offer many opportunities for librarians to become more technical and professional. His work also attempted to identify the needs and factors influencing electronic resource sharing and presented the requirements and strategies for effective resource sharing in academic libraries.

Castellacci and Tveito (2018) in their study entitled “Internet use and well-being: A survey and a theoretical framework”, presented four distinct channels through which Internet can shape well-being: it changes time use patterns, creates new activities, facilitates access to information, and acts as a powerful communication tool. We show how these four channels impact the well-being in distinct domains of life. A central point emerging from the literature review is that the effects of the Internet on well-being are mediated by a set of personal characteristics that are specific to each individual: psychological functioning, capabilities, and framing conditions (culture and beliefs). Hence, it is the interaction between human beings’ activities in distinct domains of life and their own personal characteristics that explains why the use of Internet has stronger positive effects for some individuals and social groups than others. The main novelty presented in this paper is the new typology that distinguishes between four distinct channels: changes in time use, new activities, access to information and communication tools.

Almarabeh, Majdalawi, and Mohammad (2016) in their study entitled “Internet Usage, Challenges, and Attitudes among University Students: Case Study of the University of Jordan”, aimed to investigate the attitudes of students at the University of Jordan towards using ICT (Information and Communication Technology). A semi-structured questionnaire was used to collect the data for obtaining students attitudes on the amount of Internet usage, reasons for using the Internet, and how the Internet impacted on students’ life. A number of 536 students from different faculties (medical, humanities, and scientific) of the University of Jordan participated in the study. The results indicated that most students accessed the Internet before they attended university; there is a positive attitude towards the Internet; and they used it mainly for social websites, chatting and information gathering. The slow speed of the Internet connection and the lack of adopting ICT in courses & syllabus are some constraints faced by the students.

Sudhier and Anitha (2015) in their study entitled “Use of Search Engines for the Retrieval of Scholarly Information: A study of the Kerala University Library”, focused on the use of search engines. A survey was conducted through a structured questionnaire circulated among 250 library users taken from different categories and the response rate was 96%. Stratified accidental random sample method was used for selection of respondents and interacting with them. The study revealed that students browse the Internet for social, academic and professional purposes. All the researchers and teachers are using search engines for retrieval of scholarly information for research purposes. Google is the most widely used search engine followed by Yahoo and Scirus. Majority of the students and teachers use search engines mainly for their study purposes and most of the research scholars use them for their research work. Most of the respondents are using search strategies and the majority of them preferred field searching methods. Retrieval of too much of unwanted information is the major hindrance faced while using search engines. The study highlights the practicality of the awareness and the use of search engines for retrieval of scholarly information and it will assist the policy makers, planners and the librarians to understand the user’s awareness of the search engines and their use in the academic study and research.

Soman and Sudhier (2015) in their study entitled “Awareness and usage of internet resources among visually challenged students in Thiruvananthapuram district, Kerala”. Survey method and questionnaire tool were used to collect data from 74 visually challenged students, who are studying in various schools of Thiruvananthapuram. Analyses revealed that 59.46% students are computer literates and are aware of

online resources. The results of the study would be helpful in getting a fairly good idea of the student's awareness level of internet resources and assistive technologies. The outcome of the study helps the school authorities, librarians and the government to provide adequate services and training to visually challenged students to access information without any barriers.

Kulkarni and Tadasad (2015) in their study entitled "Awareness and Use of Internet-Based E-Information Resources among School Children: A Case Study of Bijapur District, Karnataka" on 120 students. The study emphasizes the awareness and use of e-information sources. It assesses and analyzes the acquaintance of school children with IT, awareness and use of the internet, problems encountered awareness about searching e-information sources, types of sources preferred, reasons for not using e-information sources, channels preferred and the ability of them to use e-information sources.

Kumar, Kumbar, and Sharath (2014) in their study entitled "Use of Computer and Its Impact on Academic Performance of Faculty Members and Research Scholars : A Case Study of Kuvempu University", made an attempt to understand of the impact of computer use on the academic performance of faculty members and research scholars in a university setup. A survey questionnaire was administered to university academics and collected on its completion. A majority of faculty members used the computer for accessing the Internet (65.71%). This study has also demonstrated the high use of the computer by faculty and research scholars. It is found that there exists a difference of opinion among the faculty and research scholars regarding the computer access ( $p=0.000$ ), years of experience in the use of a computer ( $p=0.000$ ) and purpose of use ( $p=0.040$ ). Data also shows that there is a difference of opinion among the faculty members and research scholars regarding the impact of the computer on their academic performance ( $p=0.025$ ). In this regard the study suggested that there is a need to focus on opportunities for providing computers for research scholars to enhance the quality of their research.

Loan (2011) in his study entitled "Internet use by the college students across disciplines: A Study", carried out a survey among college students of Kashmir valley and found that students of computer science make use of internet most of all followed by students of business and commerce, general science, social sciences and humanities students. The students of business and commerce lead in using the internet for information, students of computer science use predominantly for communication purpose and students of social science and humanities use it for education purpose compared to others. Information overload is the most common problem faced by the students and faculties while searching for relevant information. The students of general science, social science and humanities find internet literacy as the major limitation in using the internet. The students of general sciences, social sciences and humanities and business and commerce faced institutional curbs to internet access.

Kumar and Kumar (2010) in their study entitled "Perception and usage of e-resources and the internet by Indian academics" presented that the respondents in this survey are aware of electronic information sources and also the internet. Most of them used these sources in support of their academic purpose and they are proficient in using these sources. Even though a majority of teaching and student community use electronic information sources for their academic-related work but most of the students and faculty prefer print sources as well with electronic information sources. This shows that the long-established resources will continue to be essential components of the academic community in India. Many of the students and faculty learned about the electronic information sources and how to use them either by learning themselves or through the guidance of friends.

Babu, Sarada and Ramaiah (2010) in their study entitled "Use of internet resources in the SV University Digital Library" carried out an experiment using questionnaire tool. The results show that users from all branches of science are making use of Internet resources better than social sciences and

humanities. Providing training to its users at the beginning of each semester will improve its use and reduce the problems faced by the library users. They also highlighted the various problems and issues involved in handling digital library and have given suggestions to improve the library services to meet the demands of the users.

Sinha (2010) in his study entitled “Internet Awareness and Internet Usage Pattern Amongst University and College Teachers of North Eastern Region of India : a Survey”, assented that internet is one of the most important and complex innovations of mankind. It is a powerful means of communication, dissemination and retrieval of information. All the participants belonged to refresher course and other teachers of Assam University, Silchar. The questionnaire was distributed to 60 participants, out of which 45 respondents have responded. The survey result shows that out of 45 respondents, 27 (60.00%) are aware of Internet services, 18 (66.66%) respondents prefer to use Google search engine. Most of the respondents gained internet access at university computer center and college libraries, and 44.44% of the respondents accessed the internet and E-Mail daily. The invention of the Internet is a wonderful gift of mankind in the 20th Century, which makes our life faster and comfortable.

Swain and Panda (2009) in their study entitled “Use of electronic resources in business school libraries of an Indian state: A study of librarians’ opinion” reveals that there is a mounting need for the use of electronic resources among the users’ population. However, the availability of e-resources, especially online databases, is restricted within a limited few business school libraries of the State that is reasonably less. This signifies that these institutions are not adequately equipped with electronic resources for providing up to date electronic information services. The study also highlights issues affecting the use of e-resources. A few respondents reported that they do not have a defined annual budget for e-resources and services. Some other respondents reported that their users do not express much interest in reading e-resources. It also suggested a good number of measures to sort out the issues. Some of them are: Budgeting provision for subscription of online journals on sharing basis through e-consortiums.

Parameshwar and Patil (2009) in their study entitled “Use of the Internet by Faculty and Research Scholars at Gulbarga University Library”, revealed collected data using a questionnaire. The survey covers research scholars and faculty members. A total of 305 questionnaires were distributed, 112 (67) to faculty and 193 (147) to research scholars, the response rate was 70.16%. The study revealed that the majority of respondents had 2-4 years’ experience of accessing the Internet it is interesting to note that faculty members had a long experience of using the Internet than research scholars, more than 60 percent of respondents use the Internet for e-journals and also indicate that all respondents browse using search engines. Google is preferred by more than 80 percent. There is a need for effective user education to create awareness and develop the knowledge of the users. More efforts by librarians at Gulbarga University are needed to educate users to effectively use the Internet and its techniques and applications.

Khan and Dominic (2009) in their study entitled “Use of Internet by the Faculty Members of Engineering Colleges of Moradabad: A Comparative Study” analyzed the patterns of Internet use, the Internet skills of the professionals, the perceived impact of Internet on their academic efficiency and problems faced by them in using the Internet. Majority of the users of both the colleges are using the Internet at the workplace. Most of the respondent use www service and next is e-mail service. The search engine is used for browsing information from the Internet. All are of the view that the Internet is more informative, time-saving and useful. Use of conventional document is decreasing and dependency on the Internet is increasing. It expedites the research process and also improves the professional competency.

Swain and Panda (2009) in their study entitled “Use of e-services by faculty members of business schools in a state of India: A Study” aim to highlight the problems and constraints faced by the business

school's faculty members. In this study a set of structured questionnaires was distributed to 150 faculty members of 30 business schools and out of that 65% questionnaires were returned. Faculty members pay high preference to the use of e-articles while the least preference goes towards the use of electronic theses and dissertations (ETDs). Further it is found that a selected few online databases like Emerald Management Xtra (EMX), EBSCO, and PROQUEST are fairly in use while the use of other online databases is not up to the expectations. In tandem, the majority of faculty members are in favor of commercial e-services. It takes several key factors into considerations like providing an adequate number of computers, purchasing right kind of software packages, placing orders with online vendors, participating in different library consortiums for availing more electronic resources and services, so as to meet the exact need and interest of the users.

Singh (2008) in his study entitled "User Awareness towards using Internet in Jiwaji University, Gwalior: An Analytical Study", found that the faculty, research scholars and students use internet to keep themselves up to date and also ascertained that all respondents use internet for email and 55.63% use Google as search engine. In a structured questionnaire based survey, it is found that 64.22% of respondents use the internet for accessing and collecting research material. 55.04% of the users preferred Central Library as the access point to use the internet. About the medium of learning skill acquired, the responses show that 36.69% (80 out of 218) did not take any help from others.

Kanungo (2007) in his study entitled "Use of Internet in the Scholarly communication of social scientists at IGNOU" conducted a survey through a close-ended structured questionnaire and the result reveals that 91% of the respondents find internet as an important tool of research. The survey also established that the internet is truly a real communication medium for enhancing the teaching and research and professional development of social scientists. However, the study also finds that the internet sites are not updated properly, information is repetitive, contextual and descriptive. But they still prefer the optimum use of the internet with improved speed and uninterrupted connectivity and the e-resources should be available to them at their residences.

Al-Ansari (2006) in his study entitled "Internet use by the faculty members of Kuwait University" designed to investigate the patterns of internet use by the faculty including purposes for use, its impact on teaching and research, internet resources that they use, and the problems faced while using the internet. A large majority have been using the computer and internet for more than five years. They use the internet mostly for, e-mail; give importance to search engines and use World Wide Web resources mainly for communication, research, and publication. It has helped them to save time, find up to date information, and cooperate with their colleagues. Slow speed, lack of time, and lack of access from home are the major problems. Most of them are interested in improving the internet use skills through formal training. Kuwait University needs to improve its IT infrastructure including providing distance access and to provide formal training in the use of internet resources.

Yaghoubi and Shamsayi (2004) in their study entitled "Assessing Effective Factors in Using Internet by Faculty Members of Agricultural College of Zanzan University, Iran" conducted a descriptive survey to collect data and appropriate questionnaires were used for this purpose. The sample consisted of faculty members of the agricultural college. The findings also show that agricultural faculty members had a positive opinion about Internet use. The main purposes of searching from the Internet are research activities, identification of expert resources and updating professional information. Finding also indicated that relative advantage, trialability, observability and complexity of Internet in education and research that precept by faculty members are significantly related with adoption and application of the Internet.

The results of this study will help Iranian universities better understand their faculty members' needs with regards to the Internet.

Adika (2003) in his study entitled "Internet use among faculty members of universities in Ghana", presented data that were collected through questionnaires, from an equal representation of the three universities of Ghana. A total of 130 questionnaires were distributed 106 questionnaires returned at the rate of 81.5%. The internet makes it possible for users to have access to large volumes of information irrespective of their geographical location. The three older universities of Ghana are all linked to the internet. The research results show that in the study most of the faculty members have access to current information through the internet. For faculty in Ghanaian universities, the biggest obstacle is the lack of access to the internet and most of the departments are still not connected to the internet, the main reason being that the internet cost is more than in developed countries.

Majid and Abazova (1999) in their study entitled "Computer literacy and use of electronic information sources by academics: A case study of International Islamic University Malaysia", investigates the relationship between computer literacy of academic staff and their use of electronic information sources. The questionnaire-based survey method was used for data collection. The stratified-random proportional sampling technique was used for generating random samples. Professors, associate professors, assistant professors, and lecturers constituted the strata for the samples. The study indicates their level of computing skills, 46 (44.8 percent) respondents considered their computing skills as "good" to "excellent" and also the highlight of the study 47.1% of respondents were using computers only during the last five years. The study recommended the library authorities to conduct regular user education programmes.

Tomney and Burton (1998) in their study entitled "Electronic journals: A study of usage and attitudes among academics", assessed the attitudes towards electronic journals and examines the current level of use by the university academic communities in five selected faculties in British University among the faculty of Business, Science, Engineering, Education and Arts. Out of the 147 questionnaires distributed, 75 were returned with 51% response with the senior lecturer and younger research scholars using the most of it. It is also found that the use is highest in the Business, Engineering and Science faculty. Use of electronic journals also varies significantly with the graduation of academics. Half of the 'other' category (research fellows, teaching assistants, etc) reported using electronic journals, while the lowest usage was reported by those at professorial level, only about 12% of professors used them. Readers made only slightly more than the professors, whereas 26% of lecturers indicated some use and a maximum of 34% use by the senior lecturer. The study concluded that those who forecast a quick end to print journals are probably proved to be wrong.

Jacobsen (1998) in his study entitled "Adoption Patterns and Characteristics of Faculty Who Integrate Computer Technology for Teaching and Learning in Higher Education", touches upon the technology use patterns, computer experience, use of technology for teaching and learning.

Obst (1998) in his study entitled "Use of Internet resources by German medical professionals", aimed to find out: intensity of Internet usage; preferred services and resources and advantages of using the Internet. The questionnaire was used for collection, which was mailed to 19 German Internet discussion groups related to medicine. The number of recipients of the mailing lists was estimated to be approximately 250. Nearly 300 questionnaires were posted in 17 targeted newsgroups. Ninety-six questionnaires were returned out of which ninety completed questionnaires were analyzed. The analysis reveals that majority of the respondents (83.70 percent) used the Internet from one hour a week to two hours a day, e-mail was used by all the respondents and 85.6 percent used newsgroups. The survey documented that

the Internet resources in the United States like electronic discussion and mailing lists and the resources of the NLM, the NIH and various varsities were well known by German medical professionals.

Lazinger, Bar-Ilan and Peritz (1997) in their study entitled “Internet use by faculty members in various disciplines: a comparative case study”, revealed that the faculty members in the science and agriculture group used the Internet more intensively than faculty members in humanities and social science group. All Internet users used e-mail extensively, primarily for correspondence with colleagues about research issues. Most of the Internet users learned to use Internet services without the aid of a course, but more than half of these users would be interested in taking a course to learn more about the Internet.

## **OBJECTIVES OF THE STUDY**

- To find out the use among research scholars about various online databases
- To assess the purpose and frequency of use of online databases
- To examine the method of search and access of online databases
- To know the problem faced by research scholars in using online databases
- To ascertain research scholars satisfaction with the infrastructure to support accessing online databases in the Alagappa University Campus.

## **Methodology Employed**

A set of well-structured questionnaire was developed in the light of above objectives. This method was also preferred as it is less time consuming and economical for a scattered population. The total population size of Science research scholars of Alagappa University was approximately 350. The selected population for the study was only 100 research scholars from Science departments. The questionnaires were personally distributed to the research scholars. Out of 100 distributed questionnaires, 90 duly filled up were received back showing overall response rate of 90 percent. The collected data were analysed, classified and tabulated by employing statistical methods.

## **Need and Significance of the Study**

In the present era of information explosion more and more publications are becoming web-enabled. The environment is rapidly changing to electronic environment. So we decided to conduct the study for measuring the use of online databases by science research scholars of Alagappa University.

## **Scope and Limitations of the Study**

The main purpose of this study is to find out the level of use of online databases as well as ascertain research scholar’s satisfaction with the infrastructure supporting online databases in the Alagappa University campus. The present study consists of only of online databases used by science research scholars of Alagappa University.

## Analysis and Interpretation

It is evident from Table 1 that the majority of research scholars are aware about Science Direct, Royal Society of Chemistry, Biological Abstract; Springer Link followed Taylor and Francis (53.3%) Ebsco-Online Journals (50%) Web of Science (47.8%) PubMed/ Medline (44.4%) and Mathsci Net (47.2%) databases. However, it is found from the analysis that about Science Direct, Royal Society of Chemistry, Biological Abstract and Springer Link has the most popular databases among the science research scholars of the purported University.

As regards the purpose and use of on-line databases, it is discernible from Table 2 that the science research scholars (91.1%) mainly make use of on-line databases for their research work followed by subject knowledge (66.7%) and for career development (60%) and job oriented (47.2%) respectively.

Table 3 shows that largest percentage of the research scholars (88.9%) use on-line database daily. Whereas very few research scholars (50%) use 2-3 times a week and weekly (33.33%) use of online database 2-3 times a month and (16.67%) use in online database in a one in a Month. However, it is interesting to note that not a single research scholar reported that he/she uses these sources occasionally.

Table 4 Majority of research scholars (88.9%) use of online databases in department computer lab, followed by University Library 74.44%) and use of online database searching at home (60%) and any other research scholars used online database Computer center (17.78%). The researchers feel that the license of access to online databases has been given to departmental lab by the librarian for its maximum utilization.

*Table 1. Awareness about online databases*

S.No	Online Databases	Respondents	Percentage
1	Taylor and Francis	48	53.33
2	Royal Society of Chemistry	60	66.66
3	PubMed/Medline	40	44.44
4	Ebsco-Online Journals	45	50
5	Springer Link	51	56.66
6	Science Direct	82	91.11
7	Biological Abstract	54	60
8	Web of Science	43	47.77
9	MathSci Net	34	47.22

*Table 2. Purpose and use of online databases*

S.No	Purpose	Respondents	Percentage
1	Job oriented	34	47.2
2	Update Subject Knowledge	60	66.7
3	Research Work	82	91.1
4	For Career Development	54	60

**Online Database Use by Science Research Scholars of Alagappa University, Karaikudi**

*Table 3. Frequency of use of online databases*

S.No	Frequency	Respondents	Percentage
1	Daily	80	88.9
2	2-3 times a week	45	50
3	2-3 times a month	30	33.3
4	Once in a Month	15	16.7

*Table 4. Place of use of online databases*

S.No	Place of Access	Respondents	Percentage
1	At Home	54	60
2	Department Lab	80	88.9
3	University Library	67	74.4
4	Any Other	16	17.8

Table 5 shows that a high percentage of research scholars (94.4%) search and access online databases directly, followed by links through search engines (84.4%) and links through library website (64.4%) Links through publisher website receives low priority.

Table 6 shows that the main problem faced research scholars in using online databases is not many online databases subscribed by University on their subject/researches constituting (45.6%) Whereas no assistance is provided by information Professional constitutes (22.2%), coverage of online database is not suited to their researches, is 13.3%) and Limited number of terminals, is (12.2%) are other problems faced by the research scholars.

*Table 5. Method of search and access of online databases*

S.No	Method of Search and Access	Respondents	Percentage
1	Links through library Website	58	64.4
2	Links through publisher website	5	5.6
3	Links through search engines	76	84.4
4	Direct Links through online databases	85	94.4

*Table 6. Problems faced by research scholars in using online databases*

S.No	Problems Faced by Research Scholars	Respondents	Percentage
1	Not many online databases subscribed by university on my subject/research	41	45.6
2	Coverage of online databases is not suited to my research	12	13.3
3	No assistance provide by information professional	20	22.2
4	Limited access of terminals	11	12.2



*Table 7. Level of satisfaction with the infrastructure to support accessing online databases*

S.No	Satisfaction	Respondents	Percentage
1	Highly Satisfied	10	11.1
2	Satisfied	52	57.8
3	Average	39	43.3
4	Dissatisfied	29	32.2
5	Highly Dissatisfied	7	7.8

As far as the level of satisfaction of research scholars with the infrastructure to support accessing online databases in the Alagappa University campus are concerned, it is discernible that 57.78% research scholars are satisfied with infrastructure to support accessing online databases, whereas 43.3% are neither satisfied not dissatisfied, at the same time. 32.2% are dissatisfied. In case of high-level satisfaction and dissatisfaction only 11.1% are highly satisfied and 7.8% are highly dissatisfied. On the whole, it can be deduced that the infrastructure to support accessing online databases in the Alagappa University campus is good because nearly 50 per cent research scholars are found to be satisfied.

## **FINDINGS AND CONCLUSION**

It is felt from the analysis that majority of research scholars are aware about Science Direct, Royal Society of Chemistry, Biological Abstract and Springer Link. The research scholars are mainly found to have been making use of online databases for their research work and to update their subject knowledge. It is also seen that largest percentage of the research scholars make use of online databases daily. Majority of research scholars use online databases in departmental lab whereas use of online databases in central library is very low. It is further found from analysis that a high percentage of research scholars search and access online databases directly and by links through online databases and search engines whereas links through publisher website receives low priority.

The study identifies that the main problem faced by the research scholars in using online databases are lack of online databases subscribed by university on science and technology as well as social sciences. It is noticed that nearly 50% research scholars are satisfied with the infrastructure to support accessing online databases in the Alagappa University.

## **ACKNOWLEDGMENT**

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## **KEY TERMS AND DEFINITIONS**

**Database:** A database is an organized collection of data, generally stored and accessed electronically from a computer system.

**E-Resources:** An electronic resource is defined as a resource which require computer access or any electronic product that delivers a collection of data, be it text referring to full text bases, electronic journals, image collections, other multimedia products and numerical, graphical or time based, as a commercially available title that has been published with an aim to being marketed.

**Information Sources:** An information source is a person, thing, or place from which information comes, arises, or is obtained. Information sources can be known as primary or secondary.

**Internet:** The internet is a globally connected network system that uses TCP/IP to transmit data via various types of media.

**Search Engine:** A web search engine or Internet search engine is a software system that is designed to carry out web search (Internet search), which means to search the World Wide Web in a systematic way for particular information specified in a textual web search query.

# Chapter 7

## User Awareness and Use of OPAC by Female Students of Faculty of Arts, Alagappa University: A Critical Analysis

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### **ABSTRACT**

*OPAC in present scenario provides a standard measure and insight into Alagappa University students. The objectives of the chapter are to discuss the searching options and the presentation of results along with various parameters. The frequencies of using the respondents in Online Public Access Catalogue used in the female students of Faculty of Arts in Alagappa University, Department of Tamil are 27(10.63%); Centre for Tamil Culture, 28 (11.02%); Dept. of Fine Arts, 29(11.42%), Department of English and Foreign Language 27(10.63%), Dept. of women studies 28; Department of Social Work, 29 (11.42%); Department of Economics and Rural Development, 29 (11.42%); Department of History, 28 (11.02%); Dept. of Library and Information Science, 29 (11.42%). The advanced facilities provided by these universities are also discussed.*

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## **INTRODUCTION**

The Information Explosion has revolutionized the thinking and outlook of the librarians during the recent years. This phenomenon has triggered a series of changes posing corresponding challenges necessitating the re-examination of technical policies of library and information centres. Traditionally, one of the keys to retrieve the information has been the catalogue along with classification. The catalogue which started in the book form did not remain stable. It went on growing in its character and complexities over the years both in the physical and inner forms. The users of the library system expected certain advantage from the catalogues. But they have always remained incomplete and deficient.

### **Online Public Access Catalogue (OPAC)**

Online Public Access Catalogue (OPAC) Library OPACs first emerged in the late 1970s and early 1980s and have gone through several cycles of change and development. The basic purpose of the OPAC is to create a database of library holdings which provides an online catalogue to help users to identify and find resources easily (Theimer, 2002). In fact the OPAC was probably the inspiration for many of the cutting edge services we find on the Internet today. Online Public Access Catalogue (OPAC) is an electronic catalogue which contains complete bibliographic and holding information of all items in the library. With the arrival of the Internet, most of the libraries have made their OPAC accessible from a server to users all over the world.

## **DEFINITIONS AND MEANING**

Pierre Le Loarer<sup>1</sup> defined OPAC as "a database describing documents via bibliographic entries composed of fields some of which may be queried (essentially the author, title and subject fields for querying by the public, a query function providing access to the data base indexes: the user specifies the field (criterion) via which he or she wishes to query the catalogue. Either that or the system implicitly chooses several criteria and then suggests the entries found under the different criteria, according to the result of the search and a set of referential or authority lists that allow a given item to be consistently expressed in the same way, in the database and consequently retrieved in the same form."

### **Access Points and Level of Usage of OPAC**

OPAC has been the most common tool for library users and librarians, and it will be also commonly used in digital libraries. It is obvious that well designed GUI improves user-friendliness especially for novice users. Various access points provided in OPAC enables the user to locate document as well as to filter the query for obtaining result of an advanced search. Advanced search provides details of the documents that satisfy particular features or characteristics. Question was asked to disclose the access points generally used by the respondents. Choices were given and users were allowed to specify the access points used by them. The most used search key is the author and is followed by the title and the subject. Words in the title were also found to be made use by many users while the usages of other points were too limited.

## **Features of Online Public Access Catalogue (OPAC)**

Online Public Catalog must provide searching and locating features for your online public access catalog. Specifically, OPAC offers the following key features.

- Patrons can perform various levels of searching such as Browse, Heading, keyword, Control number, and Expert.
- Patrons can select which index they wish to search such as title, author, and subject.
- Patron empowerment such as searching/viewing of own patron record.
- Filtering of searches.
- Browse searches are accumulated on tabs.

## **REVIEW OF LITERATURE**

Abdoulaye (2002) used a studied of bilingual authority files in academic and research libraries has been successful in most of the multicultural societies. Today, with the advancement of information and communication technology many libraries and information services providers on the Internet are accessible in more than one language, facilitating access, retrieval and use of information for scattered users all over the world. Nevertheless, there are also challenges associated with the provision and use of bilingual authority files. This study analyses and describes bilingual authority files of the main library of the International Islamic University of Malaysia. The study also investigated perceptions of cataloguers and end-users in relation to the bilingual authority files. All the three cataloguing staff at the “Department of Arabic and Religious Resources” and 23 end-users was interviewed. Respondents felt that the use of bilingual authority files was essential for the success of the library use.

Adedibu (2008) studied investigates catalogue use by science students of the University of Ilorin. A questionnaire was randomly distributed to 500 users in the 2004/2005 session; 415 questionnaires were completed and form the basis of this study. The study reveals that a preponderance of the respondents (90.1%) use the library catalogue to access the library stock; three-quarters (74%) claim to know how to use both the card catalogues and the Online Public Access Catalogue (OPAC). The users of the OPAC represented a small portion with 33 respondents (7.9%). The study also showed that many respondents (192 or 46.3%) prefer the Subject Catalogue, one-fourth (111 or 26.7%) prefers the Author/Title and about a fifth (88 or 21.2%) prefers a combination of Author/Title and Subject Catalogues. The use of library catalogues increases as the respondents’ progress in their academic career.

Alam Ansari and Amita (2008) the objective of this study is to establish the opinion of users with respect to the awareness and utilization of, as well as their satisfaction level with, the use of the online public access catalogue (OPAC). A questionnaire was developed and distributed randomly to 128 users including undergraduates and post graduate students as well as M.Phil & PhD scholars. Users returned 115 completed questionnaires of which 100 were selected for analysis. The paper finds that the OPAC system has changed the traditional concept of access to library resources. It allows simple as well as complex searches. Document access is still one of the most important approaches of users to visit the library, and a study of the effectiveness of an OPAC is useful in this respect. Regarding results, sometimes users face problems of recall and precision. However, in some searches users are not able to find relevant documents on account of various factors. Data show that a high percentage of respondents are



utilizing the OPAC as a search tool for retrieving documents. The paper focuses on many aspects of OPACs, particularly those in India. Librarians, especially those from developing nations, may choose their library automation software packages keeping in view the user's expectation with respect to OPACs.

Ariyapala and Edzan (2002) Describes a study, which investigates the Online Public Access Catalogue (OPAC) use behavior of foreign postgraduate students at the University of Malaya Library. This involves their ability to use OPAC, their knowledge about OPAC, and the reasons for the effective use of OPAC. The results indicate that most of the students from developing countries possess various levels of OPAC use abilities. Most indicate that there are no OPAC facilities in their home countries, and if available, it is limited to university libraries. OPAC searches are mainly for this title, subject, author/title keyword, and author. Title searches are the most frequently used. Students using the University of Malaya Library indicate that the OPAC is relatively easy to use but students are moderately successful in locating items. Students self trained themselves when using the OPAC

Asemi and Riyahiniya (2007) the survey aims to investigate the relationships between awareness and use of digital resources among students in Isfahan University of Medical Sciences. A descriptive method has been used and users of the medical libraries and information centres affiliated to Isfahan University of Medical Sciences have been surveyed in the research. A total of 250 students were selected randomly as a sample. A structured questionnaire was designed for collecting data. The results were that 70 percent of students were aware of digital resources, but only 69 percent of them have used them; 62 percent were aware of offline databases, whereas only about 19 percent used them through the Central Library LAN network. About 70 percent were aware of online databases, accessible via the Central Library web site, and about 53 percent of respondents have used them. A total of 64 percent were aware of the "CLBJ Database", while over half of them made use of it. In total 87 percent of students felt that the available data resources met their information needs. Students had less use of offline databases, attributed to factors such as infrequent periodic orientation and lack of education on use of offline databases and fewer terminals connected to the server in the Central Library.

Devendra, and Nikam (2012) conducted a study to examine the user perception towards the use of OPAC in Law University libraries in Karnataka. The results of the study identified that users have different levels of perceptions with regard to OPAC and there is a positive perception towards OPAC search, but the study also point out that not all users are fully satisfied with the OPAC system's an ability to assist in finding books and with the results of OPAC searches. Only 17.2% users indicated 100% rate of success in locating the documents of their interest from the OPAC search.

Dinet, et.al. (2004) Boolean systems still constitute most of the installed base of online public access catalogues (OPACs) in the French universities even if many studies have shown that Boolean operators are not frequently used by 'non-librarian' users. The first study examined the use of Boolean operators by French university students; in the second study, elaborated to evaluate the impact of information search expertise on this use, Boolean operators are explicitly presented and participants were explicitly invited to use them. We assumed that university students would not frequently use the operators in searching, and that even if they were explicitly invited to make use of them. Results obtained with the first study based on transaction logs analyses confirmed that French university students did not frequently use Boolean operators.

Emiri (2015) investigated that influence of some demographic factors which include gender age and level of study on the use of online public access catalogue OPAC by undergraduate students of two select universities in Southern Nigeria. These schools include university of Benin Bienin and Ambrose Ali University Ekpoima both of Edo State south-south Nigeria. The descriptive survey method was adopted

for this study and the purposive sampling technique was used to select two hundred and eighty three 283 from both institution. Results revealed that gender age level of study had influence on the use of OPAC. Relevant recommendations concerning the influence of these demographic factors were made.

Fabunmi and Asubiojo (2013) this study investigated the awareness and use of Online Public Access Catalogue (OPAC) by students of Obafemi Awolowo University, Nigeria. A questionnaire was distributed to 800 students at various faculties and in different levels of studies in August 2012. Five hundred and twenty copies of the questionnaire was retrieved and used for the study. The study revealed that 68.7% of the respondents were aware of the OPAC services; students who were aware of the library OPAC and did not use it to access library resources were statistically significant ( $\chi^2 = 82.073$ ;  $df = 2$ ;  $\alpha = 0.001$ ); 23.8% of the respondents used OPAC independently; only 3.2% of the respondents accessed library resources from their hostels, 0.2% access it from homes. Similarly, majority of the respondents lacked information searching skills while lack of awareness, irregular power supply, network failure and inadequacy of computer terminals designated for the use of OPAC were among the problems identified as factors inhibiting the use of library OPAC.

Fati and Adetimirin (2015) this study examined the extent to which OPAC awareness affected undergraduates in two federal university libraries in South-West, Nigeria. The study adopted a survey research design. Multistage and proportionate sampling techniques were used to determine the sample size. The two universities are University of Lagos and Obafemi Awolowo University. Data were collected using questionnaire and semi-structured interview. Though there was significant relationship between OPAC awareness and OPAC use ( $r = 0.358$ ;  $P < 0.05$ ), OPAC awareness by undergraduates in both universities was high but their level of OPAC use was low. Studies on OPAC awareness by undergraduates at federal university libraries in Nigeria are few. Researches particularly on OPAC awareness as a factor affecting OPAC use by undergraduates in Nigeria has not been identified. This informed the need for research in this area.

Gohain and Saikia (2013) the purpose of this study is to investigate the use and user satisfaction on Online Public Access Catalogue (OPAC) services at Tezpur University. This study attempted to investigate the frequency, purpose of use and to find out the problems faced by the B.Tech students while using OPAC. Attempt also made to investigate user's awareness about the benefit of OPAC service. The final result revealed that 51.03%(199) respondents used OPAC every day to locate document on shelves. Lack of skills to use OPAC independently, lack of awareness about OPAC and lack of proper guidance to use OPAC were the major problem faced by the users while using OPAC. It is observed that of 76.67%(299) respondents were aware that OPAC help borrowers to locate document by author, title or by subject on the shelves. It is also observed that 72.05%(281) respondents aware that it help easy search different categories of documents such as book, thesis, report, back vol. etc. by changing the types of document categories. Finding revealed that satisfaction level of B.Tech students of school of engineering were quite encouraging and they were very much satisfied with the performance and quality of OPAC services.

Gupta (2018) this paper presents an outline of evolution of Online Public Access Catalogue (OPAC) comparing to the various generation of computer. An attempt is being made to evaluate some of the simple and advance OPAC features supported by different Library Management System (LMS).The evaluative criteria is also proposed which helps library and information centers to further evaluate the features of OPAC presented in various LMS.

Hiremath and Kumar (2018) This study aims to evaluate the various features and functionality of web-based Online Public Access Catalogue (OPAC) of IIMB-Library in the context of competency of the present generation library catalogues of library and information science field. The papers re-

vealed that user's satisfaction level is 'Good' rather 'Excellent', and highlights many problems such as, lack of search-based knowledge, limited search features, lack of training, poor database index, and non-accessibility of other IIM OPACs. The users expressed that there is no provision for 'cancel book reservation' from OPAC. Same ways there are upgradable suggestions to improvise. This article aims to be the primary source for emerging library professionals to embark on present ICT-based catalogue service and also software vendors who wish to improve, design the functionality, and inner working layouts of their products.

Husain and Ansari (2008) this importance of knowing the various search facilities available on a range of software packages, on a comparative basis, cannot be over emphasised. This study concerns with laying the foundation for such exercise. With the application of information technology in libraries, selection of an appropriate library automation software package has become a challenge for the library administrators. Online Public Access Catalogue (OPAC) is an important module in all library packages. The present study evaluates three important library software packages, namely, Alice for Windows, Libsys, and Virtua in the context of OPAC module.

Islam and Ahmed (2011) the main aim of this paper is to assess Dhaka University students' perceptions of ease-of-use and their satisfaction with University Library's online public access catalogue (DUL OPAC). A survey questionnaire was developed and used to collect data on students' demographics, online catalogue use and their perceptions of ease-of-use and satisfaction with OPAC. In order to analyze the influence of students' demographic and individual characteristics on their perceptions and satisfaction, Mann-Whitney and Kruskal-Wallis tests were carried out. The results showed that students are overwhelmingly satisfied with the DUL OPAC. Although there are some differences in students' perceptions of and satisfaction with the university OPAC, a formal task-based usability testing and adopting a user-centered design can ensure the usability of the OPAC in the future.

Kani-Zabihi, et.al. (2008) Online Public Library Catalogues (OPACs) are widely used electronic library catalogues giving a wealth of remote access to library information resources. Users should be involved early in the OPAC development cycle process in order to ensure a usable and functional interface, as the integration of user-defined requirements of OPACs, along with the other human-computer interaction considerations, offer a better understanding of user perceptions and expectations in respect of OPACs, ultimately resulting in truly user-centred OPACs. Accordingly, the purpose of this study was to establish user suggestions for a typical OPAC application's functionality and features. To this end, an experiment was undertaken to find out the type of interaction features that users prefer to have in an OPAC. The study revealed that regardless of users' Information Technology (IT) backgrounds, their functionality expectations of OPACs are the same as users are expecting OPACs to facilitate easier ways to achieve their tasks. However, based on users' previous experiences with OPACs, their requirements with respect to specific features may change.

Kapoor and Goyal (2007) The paper seeks to provide a comparative analysis of the functionality of five web-based OPACs available in Indian academic libraries. Same-topic searches were carried out by three researchers on the web-based OPACs of Libsys, VTLS's iPortal, NewGenLib, Troodon, and Alice for Windows, implemented in five academic libraries in India. Their functionality was compared using criteria selected from the literature on OPAC searching. The web-based OPACs investigated offered a range of facilities for searching by author, title, and control number and by keywords. Federated searching across several e-collections was limited. This paper should be a useful source of information to librarians who are planning to introduce web-based OPACs and also for software vendors who wish to improve the functionality of their products.

Khatun and Ahmed (2018) the aim of this paper is to empirically examine the usability of the Koha OPAC from a user perspective. A series of usability tests with Koha were carried out at a private university in Bangladesh. Both experienced and novice users participated in these tests. Experienced users participated only once, whereas novices took part in three successive sessions. At first, novices' initial performance was recorded. Then, they performed the same tasks after a short training tutorial. Novices again participated in the retention experiment with the same tasks after four weeks. A set of seven tasks was given to the users to see their performance in terms of time taken, number of errors made and success scores. The results showed significant performance difference between experienced and novices' initial session. Novices could easily pick up the functionality of Koha OPAC when a brief training was provided. The QUIS results also showed significant differences in subjective satisfaction for several items between experienced users and naïve sessions, and for one item amongst novices' three experiments. This is a pioneering study of the task-based usability of Koha OPAC.

Kumar (2011) the paper seeks to evaluate the effect of web searching on online public access catalogue (OPAC) users in the university libraries in India. It is a comparative study of the three universities in the Union Territory of Chandigarh and Punjab State. The study adopted a questionnaire-based survey. A structured questionnaire was administered to 500 users comprising faculty, research scholars, and post-graduate students of selected university libraries to collect data regarding the influence of web search engines on OPAC users. The study showed that a majority of the users in all three universities made use of the web-based resources. Ready access to information through search engines considerably increased the expectations of library users while searching OPAC. Web searching influenced their OPAC searching process greatly, as the majority of searches were performed on OPAC-like popular search engines. Simultaneously, users did not know the difference between inner-workings of OPAC and common search engines such as Google. Further, the library community should collaborate with OPAC designers to develop a user-friendly OPAC system, keeping in view the needs of the users of the internet age.

## **SCOPE OF THE STUDY**

The present study was deals with user awareness and usage of Online Public Access Catalogue in Alagappa University Female Students in Faculty of Arts. This can be extended over to the other organizations. Detailed analysis can be taken to see the impact of technology on library and usage. Finally investigator believes that studies are needed on ways to improve and encourage users to use of maximum of online public access catalogue. The results will help collection developers in designing suitable policy and access the technical intricacies faced by the library OPAC. It will also help in designing the efficient infrastructure requirements for online public access catalogue.

## **OBJECTIVES OF THE STUDY**

The study has been designed with a view to achieving the following objectives:

1. To Know the frequency of visit of students of faculty of Arts
2. To Understand the users awareness and their satisfaction level with OPAC
3. To Know the purpose of use of OPAC by female students of faculty of Arts

4. To Find out the most favorable searching points in OPAC
5. To identify the problems/suggestions to improve the OPAC services for the benefit of female students of faculty of Arts.
6. To know the search perceptions of library OPAC by female students of faculty of Arts.
7. To find out the satisfaction level of OPAC by Female students of faculty of ALU Arts.

#### Hypotheses

- There is a significant relationship between users and level of satisfaction of OPAC.
- There is no difference between female students of current knowledge and ability to use of OPAC.
- Use of online public access catalogue is decreasing due to internet and intranet.

### Methodology

The survey research design was used for the study. The total population includes 270 registered users of the library made up of students from Alagappa University female students for the Faculty of Arts. A questionnaire has been prepared in such a way that the respondents could easily understand the items. A total number of 270 questionnaire distributed among the respondents the investigator could collect questionnaires from only 254 out of 270 respondents among whom the questionnaires were distributed. This constitutes 94.07(254/270) of the total response.

### Data Analysis and Interpretation

Data Analysis is the Process of systematically applying statistical and / or logical techniques to describe and illustrate, condense and recap, and evaluate data, according to shampoo and Resnik (2003) various analytic procedures "Provide a way drawing inductive inference from the noise Present in the data." The research carried out a study on User awareness and use of OPAC by Female students of faculty of arts, Alagappa University.

Table 1 Show that the department wise distribution of OPAC in majority of respondents in Dept. of Fine Arts in 29(11.42%), Dept. of Economics and Rural Development 29 (11.42%), Dept. of Library and information science 29 (11.42%), Dept of Social work 29 (11.42%). Low level of the respondents in Dept. of Tamil 27(10.63%), Dept. of English and Foreign Language in low level of the respondents in 27(10.63%), Alagappa University female students use of the library OPAC.

Table 2 Show that the Age wise distribution of respondents the table indicate 33.46% majority of respondents to OPAC users of 24-26 category, 27.17% of respondents to OPAC users of 21-23, 16.54% of the respondents in 18-20, 13.78% of respondents in 27-29. 9.06% of the respondents in above 30.

Table 3 show that the 254 (100%) respondents were use of the library OPAC in available from the library only 0(0%) were not use of it. It's a positive sign towards the uses of the library OPAC.

Table 4 Show that the frequency of using OPAC daily use for the respondents in 49 (19.29%). 2-3 times in a week use for the OPAC in 64(25.20%). Once in a week use for the online public access catalogue in 95(37.40%) of the respondents. Occasionally use of the respondents in 36 (14.17%).

Table 5 Show that the Awareness of Online Public Access Catalogue used in the fully aware of the respondents in 87 (34.25%). Unaware of the respondents in 79 (31.10%). Somewhat aware of the respondents in 88(34.65%) in the awareness of the OPAC.

**User Awareness and Use of OPAC by Female Students of Faculty of Arts, Alagappa University**

Table 6 show that the respondents of the Time for Displaying Results use of OPAC in very fast in 46 (18.11%), fast in 34(13.39%) of the respondents, moderately fast in 55(21.65%) of the respondents, slow for the respondents in the 57(22.44%), very slow for the respondents in the 62(24.41%) of the used in times for the displaying results of online public access catalogue.

Table 7 show that the methods used in the online public access catalogue in the respondents of the consult card in 32(12.60%), catalogue used in the methods of 64 (25.20%), Search shelves 35(13.78%), Ask library staff in methods used in OPAC 35(13.78%), Ask friends in the methods of the used in online public access catalogue in 43(16.93%), you're self of the respondents used in OPAC in the 45(17.72%).

*Table 1. Department wise distributions of respondents*

SI. No	Name of the Department	No. of the Respondents	Percentage
1	Dept. of Tamil	27	10.63
2	Centre for Tamil culture	28	11.02
3	Dept. of Fine Arts	29	11.42
4	Dept. of English and Foreign language	27	10.63
5	Dept. of Women studies	28	11.02
6	Dept. of social work	29	11.42
7	Dept. of Economics and Rural Development	29	11.42
8	Dept. of History	28	11.02
9	Dept. of Library and information science	29	11.42
<b>Total</b>		<b>254</b>	<b>100.00</b>

*Table 2. Age wise distribution of respondents*

SI. No	Age	No. of the Respondents	Percentage
1	18-20	42	16.54
2	21-23	69	27.17
3	24-26	85	33.46
4	27-29	35	13.78
5	Above 30	23	9.06
<b>Total</b>		<b>254</b>	<b>100.00</b>

*Table 3. Use of library OPAC*

SI. No	Use of Library OPAC	No. of the Respondents	Percentage
1	Yes	254	100
2	No	0	0
<b>Table</b>		<b>254</b>	<b>100</b>

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Table 8 Show that the satisfaction of online public access catalogue in the Excellent of respondents in 76(29.92%), good satisfaction of the respondents in 95(37.40%), average the level of satisfaction of

*Table 4. Frequency of using OPAC*

SI. No	Frequency of Using OPAC	No. of the Respondents	Percentage
1	Daily	49	19.29
2	2-3 Times in a week	64	25.20
3	Once in a week	95	37.40
4	Occasionally	36	14.17
<b>Total</b>		<b>254</b>	<b>100.00</b>

*Table 5. Awareness of online public access catalogue*

SI. No	Awareness of OPAC	No. of the Respondents	Percentage
1	Fully Aware	87	34.25
2	Unaware	79	31.10
3	Somewhat aware	88	34.65
<b>Total</b>		<b>254</b>	<b>100.00</b>

*Table 6. Times for displaying results of OPAC*

SI. No	Time for Displaying Results	No. of the Respondents	Percentage
1	very fast	46	18.11
2	Fast	34	13.39
3	Moderately fast	55	21.65
4	Slow	57	22.44
5	Very slow	62	24.41
<b>Total</b>		<b>254</b>	<b>100.00</b>

*Table 7. Methods used in OPAC*

SI. No	Methods Used	No. of the Respondents	Percentage
1	Consult Card	32	12.60
2	Catalogue	64	25.20
3	Search shelves	35	13.78
4	Ask Library staff	35	13.78
5	Ask Friends	43	16.93
6	You're Self	45	17.72
<b>Total</b>		<b>254</b>	<b>100.00</b>

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*Table 8. Satisfaction of OPAC*

SI. No	Satisfaction of OPAC	No. of the Respondents	Percentage
1	Excellent	76	29.92
2	Good	95	37.40
3	Average	47	18.50
4	No Opinion	36	14.17
<b>Total</b>		<b>254</b>	<b>100.00</b>

the respondents in 47(18.50%), No opinion of the respondents the 36(14.17%).

Table 9 show that the overall using of online public access catalogue in very easy in 64(25.20%), Easy in overall using of online public access catalogue in 59(23.23%), moderately easy in 27 (10.63%), difficult of the use of online public access catalogue in 38(14.96%) very difficult of the respondents used in the OPAC in 66(25.98%).

Table 10 show that the respondents of the search found the online public access catalogue in more than I was looking for the strongly disagree for the 74(29.13%), disagree for the 32(12.60%), neutral for the 29(11.42%), agree for the 84(33.07%), strongly agree for the 35(13.78%). All that I was looking for the strongly disagree for the 59(23.23%), disagree for the 27 (10.63%), neutral for the 64(25.20%), agree for the 38(14.96%), strongly agree for the 66(25.98%).

Table 11 show that the search your library OPAC in the strongly disagree in 47(18.50%), disagree in the 36(14.17%), neutral in 48(18.90%), Agree in the 89(35.03%), strongly agree in the 44(17.32). reference books in the use of library online public access catalogue used in the strongly agree in the 38(14.96%),

*Table 9. Overall using OPAC*

SI. No	Overall Using OPAC	No. of the Respondents	Percentage
1	very easy	64	25.20
2	Easy	59	23.23
3	Moderately easy	27	10.63
4	Difficult	38	14.96
5	Very difficult	66	25.98
<b>Total</b>		<b>254</b>	<b>100.00</b>

*Table 10. Search for the OPAC*

S. No	Parameters	SD	DA	N	A	SA
1	More than I was looking for	74 (29.13)	32 (12.60)	29 (11.42)	84 (33.07)	35(13.78)
2	All that I was looking for	59(23.23)	27 (10.63)	64(25.20)	38(14.96)	66(25.98)
3	Some of what I was looking for	46(18.11)	57(22.44)	55(21.65)	62(24.41)	34(13.39)
4	Nothing I was looking	27(10.63)	67(26.38)	62(24.41)	39(15.35)	59(23.23)



*Table 11. Search your library OPAC*

SI. No	Search Your Library OPAC	SD	DA	N	A	SA
1	Books	47(18.50)	36(14.17)	48(18.90)	89(35.03)	44(17.32)
2	Reference books	59(23.23)	54(21.26)	38(14.96)	64(25.19)	38(14.96)
3	Reports	84(33.07)	32(12.60)	29(11.42)	74(29.13)	35(13.78)
4	Theses	57(22.44)	62(24.41)	34(13.39)	46(18.11)	55(13.78)
5	Journals	89(35.04)	28(11.02)	47(18.50)	74(29.13)	74(29.13)

Reports of the search in OPAC in the 35(13.78%), theses in the strongly agree in 55(13.78%), journals of the library search in the OPAC in the 74(29.13%).

Table 12 show that the search for the required document in online public access catalogue in author in the respondents of strongly agree in the 72(28.35%), title in the strongly agree in the 55(21.65%), subject in the strongly agree in the 76(29.92%) high level of the strongly agree in the respondents. High level of the agree in the edition statement in the 75(29.53%), high level of the neutral in title and edition statement in the 67(26.38%), disagree in the library work in the 77(30.31%), strongly disagree in the topical key works in 76(29.92%).

Table 13 Show that the learned to use of OPAC in majority of the respondents in strongly agree in the using instructions on the computer screen 74(29.13%), majority of the respondents agree in the using printed instructions in 72(28.35%), majority of the respondents neutral on the 57 (22.44%) in the using instructions on the computer screen, majority of the respondents in the 54(21.26%), from the library staff, From a library course or orientation, strongly disagree in the majority of the respondents in the 74(29.13%) in from a friend or someone at a nearby computer, learned to the use this online public access catalogue used in the alagappa university female students.

Table 14 Show that the learned to use of OPAC in majority of the respondents in strongly agree in the using instructions on the computer screen 74(29.13%), majority of the respondents agree in the using printed instructions in 72(28.35%), majority of the respondents neutral on the 57 (22.44%) in the using instructions on the computer screen, majority of the respondents in the 54(21.26%), from the library

*Table 12. Search for the required document in OPAC*

SI. No	Search for the Required Document	SD	DA	N	A	SA
1	Author	36(14.17)	67(26.37)	54(21.25)	25(9.84)	72(28.35)
2	Title	43(16.92)	32(12.59)	67(26.37)	57(22.44)	55(21.65)
3	Subject	57(22.44)	32(12.59)	65(25.59)	24(9.45)	76(29.92)
4	Call number	75(29.52)	46(18.11)	37(14.57)	22(8.66)	74(29.38)
5	Series Statement	25(9.84)	54(21.25)	36(14.17)	72(28.35)	67(26.38)
6	Publisher	56(22.04)	44(17.32)	52(20.47)	67(26.38)	35(13.78)
7	Topical key words	76(29.92)	35(13.77)	22(8.66)	64(25.20)	57(22.44)
8	Literary work	24(9.44)	77(30.31)	55(21.65)	32(12.60)	66(25.98)
9	Edition statement	34(13.38)	26(10.23)	67(26.38)	75(29.53)	52(20.47)

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*Table 13. Learned to use this OPAC*

S. No	Learned to Use This OPAC	SD	DA	N	A	SA
1	From a friend or someone at a nearby computer	74 (29.13)	32 (12.60)	47 (18.50)	44 (17.32)	57 (22.44)
2	Using printed instructions	22 (8.66)	32 (12.60)	37 (14.57)	72 (28.35)	54 (21.26)
3	Using instructions on the computer screen	67 (26.38)	24 (9.45)	57 (22.44)	32 (12.60)	74 (29.13)
4	From the library staff	37 (14.57)	54 (21.26)	52 (20.47)	44 (17.32)	67 (26.38)
5	From a library course or orientation	57 (22.44)	54 (21.26)	47 (18.50)	42 (16.54)	54 (21.26)
6	By myself without any help	56 (22.05)	44 (17.32)	52 (20.47)	67 (26.38)	35 (13.78)

staff, From a library course or orientation, strongly disagree in the majority of the respondents in the 74(29.13%) in from a friend or someone at a nearby computer, learned to the use this online public access catalogue used in the alagappa university female students.

Table 15 Show that the learned to use of OPAC in majority of the respondents in strongly agree in the using instructions on the computer screen 74(29.13%), majority of the respondents agree in the using printed instructions in 72(28.35%), majority of the respondents neutral on the 57 (22.44%) in the using instructions on the computer screen, majority of the respondents in the 54(21.26%), from the library staff, From a library course or orientation, strongly disagree in the majority of the respondents in the

*Table 14. Purpose of using OPAC*

SI. No	Purpose of Using OPAC	SD	DA	N	A	SA
1	To Check documents availability	29 (11.42)	32 (12.59)	35 (13.78)	84 (33.07)	74 (29.13)
2	Finding bibliographical details	29 (11.42)	30 (11.81)	39 (15.35)	80 (31.50)	76 (29.92)
3	Documents issued or No	20 (7.87)	44 (17.32)	35 (13.78)	70 (27.56)	85 (33.46)
4	To Locate a Documents on Shelves	30 (11.81)	48 (18.89)	30 (11.81)	60 (23.62)	86 (33.86)
5	Check number of copies	15 (5.91)	40 (15.74)	49 (19.29)	75 (29.53)	75 (29.53)
6	To know whether a particular book is on the shelves or not	28 (11.02)	33 (12.99)	35 (13.78)	84 (33.07)	74 (29.13)
7	To know about a documents without visiting library	20 (7.87)	39 (15.35)	40 (15.75)	78 (30.71)	77 (30.31)
8	To know about a documents without visiting library	21 (8.27)	40 (15.74)	38 (14.96)	80 (31.50)	75 (29.53)
9	Easy to search different categories of documents such as books, thesis, back volume CD by changing the types of documents	16 (6.30)	39 (15.35)	47 (18.50)	75 (29.53)	77 (30.31)

*Table 15. Purpose of using OPAC*

SI. No	Purpose of Using OPAC	SD	DA	N	A	SA
1	To Check documents availability	29 (11.42)	32 (12.59)	35 (13.78)	84 (33.07)	74 (29.13)
2	Finding bibliographical details	29 (11.42)	30 (11.81)	39 (15.35)	80 (31.50)	76 (29.92)
3	Documents issued or No	20 (7.87)	44 (17.32)	35 (13.78)	70 (27.56)	85 (33.46)
4	To Locate a Documents on Shelves	30 (11.81)	48 (18.89)	30 (11.81)	60 (23.62)	86 (33.86)
5	Check number of copies	15 (5.91)	40 (15.74)	49 (19.29)	75 (29.53)	75 (29.53)
6	To know whether a particular book is on the shelves or not	28 (11.02)	33 (12.99)	35 (13.78)	84 (33.07)	74 (29.13)
7	To know about a documents without visiting library	20 (7.87)	39 (15.35)	40 (15.75)	78 (30.71)	77 (30.31)
8	To know about a documents without visiting library	21 (8.27)	40 (15.74)	38 (14.96)	80 (31.50)	75 (29.53)
9	Easy to search different categories of documents such as books, thesis, back volume CD by changing the types of documents	16 (6.30)	39 (15.35)	47 (18.50)	75 (29.53)	77 (30.31)

74(29.13%) in from a friend or someone at a nearby computer, learned to the use this online public access catalogue used in the alagappa university female students.

Table 16 show that the majority of the respondents in strongly agree in the document issued or no in 86(33.86%), majority of the respondents in the agree in finding bibliographical details and to know about a documents without visiting library 80(31.50%), majority of the neutral in the check number of copies in 49(19.29%), majority of the disagree in the in purpose of using online public access catalogue in the 48(18.89%), majority of the strongly agree in the to locate a documents on shelves 30(11.81%).

Table 17 show that the majority of the respondents in the strongly agree in the 79(31.10%) in the I am comfortable with simple search, 90(35.43%) in the I found more items than expected in agree, neutral in the it helped me in finding the documents faster in 45(17.72%), disagree in the majority of the respondents in 49(19.29%) in I comfortable quick search, OPAC, was easier to use than I expected, strongly agree in the 40 (15.35%), it was easy to use in the use of library online public access catalogue.

Table 18 show that the majority of the strongly agree in the 72(28.35%) of the, I access OPAC stand-alone system, I access OPAC and the order in which items are displayed is easy to understand in OPAC. Agree respondents in the majority of the 90(35.43%) the order in which items are displayed is easy to understand in OPAC. Neutral of the respondents in the 55(21.65%) it is easy to be familiar with this OPAC. Disagree in the it is easy to be familiar with this OPAC in 43(16.93%), strongly disagree in the 39(15.35) it is easy to information provided in the OAPC, an OPAC search by author is easy.

Table 19 show that the problems of OPAC in the majority of the respondents in the strongly agree in the 89(35.04%) less of proper guidance to use OPAC, majority of the respondents in the agree in the 99(38.98%) lack of awareness about OPAC, majority of the respondents in 40(15.74%) book not in proper place as indicate in the OPAC, Neutral in the responded in the 38(14.96%) in location of OPAC, 30 (11.81) power backup in the problems of OPAC .

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*Table 16. Purpose of using OPAC*

SI. No	Purpose of Using OPAC	SD	DA	N	A	SA
1	To Check documents availability	29 (11.42)	32 (12.59)	35 (13.78)	84 (33.07)	74 (29.13)
2	Finding bibliographical details	29 (11.42)	30 (11.81)	39 (15.35)	80 (31.50)	76 (29.92)
3	Documents issued or No	20 (7.87)	44 (17.32)	35 (13.78)	70 (27.56)	85 (33.46)
4	To Locate a Documents on Shelves	30 (11.81)	48 (18.89)	30 (11.81)	60 (23.62)	86 (33.86)
5	Check number of copies	15 (5.91)	40 (15.74)	49 (19.29)	75 (29.53)	75 (29.53)
6	To know whether a particular book is on the shelves or not	28 (11.02)	33 (12.99)	35 (13.78)	84 (33.07)	74 (29.13)
7	To know about a documents without visiting library	20 (7.87)	39 (15.35)	40 (15.75)	78 (30.71)	77 (30.31)
8	To know about a documents without visiting library	21 (8.27)	40 (15.74)	38 (14.96)	80 (31.50)	75 (29.53)
9	Easy to search different categories of documents such as books, thesis, back volume CD by changing the types of documents	16 (6.30)	39 (15.35)	47 (18.50)	75 (29.53)	77 (30.31)

*Table 17. Use in library OPAC*

S.NO	Use in Library OPAC	SA	DA	N	A	SA
1	OPAC was Easier to use than I Expected	30 (11.81)	49 (19.29)	40 (15.75)	72 (28.35)	63 (24.80)
2	It was fun to use	39 (15.35)	40 (15.75)	43 (16.93)	70 (27.56)	62 (24.41)
3	It was Easy to use	40 (15.35)	43 (16.93)	39 (15.35)	65 (25.59)	67 (26.38)
4	It helped me in finding the documents faster	37 (14.57)	40 (15.75)	45 (17.72)	72 (28.35)	60 (23.62)
5	It is very difficult to use	35 (13.78)	45 (17.72)	42 (16.54)	70 (27.56)	62 (24.41)
6	I found more items than expected	29 (11.42)	30 (11.81)	33 (12.99)	90 (35.43)	72 (28.35)
7	I am comfortable with simple search	37 (14.57)	38 (14.96)	42 (16.54)	69 (27.17)	79 (31.10)
8	I am comfortable complex/ advance search	35 (13.78)	40 (15.75)	40 (15.75)	74 (29.13)	65 (25.59)
9	I am comfortable quick search	30 (11.81)	49 (19.29)	39 (15.35)	73 (28.74)	63 (24.80)
10	I am Comfortable when using OPAC	39 (15.35)	40 (15.75)	36 (14.17)	76 (29.92)	63 (24.80)

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*Table 18. Attitudes use of library OPAC*

S.NO	Parameters	SD	DA	N	A	SA
1	I access OPAC standalone system	36 (14.17)	25 (9.84)	53 (20.87)	68 (26.77)	72 (28.35)
2	I access OPAC	25 (9.84)	36 (14.17)	54 (21.26)	67 (26.38)	72 (28.35)
3	It is easy to be familiar with this OPAC	32 (12.60)	43 (16.93)	55 (21.65)	57 (22.44)	67 (26.38)
4	The OPAC should have more flexible interfaces	26 (10.24)	34 (13.39)	52 (20.47)	75 (29.53)	67 (26.38)
5	Library searching will be easier and faster with the OPAC	37 (14.57)	40 (15.75)	45 (17.72)	72 (28.35)	60 (23.62)
6	It is easy to information provided in the OPAC	39 (15.35)	40 (15.75)	43 (16.93)	70 (27.56)	62 (24.41)
7	A OPAC search by author is easy	39 (15.35)	38 (14.96)	39 (15.35)	75 (29.53)	63 (24.80)
8	The order in which items are displayed is easy to understand in OPAC	29 (11.42)	30 (11.81)	33 (12.99)	90 (35.43)	72 (28.35)

## Findings

The analysis has been for 254 respondents, which included in Department of Tamil in 27, Centre for Tamil culture 28, Department of Fine Arts 29, Department of English and Foreign Language 27, Dept. of women studies 28, Department of Social work 29, Dept.of Economics and Rural development 29,

*Table 19. Problems of OPAC*

Sl. No	Problems of OPAC	SA	DA	N	A	SA
1	Lack of skills to use OPAC independently	25(9.84)	35(13.78)	30(11.81)	79(31.10)	85(33.46)
2	Lack of awareness about OPAC	15(5.91)	25(9.84)	28(11.02)	99(38.98)	87(34.25)
3	Less of Proper guidance to use OPAC	22(8.66)	30(11.81)	38(14.96)	75(29.53)	89(35.04)
4	Less no of OPAC Terminals in the book section and section	24(9.45)	29(11.42)	37(14.57)	79(31.10)	85(33.46)
5	Book not in proper place as indicate in the OPAC	29(11.42)	24(9.45)	40(15.74)	76(29.92)	85(33.46)
6	Library staff not willing to help	25(9.84)	30(11.81)	35(13.78)	80(31.50)	84(33.07)
7	Less awareness of OPAC	24(9.45)	28(11.02)	39(15.35)	75(29.53)	88(34.65)
8	Staff Assistance	29(11.42)	25(9.84)	39(15.35)	78(30.71)	83(32.68)
9	Power Backup	30(11.81)	29(11.42)	35(13.78)	76(29.92)	84(33.07)
10	Insufficient no of Terminals	20(7.87)	33(12.99)	36(14.17)	80(31.50)	80(31.50)
11	Location of OPAC	28(11.02)	36(14.17)	34(13.39)	75(29.53)	81(31.89)
12	Slow processing speed	26(10.24)	38(14.96)	36(14.17)	78(30.71)	77(30.31)

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Department of History 28, Dept of Library and Information Science 29, With regard to the Online Public Access Catalogue use for the Faculty of Arts in Alagappa University Female respondents. The findings of the presents study lead to the following observations.

### **Suggestions**

The Library staff can make the use of OPAC easier through good training. So the university libraries should provide special training to learn how to use OPAC effectively. The special training can, certainly, have a positive effect on user search behavior and attitude in using OPAC. The special training should be provided at least four times in a year because the users cannot understand OPAC working by receiving training only one or two times in a year. There is no provision for links to electronic sources/content pages. Therefore it is strongly recommended that the said future must be incorporated in OPAC. Such features may enhance its optimum utilization and also make it more attractive and useful.

### **CONCLUSION**

Majority of the respondents are aware of the online public access catalogue. Most of the respondents were in the fact that, Dept. of Tamil in 27(10.63%), Centre for Tamil culture 28(11.02%), Dept. of Fine Arts 29(11.42%), using the Online Public Access Catalogue used in the female students of Faculty of Arts in Alagappa University. The users are using their OPACs almost regularly and at the same time, they are facing some problems in all the university students surveyed. The problems that they face are lack of awareness about some search options and facilities of OPACs as well as lack of knowledge about using these search options and facilities of OPACs as well as lack of knowledge about using these options and facilities effectively. Therefore a number of different features and user-friendliness of OPACs do not affect greatly the ease of use and satisfaction of users unless the users are aware of full features of search options and facilities as well as they acquire conceptual knowledge and basic skills of using them. It is also felt to have a forum/platform for regular interaction between the user and library staff to overcome the problems related to OPAC and ensure better and optimum use of these services.

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## **KEY TERMS AND DEFINITIONS**

**Internet:** The global system of interconnected computer networks that use the Internet protocol suite (TCP/IP) to link devices worldwide. It is a *network of networks* that consists of private, public, academic, business, and government networks of local to global scope, linked by a broad array of electronic, wireless, and optical networking technologies.

**Online Public Access Catalog (OPAC):** A searching gateway of library collections includes books, thesis, and audio-visual collection. Online library catalog facilitates users to search and reserve the books online. The library OPAC provides advance searching techniques to users in searching material of their area of interest and keep researchers up to date with their area of research.

**Web Search Engine:** A software system that is designed to carry out web search (Internet search), which means to search the world wide web in a systematic way for particular information specified in a textual web search query.

**World Wide Web:** A global collection of documents, images, multimedia, applications, and other resources, logically interrelated by hyperlinks and referenced with uniform resource identifiers (URIs), which provide a global system of named references.

## Chapter 8

# Impact of Social Networking Sites Among College Students With Special Reference to Rural Areas in India

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### **ABSTRACT**

*Social networking sites over the years have changed from a few user-based sites into a phenomena that has become a platform for a huge number of users. However, the growth and development of social networking sites have brought great concerns on parents and educational authorities with respect to potential risks that are facing the university students as they use online social networking frequently for gathering information. The use of social networking sites among the university students requires much attention with increasing number of students creating profile and feeding their personal information into the sites. The increasing activity on the sites by student community can negatively impact the normal activity of students' lives. This can also become a hindrance to the academic development as well as social engagement of students. Therefore, there is a need to study, assess, and evaluate the issues revolving the usage of social networking sites among the student community. The study shows that the distribution of respondents according to their influence of SNS. It shows both section-wise distribution and their composite scores. Also, the table shows the respective mean scores and standard deviation. It may be inferred that 77.50% of the respondents have stated that the influence of SNS are high, 18.55% of the respondents have stated that the influence of SNS is moderate, and 3.95% of the respondents have stated that the influence of SNS is low. However, the composite mean score (2.72), standard deviation (0.530) depicts that the respondents have stated that the influence of SNS is high.*

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## **INTRODUCTION**

Social Networking Sites have been instrumental in contracting the world more than other innovative improvements. Social networking websites like Facebook, MySpace, WhatsApp and YouTube are winding up increasingly prominent and has progressed toward becoming an integral part of regular day to day existence for an expanding number of individuals. In view of their highlights, youngsters are pulled in towards these Social Networking Sites. Modem, broadband, remote and satellite a synchronous email, texting, and transport through interactive media, students have grown up socialized into a world formed by the web and display local and idle instincts and understandings of web innovation obscure to past generations.

The contemporary time frame has been named as the Information Age, Communication Age and the present Networking Age. The web offers a wide assortment of specialized instruments. Billions of individuals use offices like search engines, emails, web pages, e-journals, e-books, e-mails, e-newspapers, internet telephony, multi-media sharing, conferencing, internet banking, blogging, shopping, gaming and online news rooms and all the more imperatively, social networking. Today web is a basic correspondence medium in expert and in addition individual life.

Among the different devices that web has brought our direction Social Networking has turned into a worldwide wonder. A large number of individuals currently use web to take part in social networks. There are in excess of 300 Social Networking Sites (Also known as SNS) and the aggregate number of individuals utilizing Social Networking Sites the world over is 1.73 billion of every 2013 and it will increment to 2.55 billion by 2017. Lately, usage of Social Networking Sites has developed quickly. It took 38 years to pull in 50 million audience members for remote radio framework, 13 years for TV to draw in 50 million watchers; yet in just 4 years the web has pulled in 50 million surfers. Actually, iPods took 3 years to achieve 50 million clients; however Facebook, one of the main Social Networking Sites, included more than 200 million clients in only a year. This demonstrates the entrance limit and prevalence of Social Networking Sites.

## **PURPOSES OF SOCIAL NETWORKING SITES**

The fame of social networks develops quickly continuously. These social sites have turned out to be successful (to a degree) methods for conveying thoughts and sentiments among their clients. Therefore, they are starting to get more consideration from instructive establishments. Gardner (2009) opined that organizations are finding a way to instruct students on the utilization of the sites, particularly in the zones of the protection, lawful issue and potential financial and mental threats. Also, social networking upgrades a student's feeling of network, sharing and joint effort, brings an extra obligation and remaining burden, which a few students find unbendable and rather "forced". This innovation utilizes web cams or voice-just delicate product to hold virtual courses on the web. This is amazingly helpful for coordinated efforts where the accomplices live in various parts of the globe.

Using social networking sites students can convey what needs be impart and gather profiles that feature their ability and experience. According to Konetes and McKeague in 2011, thought of specific disclosures about the employments of the social networking sites particularly, Facebook, the researchers announced that, "students are utilizing Facebook and different channels to build up their personalities,

convictions and positions on different issues, for example, governmental issues, religion, economy and work, and additionally to pioneer and create suggest connections.

## **Uses and Gratification Theory**

“Utilizations and Gratification Theory” researches about what individuals do with the media which is the driven idea of this investigation as well. The investigation is endeavoring to know the usage of social networking sites by the students. Since, it is seen that there is falsehood colossal fame among SNS clients as their four straightforward necessities proposed by scholar are fulfilled at a more prominent degree:

- “Diversion”: People will in general have some redirection from their day by day schedule and obligations. To spruce up their brain or unwind now and then subsequently, social networking sites are a free, simple to get to and engaging stage for them to escape from routine work.
- “Personal Relationship”: Man cannot make due in forlornness. He needs individuals around to see the energy of society. With quick life it is hard to invest genuine energy with companions and relatives. Social Networking Sites gives a virtual time chance to create connections by joining companions on the web and numerous social gatherings.
- “Personality Identity”: One’s identity is made out of thought, emotions and conduct. Through SNS an individual can look for introduction to different occasions as indicated by his inclination prompting advancement of an attractive identity of the prosperity. This helps in discovering increasingly about oneself and associating with more individuals of similar identities. No other medium can interface alike the social networking sites.
- “Surveillance”: Surveillance is a quality embraced and drilled by all being ideal from their initial age. This causes them in learning etiquettes, social conduct, educate to learn and respond. SNS helps finding, breaking down, responding to various wonder circling the surroundings of a man. He isn’t just restricted to his environment however anything at worldwide dimension is open to him through SNS. For e.g. “Aleppo Tragedy, 2016”; “Nirbhaya Case, 2012” “Middle Easterner Spring, 2011” and some more. With the help of this theory it could be comprehended that Social Networking Sites is a prevalent medium among the students and it is going about as a facilitator in building up their frame of mind and conduct.

## **REVIEW OF LITERATURE**

Eyrich, Padman and Sweetser (2008) viewed social media to comprise of various tools like intranets, blogs, podcasts, photo sharing, video sharing, social networks, gaming, wikis, virtual universes, micro blogging/presence applications, content informing, video conferencing, PDAs, text talk, social occasion/ logbook frameworks, social bookmarking, news total/RSS and email.

Lau (2017) stated that upshot of social media use and social media performing various tasks impact the scholarly execution of university students. The exploration found that utilizing social media for scholarly reasons for existing was not an imperative indicator of educational execution as estimated by total review point normal, though utilizing social media for non-academic purposes (video gaming specifically) and social media performs multiple tasks essentially adversely anticipated academic performance.

Thanuskodi (2013) academic libraries cater to the diverse needs of scholars, scientists, technocrats, researchers, students, and others personally and professionally invested in higher education. Due to advancements in information and communication technologies (ICT), the vision and mission of academic libraries are changing in developing countries.

Mahadi, et al., (2016) directed an examination on the effect of social media on Art students' frame of mind from Art and Design Faculty in University Technology Mara, Perak campus. The result uncovers that the greater part of students are progressively associated with social media and they understood the effect of social media in their day by day life and also their demeanour.

Alwagait, Shahzad and Alim (2015) inspected the effect of inordinate social media use on scholastic execution. They also decide out which social network site is the most popular and liked among Saudi students, the thing that students thought about their social media utilization and factors other than social media use which contrarily influence academic performance. The result is invertebrate that there was no direct connection between social media use in a week and GPA score. Students hued that also social media use; time the executives is an angle which influences students 'considers contrarily. The discoveries of the investigation can be utilized to propose the viable plans for enhancing the scholarly execution of the students so that equalization in the unwinding, data trade and scholastic execution can be kept up.

Li and Sakamoto (2014) stated how aggregate conclusion may impact the apparent honesty and the sharing probability of wellbeing related articulations on social media. It was exposed that, when surveying the unwavering quality of an announcement, members embraced the mutual honesty rating associated with the announcement. In like manner, experimentation two demonstrated that the probability that members would share an announcement pursued the aggregate sharing opportunity associated with the announcement. These social effects were boundless, occurring for explanation suspected as questionable, true and false. This result contributed new experiences into how individuals perceive and share data on social media and in addition how aggregate conclusion may influence the nature of data on social media.

Salvation and Azharuddin (2014) opined that Social system sites (SNS) draws in impressive consideration among adolescents and youthful grown-ups who will in general associate and offer basic intrigue. The investigation was structured in approaches to break down the effect of social system sites on students' scholastic execution in Malaysia, utilizing a theoretical methodology. The investigation presumed that more students incline toward the utilization of Facebook and twitter in scholarly related exchanges in supplementing ordinary classroom instructing and learning process.

Maria Paramo, et al., (2014), dissected the degree to which diverse sources and subjective/emotional parts of apparent social help anticipated explicit regions of change in an example of 300 first-year Spain University students. The example achieved the Social Support Questionnaire (SSQ), the Perceived Acceptance Scale (PAS) and the Student Adaptation to College Questionnaire (SACQ). Relapse examination uncovered that apparent social help was a decent indicator of change to school. The affiliation was tough for companions bolster than family bolster once University section review point normal and gender were controlled for. The association between the quantity of accessible others when required and the fulfilment with accessible help with modification was intermediated by apparent feeling of acknowledgment.

Tayseer et al., (2014) in their examination analyzed the impact of use of social networks on students' commitment in both scholarly and social viewpoints. The examination uncovered that students utilize social networks for social purposes more than the scholastics. Students consider social media as amusement networks and it lessens pressure and influences them to disregard scholastics.

Mahat (2014) Lot of writing is accessible now days on the social networking sites and their effect on the youth of any country, youngsters, adolescence and families as amid the most recent 5 years, uti-

lization of such sites has expanded among preadolescents and teenagers. Out of 75% of young people owning mobile phones, 25% use them for social media, 24% use them for texting and 54% use them for messaging. Positive out originates from these advances as employments found through LinkedIn or political activities sorted out by means of Facebook.

Thanuskodi (2013) the present study evaluates the use of library facilities and information resources in university libraries in Tamil Nadu. A survey of 518 students from 5 universities in Tamil Nadu was conducted through a set of questionnaires. The collected data covers the use of library resources, services, (e.g. reference services, photocopying services), etc. The chapter concludes that the main intention for the use of libraries has been the academic interest of the students.

De Andrea, et al., (2012) gave an account of a student focused social media site intended to improve students' view of social help preceding their landing on grounds. Result demonstrated that site utilization enlarged students' discernments that they would have assorted social encouraging group of people amid their first semester at college.

Jahan and Ahmed (2012) considered view of scholarly utilization of social networking sites (SNSs) by the students of University of Dhaka, Bangladesh. That review shows an uplifting demeanour towards scholarly utilization of SNSs by the students. In spite of the fact that there are a few contrasts as far as students' assessments on scholarly uses of SNSs, these distinctions are to a great extent because of the way that the utilization of these sites in scholastic settings is not all around characterized. The higher scholastic establishments need to devise fitting arrangements and methodologies on how they can use social networking sites to help training and learning past the classroom.

Kindi and Alhasmi (2012) lead an investigation "Use of Social networking among Shinas college of Technology students in Oman". The investigation found that the significant purposes behind incessant utilization of SNSs are discovering data and sharing news. The investigation demonstrated that absence of experience and lacking time and IT abilities are viable variables of not utilizing SNSs. At long last, the examination found that Google Groups, Facebook and Yahoo! 360 are the most well known SNSs utilized by SHCT students.

Zhang (2012) investigated undergrads' utilization of social networking sites for wellbeing and health data. Thirty-eight undergrads were met. The meeting transcripts were dissected utilizing the subjective substance investigation strategy. Generally, members were incredulous about the nature of data. In light of the outcomes, a model of students' acknowledgment of social networking sites for wellness and health data was proposed and suggestions for planning social stages to all the more likely help wellbeing request were talked about Using social networking sites for wellbeing and health data is certifiably not a famous conduct among college students in this investigation.

Thanuskodi (2009) India has noteworthy favourable circumstances in the 21st century information race. It has a vast advanced education segment – the third biggest on the planet in student numbers, after China and the United States. By China, India is the most populated nation on the planet. The reason for training is balanced advancement. Students require a mix of expressions, software engineering, science, and humanities or writing courses to accomplish this sort of improvement. A well-managed and well-equipped library is the establishment of present day instructive structure. It is said that training without library administrations resembles a body without soul, a vehicle without a motor, and working with blocks yet no concrete.

Zohoorian-Fooladi and Abrizah (2014) mentioned about the social media nearness in Malaysian scholastic libraries setting and furthermore found that the custodians are utilizing social media for ad-

vancing library administrations, sorting out learning and for getting criticism from clients against their data sources.

Church and deOliveira (2013), discusses WhatsApp as a cross-stage texting application for advanced mobile phones. It empowers clients to send and get area data, pictures, video, sound and instant messages progressively to people and gatherings of companions at no expense.

Paul, Baker and Cochran, (2012) in their exploration on impact of online social networking on students' scholarly execution found that there is factually inconsequential negative connection between time spent by students on online social networking and their scholastic execution.

Chen, et al., (2012) ponder concentrated on how libraries can make cooperation with clients by utilizing social networking sites. This investigation further worried on necessities for libraries to organize different kinds of SNSs as to enhance the proficiency of communicating with clients on social networking sites.

Jacobson (2011) estimated the utilization of Facebook as a library device whether it meets expected objectives of a library with respect to receiving as well as actually using Facebook. He explored the sustainable utilization of social media especially with regards to marketing libraries.

Banquil and Chua (2009) concocted an end that social networking sites do influence one's scholastic execution antagonistically. It specifically causes the progressive drop of evaluations of students. It specifically influences students' scholarly execution if the student puts his time in social networking sites rather than his investigations. Scholastic execution is a multifaceted develop made of three measurements, along these lines, students' attributes, educators'/instructors' skills and the helpfulness of the scholarly condition. The student's viewpoint is the way they manage their investigations and how they adapt to or achieve learning circumstances

Charnigo and Barnett-Ellis (2007) led an investigation into the take-up of Social Networking Sites, specifically Facebook. They reviewed various administrators, some of whom were supportive of Facebook being utilized in libraries to advance administrations and occasions, while most of the libraries were not for Facebook having a presence in libraries by any stretch of the imagination. The after effects of the Charnigo and Barnett-Ellis study might be a sign that the utilization of Social Networking Sites increments as age diminishes, and that albeit no age of the custodians met is referenced in the investigation, that as new curators move into libraries, so the take-up and acknowledgment of Social Networking Sites will increment. This investigation encourages us to discover a utilization design SNS with regards to age.

Ahn (2012), secondary school students are likewise progressively associated with their locale when they take part in social network sites. He presumes that juvenile who utilizes social network sites will likewise report larger amounts of social capital (both holding and connecting). In spite of the way that a great part of the media and training exchanges centre on the negative parts of SNSs, especially the manners by which adolescents utilize these apparatuses to menace their friends. He further composes that while young people may discuss fundamentally with known companions in SNSs, they are additionally presented to the bigger world through their associations. As individuals share connections, thoughts, and media, they are associated with an expansive exhibit of data. As past researchers have estimated, it is conceivable that young person's utilization of SNSs causes them feel associated with the more extensive world past their school and home. Such relationships are identified with the idea of connecting social capital.

Steinfeld et al (2012) explained that bonding social capital is found between people in close relationships, for example, family and dear companions. Holding social capital speaks to the sorts of advantages that emerge from close relationships inside an elite gathering - family and dear friends - and is connected to passionate and social help and additionally substantive unmistakable help like financial loans.



Ahmed and Qazi (2011) mentioned that technological powers like those of developments are solid powers that have shaken up everything, particularly the web in all circles of individual, social and professional human life. Appropriate from the insignificant methods for communication to the running of enormous frameworks, we are using the accommodations given by the presence of web. Innovation is changing the manner in which those individuals communication or interact. New innovations are furnishing more approaches to speak with others and particularly among the young people.

## **RESEARCH OBJECTIVES**

- To know the significance of social networking sites among the students generation.
- To analyze the causal relationship among the study variables identified in the study.
- To provide suggestions for development of students through social networking sites.

### SEM Hypotheses

- $H_{01.1}$  Interactive has no impact on Knowledge management.
- $H_{01.2}$  Socialization has no impact on Knowledge management.
- $H_{01.3}$  Information Sharing has no impact on Knowledge management.
- $H_{01.4}$  Social Awareness has no impact on Knowledge management.
- $H_{01.5}$  Facilitation has no impact on Knowledge management.
- $H_{02.1}$  Interactive has no impact on SNS Threat.
- $H_{02.2}$  Socialization has no impact on SNS Threat.
- $H_{02.3}$  Information Sharing has no impact on SNS Threat.
- $H_{02.4}$  Social Awareness has no impact on SNS Threat.
- $H_{02.5}$  Facilitation has no impact on SNS Threat.
- $H_{03.1}$  Knowledge management has no impact on Students' Achievement.
- $H_{03.2}$  SNS Threat has no impact on Students' Achievement.

## **Analysis and Discussion**

It can be seen from Table 1 that “Gender” obtained the following ratings: 70.2% respondents are male and 29.8% respondents are female.

*Table 1. Gender – wise distribution of respondents*

<b>Particulars</b>	<b>Number of Respondents</b>	<b>Percentage (%)</b>
Male	342	70.2
Female	145	29.8
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data

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It can be seen from Table 2 that “Age” obtained the following ratings: 14.4% respondents are below 20 years, 33.7% respondents are between 20 – 22 years, 48.9% respondents are between 23 – 25 years and 3.1% respondents are above 25 years.

It can be seen from Table 3 that “SNS helps in spend time on sharing information with students having common interest” Obtained the following ratings: 6.6% respondents rated strongly disagree, 6% respondents rated disagree, 11.9% respondents rated neutral, 49.9% respondents rated agree and 25.7% respondents rated strongly agree.

*Table 2. Age- wise distribution of respondents*

<b>Particulars</b>	<b>Number of Respondents</b>	<b>Percentage (%)</b>
Below 20 years	70	14.4
20 – 22 years	164	33.7
23 – 25 years	238	48.9
Above 25 years	15	3.1
<b>Total</b>	<b>487</b>	<b>100</b>

Source: Primary Data

*Table 3. Time spent on sharing information with students having common interest*

<b>Particulars</b>	<b>Number of Respondents</b>	<b>Percentage (%)</b>
Strongly Disagree	32	6.6
Disagree	29	6.0
Neutral	58	11.9
Agree	243	49.9
Strongly Agree	125	25.7
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data

*Table 4. Sharing of learning outcome through SNS*

<b>Particulars</b>	<b>Number of Respondents</b>	<b>Percentage (%)</b>
Strongly Disagree	30	6.2
Disagree	28	5.7
Neutral	62	12.7
Agree	221	45.4
Strongly Agree	146	30.0
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data

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It can be seen from Table 4 that “Sharing of learning outcome through SNS” Obtained the following ratings: 6.2% respondents rated strongly disagree, 5.7% respondents rated disagree, 12.7% respondents rated neutral, 45.4% respondents rated agree and 30% respondents rated strongly agree.

It can be seen from Table 5 that “SNS enables rapid exchange of knowledge” Obtained the following ratings: 9% respondents rated strongly disagree, 15% respondents rated disagree, 23.6% respondents rated neutral, 32.9% respondents rated agree and 19.5% respondents rated strongly agree.

It can be seen from Table 4.26 that “SNS provides collaborative communication through text, audio and video” Obtained the following ratings: 12.5% respondents rated strongly disagree, 2.5% respondents rated disagree, 21.4% respondents rated neutral, 45.2% respondents rated agree and 18.5% respondents rated strongly agree.

It can be seen from Table 4.27 that “SNS acts as a platform for sharing knowledge and creative ideas” Obtained the following ratings: 22.2% respondents rated strongly disagree, 22% respondents rated disagree, 12.9% respondents rated neutral, 33.9% respondents rated agree and 9% respondents rated strongly agree.

It can be seen from Table 4.28 that “SNS helps in promoting social message” Obtained the following ratings: 25.5% respondents rated strongly disagree, 18.7% respondents rated disagree, 13.1% respondents rated neutral, 29.6% respondents rated agree and 13.1% respondents rated strongly agree.

It can be seen from Table 9 that “Social and economic issues are actively supported through SNS” Obtained the following ratings: 10.9% respondents rated strongly disagree, 18.5% respondents rated disagree, 36.6% respondents rated neutral, 23% respondents rated agree and 11.1% respondents rated strongly agree.

*Table 5. SNS enables rapid exchange of knowledge*

Particulars	Number of Respondents	Percentage (%)
Strongly Disagree	44	9.0
Disagree	73	15.0
Neutral	115	23.6
Agree	160	32.9
Strongly Agree	95	19.5
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data

*Table 6. SNS Provides collaborative communication through text, audio and video*

Particulars	Number of Respondents	Percentage (%)
Strongly Disagree	61	12.5
Disagree	12	2.5
Neutral	104	21.4
Agree	220	45.2
Strongly Agree	90	18.5
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data

*Table 7. SNS acts as a platform for sharing knowledge and creative ideas*

Particulars	Number of Respondents	Percentage (%)
Strongly Disagree	108	22.2
Disagree	107	22.0
Neutral	63	12.9
Agree	165	33.9
Strongly Agree	44	9.0
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data

*Table 8. SNS helps in promoting social message*

Particulars	Number of Respondents	Percentage (%)
Strongly Disagree	124	25.5
Disagree	91	18.7
Neutral	64	13.1
Agree	144	29.6
Strongly Agree	64	13.1
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data

It can be seen from Table 10 that “People have used SNS to raise their voice against the bad elements harming people’s culture” Obtained the following ratings: 22% respondents rated strongly disagree, 18.3% respondents rated disagree, 12.5% respondents rated neutral, 35.3% respondents rated agree and 11.9% respondents rated strongly agree.

It can be seen from Table 11 that “Students are socially active and possess social consciousness through social networking sites” Obtained the following ratings: 8% respondents rated strongly disagree, 10.3% respondents rated disagree, 14.8% respondents rated neutral, 41.3% respondents rated agree and 25.7% respondents rated strongly agree.

*Table 9. Social and economic issues are actively supported through SNS*

Particulars	Number of Respondents	Percentage (%)
Strongly Disagree	53	10.9
Disagree	90	18.5
Neutral	178	36.6
Agree	112	23.0
Strongly Agree	54	11.1
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data

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It can be seen from Table 12 that “SNS helps in developing lot of job opportunities for students graduating from universities” Obtained the following ratings: 8.2% respondents rated strongly disagree, 11.3% respondents rated disagree, 15.6% respondents rated neutral, 48.3% respondents rated agree and 16.6% respondents rated strongly agree.

It can be seen from Table 13 that “Able to connect easily with my friends” Obtained the following ratings: 8% respondents rated strongly disagree, 9.7% respondents rated disagree, 15.2% respondents rated neutral, 45.2% respondents rated agree and 22% respondents rated strongly agree.

*Table 10. People have used SNS to raise their voice against the bad elements harming people’s culture*

Particulars	Number of Respondents	Percentage (%)
Strongly Disagree	107	22.0
Disagree	89	18.3
Neutral	61	12.5
Agree	172	35.3
Strongly Agree	58	11.9
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data

*Table 11. Students are socially active and possess social consciousness through social networking sites*

Particulars	Number of Respondents	Percentage (%)
Strongly Disagree	39	8.0
Disagree	50	10.3
Neutral	72	14.8
Agree	201	41.3
Strongly Agree	125	25.7
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data

*Table 12. SNS helps in developing lot of job opportunities for students graduating from universities*

Particulars	Number of Respondents	Percentage (%)
Strongly Disagree	40	8.2
Disagree	55	11.3
Neutral	76	15.6
Agree	235	48.3
Strongly Agree	81	16.6
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data

*Table 13. Able to connect easily with friends*

Particulars	Number of Respondents	Percentage (%)
Strongly Disagree	39	8.0
Disagree	47	9.7
Neutral	74	15.2
Agree	220	45.2
Strongly Agree	107	22.0
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data

It can be seen from Table 14 that “SNS is the source of recreation” Obtained the following ratings: 6.6% respondents rated strongly disagree, 11.3% respondents rated disagree, 14.4% respondents rated neutral, 45.4% respondents rated agree and 22.4% respondents rated strongly agree.

It can be seen from Table 15 that “Social Networking Sites allow users to manage, build and represent their social networks” Obtained the following ratings: 11.7% respondents rated strongly disagree, 15.2% respondents rated disagree, 21.6% respondents rated neutral, 34.1% respondents rated agree and 17.5% respondents rated strongly agree.

It can be seen from Table 16 that “Social networking site enables us to stay connected despite the hindrances of distance and time.” Obtained the following ratings: 18.1% respondents rated strongly

*Table 14. SNS is the source of recreation*

Particulars	Number of Respondents	Percentage (%)
Strongly Disagree	32	6.6
Disagree	55	11.3
Neutral	70	14.4
Agree	221	45.4
Strongly Agree	109	22.4
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data

*Table 15. Social networking sites allow users to manage, build and represent their social networks*

Particulars	Number of Respondents	Percentage (%)
Strongly Disagree	57	11.7
Disagree	74	15.2
Neutral	105	21.6
Agree	166	34.1
Strongly Agree	85	17.5
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data

*Table 16. Social networking site enables us to stay connected despite the hindrances of distance and time*

Particulars	Number of Respondents	Percentage (%)
Strongly Disagree	88	18.1
Disagree	82	16.8
Neutral	80	16.4
Agree	167	34.3
Strongly Agree	70	14.4
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data

disagree, 16.8% respondents rated disagree, 16.4% respondents rated neutral, 34.3% respondents rated agree and 14.4% respondents rated strongly agree.

It can be seen from Table 17 that “Social media poses a liberal environment for students to discuss share their views and opinions easily freely” Obtained the following ratings: 7.8% respondents rated strongly disagree, 11.1% respondents rated disagree, 16.2% respondents rated neutral, 42.9% respondents rated agree and 22% respondents rated strongly agree.

It can be seen from Table 18 that “Social medial can be associated with an increased tendency for students to multitask” Obtained the following ratings: 6.2% respondents rated strongly disagree, 8.2%

*Table 17. Social media poses a liberal environment for students to discuss share their views and opinions easily freely*

Particulars	Number of Respondents	Percentage (%)
Strongly Disagree	38	7.8
Disagree	54	11.1
Neutral	79	16.2
Agree	209	42.9
Strongly Agree	107	22.0
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data

*Table 18. Social medial can be associated with an increased tendency for students to multitask*

Particulars	Number of Respondents	Percentage (%)
Strongly Disagree	30	6.2
Disagree	40	8.2
Neutral	66	13.6
Agree	210	43.1
Strongly Agree	141	29.0
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data

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respondents rated disagree, 13.6% respondents rated neutral, 43.1% respondents rated agree and 29% respondents rated strongly agree.

It can be seen from Table 19 that “SNS is safe place for college students to display personal information” Obtained the following ratings: 6.2% respondents rated strongly disagree, 9.7% respondents rated disagree, 15% respondents rated neutral, 46.2% respondents rated agree and 23% respondents rated strongly agree.

It can be seen from Table 20 that “Students have on-line discussion about your subject” Obtained the following ratings: 4.7% respondents rated strongly disagree, 6.8% respondents rated disagree, 14.8% respondents rated neutral, 50.1% respondents rated agree and 23.6% respondents rated strongly agree.

It can be seen from Table 21 that “Social Networking technology uses web cams or voice-only software to hold virtual seminars online” Obtained the following ratings: 9.4% respondents rated strongly disagree, 17.9% respondents rated disagree, 10.5% respondents rated neutral, 43.7% respondents rated agree and 18.5% respondents rated strongly agree.

It can be seen from Table 22 that “Students use social media in different manners to enhance and strengthen their learning, through reflection and collaborative activities” Obtained the following ratings: 9.4% respondents rated strongly disagree, 11.1% respondents rated disagree, 9.2% respondents rated neutral, 49.1% respondents rated agree and 21.1% respondents rated strongly agree.

It can be seen from Table 23 that “SNS promotes learning, exchanges information and extends moral support” Obtained the following ratings: 10.1% respondents rated strongly disagree, 9% respondents

*Table 19. SNS is safe place for college students to display personal information*

Particulars	Number of Respondents	Percentage (%)
Strongly Disagree	30	6.2
Disagree	47	9.7
Neutral	73	15.0
Agree	225	46.2
Strongly Agree	112	23.0
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data

*Table 20. Students have on-line discussion about your subject*

Particulars	Number of Respondents	Percentage (%)
Strongly Disagree	23	4.7
Disagree	33	6.8
Neutral	72	14.8
Agree	244	50.1
Strongly Agree	115	23.6
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data



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*Table 21. Social networking technology uses web cams or voice-only software to hold virtual seminars online*

Particulars	Number of Respondents	Percentage (%)
Strongly Disagree	46	9.4
Disagree	87	17.9
Neutral	51	10.5
Agree	213	43.7
Strongly Agree	90	18.5
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data

*Table 22. Students use of social media in different manners to enhance and strengthen their learning, through reflection and collaborative activities*

Particulars	Number of Respondents	Percentage (%)
Strongly Disagree	46	9.4
Disagree	54	11.1
Neutral	45	9.2
Agree	239	49.1
Strongly Agree	103	21.1
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data

rated disagree, 10.5% respondents rated neutral, 47.6% respondents rated agree and 22.8% respondents rated strongly agree.

It can be seen from Table 24 that “Students uses social media as a platform of discussions for their assignment and other course work” Obtained the following ratings: 8.4% respondents rated strongly disagree, 9.4% respondents rated disagree, 15.4% respondents rated neutral, 46.8% respondents rated agree and 19.9% respondents rated strongly agree.

*Table 23. SNS promotes learning, exchanges information and extends moral support*

Particulars	Number of Respondents	Percentage (%)
Strongly Disagree	49	10.1
Disagree	44	9.0
Neutral	51	10.5
Agree	232	47.6
Strongly Agree	111	22.8
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data

*Table 24. Students uses social media as a platform of discussions for their assignment and other coursework*

Particulars	Number of Respondents	Percentage (%)
Strongly Disagree	41	8.4
Disagree	46	9.4
Neutral	75	15.4
Agree	228	46.8
Strongly Agree	97	19.9
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data

## TESTING OF HYPOTHESES

**Research Question 1 (RQ1):** Does the dimensions viz. Interactive, Socialization, Information Sharing, Social Awareness and Facilitation have an impact on Knowledge management?

$H_{01.1}$  Interactive has no impact on Knowledge management.

**Analysis:** It can be seen from Table. No 4.64, the p value is greater than the significance level, hence the null hypothesis is accepted.

**Result:** Interactive has a negative impact on Knowledge management.

$H_{01.2}$  Socialization has no impact on Knowledge management.

**Analysis:** It can be seen from Table. No 4.64, the p value is lesser than the significance level, hence the null hypothesis is rejected.

**Result:** Socialization have a positive impact on Knowledge management.

$H_{01.3}$  Information Sharing has no impact on Knowledge management.

**Analysis:** It can be seen from Table. No 4.64, the p value is greater than the significance level, hence the null hypothesis is accepted.

*Table 25. Path analysis (SEM)*

Dimensions	Path	Dimensions	SE	P Value	Result
Knowledge management	<---	Interactive	.049	0.826	Not significant
Knowledge management	<---	Socialization	.049	0.000	Significant
Knowledge management	<---	Information Sharing	.060	0.565	Not significant
Knowledge management	<---	Social Awareness	.061	0.007	Significant
Knowledge management	<---	Facilitation	.050	0.000	Significant

\*\*Significant at 0.01

Table 26. Path analysis (SEM)

Dimensions	Path	Dimensions	SE	P Value	Result
SNS Threat	<---	Interactive	.055	0.661	Not significant
SNS Threat	<---	Socialization	.055	0.006	Significant
SNS Threat	<---	Information Sharing	.068	0.000	Significant
SNS Threat	<---	Social Awareness	.069	0.463	Not significant
SNS Threat	<---	Facilitation	.056	0.000	Significant
Students' Achievement	<---	Knowledge management	.043	0.000	Significant
Students' Achievement	<---	SNS Threat	.040	0.001	Significant

\*\*Significant at 0.01

**Result:** Information Sharing has a negative impact on Knowledge management.

H<sub>01.4</sub> Social Awareness has no impact on Knowledge management.

**Analysis:** It can be seen from Table. No 4.64, the p value is lesser than the significance level, hence the null hypothesis is rejected.

**Result:** Social Awareness has a positive impact on Knowledge management.

H<sub>01.5</sub> Facilitation has no impact on Knowledge management.

**Analysis:** It can be seen from Table. No 4.64, the p value is lesser than the significance level, hence the null hypothesis is rejected.

**Result:** Facilitation has a positive impact on Knowledge management.

**Research Question 2 (RQ2):** Does the dimensions viz. Interactive, Socialization, Information Sharing, Social Awareness and Facilitation have an impact on SNS Threat?

H<sub>02.1</sub> Interactive has no impact on SNS Threat.

**Analysis:** It can be seen from Table. No 4.65, the p value is greater than the significance level, hence the null hypothesis is accepted.

**Result:** Interactive has a negative impact on SNS Threat.

H<sub>02.2</sub> Socialization has no impact on SNS Threat.

**Analysis:** It can be seen from Table. No 4.65, the p value is lesser than the significance level, hence the null hypothesis is rejected.

**Result:** Socialization have a positive impact on SNS Threat.

H<sub>02.3</sub> Information Sharing has no impact on SNS Threat.

**Analysis:** It can be seen from Table. No 4.65, the p value is lesser than the significance level, hence the null hypothesis is rejected.

**Result:** Information Sharing has a positive impact on SNS Threat.

H<sub>02.4</sub> Social Awareness has no impact on SNS Threat.

**Analysis:** It can be seen from Table. No 4.65, the p value is greater than the significance level, hence the null hypothesis is accepted.

**Result:** Social Awareness has a negative impact on SNS Threat.

H<sub>02.5</sub> Facilitation has no impact on SNS Threat.

**Analysis:** It can be seen from Table. No 4.65, the p value is lesser than the significance level, hence the null hypothesis is rejected.

**Result:** Facilitation has a positive impact on SNS Threat.

**Research Question 3 (RQ3):** Does the dimensions viz. Knowledge management and SNS Threat have an impact on Students' Achievement?

H<sub>03.1</sub> Knowledge management has no impact on Students' Achievement.

**Analysis:** It can be seen from Table. No 4.65, the p value is lesser than the significance level, hence the null hypothesis is rejected.

**Result:** Knowledge management has a positive impact on Students' Achievement.

H<sub>03.2</sub> SNS Threat has no impact on Students' Achievement.

**Analysis:** It can be seen from Table. No 4.65, the p value is lesser than the significance level, hence the null hypothesis is rejected.

**Result:** SNS Threat has a positive impact on Students' Achievement.

**Model Fit Indices Summary:** The important fit indices are presented in the Table below.

**Interpretation:** It can be seen from Table 27 the Goodness of Fit Index (GFI) value was 0.967, Adjusted Goodness of Fit Index (AGFI) value was 0.919 and Comparative Fit Index (CFI) value was 0.966. All these values are (greater than 0.9) indicating a very good fit. It was found that Root Mean Score

*Table 27. Models fit indices summary*

Parameters	Acceptable Values for Good Fit	Research Model Values
GFI	>0.9	0.967
AGFI	>0.9	0.919
CFI	>0.9	0.966
RMSEA	<0.06	0.043
RMR	<0.02	0.014

**Source:** Primary Data, SPSS AMOS output, Haier et al. (2009); Hooper et al. (2008); Steiger (2007); Hu and Bentler (1999).

Error of Approximation (RMSEA) value was 0.043 (lesser than 0.06) and Root Mean Square Residual (RMR) value was 0.014 (lesser than 0.02).

## **Suggestions**

Students can be encouraged to utilize SNS appropriately since it advances good communication with their teachers in regards to class work and related educational activities. Social Networking Sites should be utilized for self-improvement, where these sites help in upgrading individuals in their desired fields. Moreover, social sites act as a platform in enabling people to share information on topics with people having common interests.

SNS is highly useful for sharing and trading data and accordingly, it should be utilized to make awareness among individuals in a general public and to associate groups in regards to social issues. The Social Networking Sites can be utilized for the reasons for exchanges on social issues and furthermore to share their very own thoughts and contemplations in addition to creating groups on Social Networking Sites to enhance their academic performance along with entertainment.

Tools that will enable the user to expel their records and also alter their very own posts on the other individuals' must be watched carefully. Automated separating instruments for deciding the authentic substance should be used. Tools for controlling the labeling of pictures delineating them must be utilized by every user. New security programming, for example, perception devices for expanding the usage of protection choices by giving clear portrayals of social networks, companion vicinity, and accessibility of profile highlights. The quality of confirmation technique changes from SNS to SNS. Notwithstanding, so as to keep away from fake and troublesome users, the validation component should be further fortified utilizing extra confirmation factors, for example, using Captchas as double-check validation.

Users should be increasingly cognizant about the data they uncover through their own profiles in online social networks. They additionally need to precisely keep up their profiles through periodical survey and fundamental alteration of the profile substance to guarantee proper exposure of data. Government should start distinctive instructive and awareness raising efforts to illuminate the users to make the reasonable utilization of the Social Networking Sites and in addition to urge the suppliers to create and review security aware with corporate approaches.

## **CONCLUSION**

The use of social networking sites among the university students requires much attention with increasing number of students creating profile and feeding their personal information into the sites. The increasing activity on the sites by student community can negatively impact the normal activity of students' life. This can also become a hindrance to the academic development as well as social engagement of students. Therefore, there is a need to study, assess and evaluate the issues revolving the usage of social networking sites among the student community. The study shows that the distribution of respondents according to their influence of SNS. It shows both section – wise distribution and their composite scores. Also, the table shows the respective mean scores and standard deviation. It may be inferred that, 77.50% percent of the respondents have stated that, the influence of SNS are high, 18.55% of the respondents have stated that, the influence of SNS is moderate and 3.95% of the respondents have stated that, the

influence of SNS is low. However, the composite mean score (2.72), standard deviation (0.530) depicts that the respondents have stated that, the influence of SNS is high.

Based on the findings of the study the faculty members should assist the students with making significant utilization of social networking sites by joining them into their exercises. This should be possible by acquainting the students with the social networking sites that are entirely for scholarly work and research. Both the parents and faculty members should attempt endeavors to urge the students to invest more energy studying their books than on social networking sites. Social Networking Sites ought to be utilized for self-improvement, where these sites upgrade IT abilities and help students to stay in contact with their experts. SNS are the most amazing media for sharing and trading data and accordingly, it ought to be utilized to make mindfulness among individuals in a general public and to associate bunches in regards to social issues. The Social Networking Sites ought to be utilized for the reasons for exchanges on social issues and furthermore to share their very own thoughts and contemplations. The ministry of information and Technology, Government of India should draft regulatory measures to control the workings of social networking sites that are accessible by Indian students.

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## **KEY TERMS AND DEFINITIONS**

**Facebook:** Currently Facebook is the fifth most trafficked site on the internet worldwide and second most trafficked social media site on the world. It was first founded by Mark Zuckerberg in 2004. These are interactive allowing visitors to leave comments, message each other via widgets on the blogs and it is the interactivity that distinguishes them from other static websites. It has affected the social life and activity of people in various ways.

**Social Media Hermit:** Is an individual who avoids any form of online sharing. With the increasing societal pressures to be searchable on social media platforms, the number of social media hermits is constantly declining. One of the headwinds facing social media hermits is the trend for recruiters and human resource professionals to rely on online networks such as LinkedIn to send out new postings, as well as the new emphasis on social media experience in many professional jobs.

**Social Network:** Social network is a broad term used to denote the blogs, user created videos and wikis. A social networking is an online service, platform or site that focuses on building and reflecting of social network or social relations among people who share interests and activities.


**Social Networking Sites:** Social networking site functions like an online community of internet users. People use social networking sites for communication personally as well as professionally to contact with others. Social networking sites like Facebook provides new venues for young LIS Professionals to express themselves and to interact with one another.

**Twitter:** Fast and sometimes furious, certain businesses really thrive on Twitter. If your business is related to entertainment, sports, politics, or marketing, you stand to earn tremendous engagement on Twitter. On Twitter, brands have an opportunity to craft and hone their voice – there's room to be clever and personable in addition to informative and helpful.

## Chapter 9

# Usage of Social Networking Sites Among Post Graduate Students

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### ABSTRACT

*Social networking sites over the years have changed from a few user-based sites into a phenomena that has become a platform for a huge number of users. However, the growth and development of social networking sites have brought great concerns on parents and educational authorities with respect to potential risks that are facing the university students as they use online social networking frequently for gathering information. The risk associated with social networking sites when used for oral communication rather than face-to-face communication results in damaging interpersonal communication among the users. The results obtained from this study have shown that a reasonable number of university students use the social networking sites. Therefore, the popularity of the social networking usage by university students of Tamil Nadu and the benefits it has on the student-users have been confirmed from the findings of this study. There are also various purposes for which the students use the social networking sites to achieve and that have been investigated. Technology is a double-edged sword. Its power for bad and good resides in the users. Based on this, it is instructive to note that the relevant government authorities have to take good measures to ensure that they (student) are made to be aware of how and why they use the social networking sites.*

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## **INTRODUCTION**

Social Networking Sites are integrated into everyone's life. Man cannot live without society. Family is the primary spot for figuring out how to be in the gathering. Gatherings likewise stretch out to class, college, work place, playground and so forth. In ongoing year's new relationship began with the entry of artificial machines called PC and web. Individuals talk, offer and trade their delights, distresses, everyday happenings, instruction, relationship and so on, with the assistance of desktop through online Social Networking Sites.

The innovative progression had made an extraordinary and huge effect in the general public and particularly on the more youthful age. This logical headway is helping from basic assignment in making the work and occupation simpler. Computer turned into an unimaginable device in the realm of correspondence. The creative progression of the PC and web in the age enables the general population to impart even they are of million miles from one another. Once we were very much aware of pen-companions from different parts of the world. Without knowing one another, individuals had contact abroad. Clearly, by and by the history refreshes as Social Networking Sites. Today the friendship ratios among the young genes have broadened across the sea.

## **BACKGROUND OF THE STUDY**

In the most recent years of the twentieth century, the world and particularly India saw a wonderful and quick headway in data and correspondence advancements. In this time, "correspondence" has developed as the most well-known term. Today the correspondence upset has united individuals paying little heed to geological limits. The need to convey is a piece of an individual's inborn being. Since the very beginning mankind has imparted utilizing distinctive procedures and strategies. Conditions and accessible innovation have directed the technique and methods for correspondences. Subsequently, every once in a while new communication technologies have been developed for better individual and also for mass correspondence. With the approach of the printing innovation the new time of mass correspondence started. At that point the innovation of wireless communication came into existence – Radio was found. Afterward, the creation of Television had an enormous effect around the world.

## **SOCIAL NETWORKING SITES (SNS)**

A social networking site can be characterized as online administrations that enable people to: a. Build a public or semi-public profile inside a limited framework b. Explain a rundown of different clients with whom they share an association c. View and cross their rundown of associations and those made by others inside the framework. Christian Fuchs characterizes Integrated social networking sites (ISNS) as an electronic stages that coordinate distinctive media, data and correspondence advancements, that permit at any rate the age of profiles that show data that depicts the clients, the presentation of associations (association list), the foundation of associations between clients that are shown on their association records, and the communication between clients. Online social networking sites permits the multimodal client produced substance to be shared Social networking sites are applications that empower clients to interface by making individual data profiles, welcoming companions and associates to approach those

profiles, and sending messages and texts between one another. These individual profiles can incorporate any kind of data, including photographs, video, sound records, and web journals.

An online social networking site can be formally characterized as an online social network which has limited arrangement of on-screen characters and ties between the on-screen character. Every actor is characterized by ID. Each ID has a corresponding client's profile. This client profile gives some data about the genuine performer. A social networking site utilized to keep up a current disconnected tie between on-screen characters, (changing over a disconnected to online tie). It can likewise be utilized to make online tie between the performing artists where no disconnected tie exists. Social networking site may join highlights of other online social networks like web journals, email, gatherings. The performing artist speaks with one another sharing multimodal digital content.

A social networking site is utilized for keeping up solid and in addition weak ties. The quality of weak is likewise appropriate on online social networking sites. Online social networking sites (OSNS) is a subset of online social network and which thusly is a subset of social network, every one of the properties of social network and online social network are acquired by OSNS. Alternate properties might be the social networks that are vast scale network: - The span of online social networking sites (OSNS) is high. For example social networking site Facebook has progressively 1550 Million enlisted dynamic clients. A few on-screen characters in online social networking sites has high degree (in-degree and out degree in the event of bi-directional network).

## **Growth of Social Networking Sites**

The quantity of social networking sites is expanding step by step and quantities of clients of the well-known sites is likewise developing. In 2007, social networking as a class had fewer than 500 million clients speaking to 58% of World online Population. In 2011 it had developed to 1.2 billion clients speaking to 82 percent of World online Population. From that point forward social networking is most well-known online action worldwide. The clients of age group 15 to 24 were most exceedingly engaged group of individuals spending about 8 hours of time each day on these sites. More seasoned clients bunch was additionally quickest developing fragment. Popularity of smart phones has brought about the development of versatile social network clients. In 2011, India's online gathering of people was 45.9 million and 94.8% of the online clients visit social networking sites. The normal time spent on these sites was 3.4 hours. By 2013 India has turned out to be third biggest purchaser of web beside US and china achieving 73.9 million clients. Social network was still most number one online action. 75% of the clients of web clients where between the age gathering of 15 to 35 years and 86% of Indian web client visit social networking sites. As indicated by the report of Internet and Mobile Association of India (IAMAI) about 74% of all Active Internet clients in Urban India utilize social media, most noteworthy extent of social media usage was seen among the statistic portions of Young Men and College Going Students, with 84% and 82% entrance levels separately.

## **Benefits of Social Networking Sites for Students**

Being included with a Social Networking Site gives students numerous advantages. Following are some of the operations in which students get engaged with social networking sites:

## **Usage of Social Networking Sites Among Post Graduate Students**

- **Create Profile:** Social Networking Sites give highlights to make new profiles which are filled by true to life subtleties, photographs or recordings, and their zones of intrigue.
- **Upload Videos/Photos:** These sites encourage transferring of photographs, recordings and imparting to other people. The clients can advance their very own recordings by utilizing this medium.
- **Creating and Advertising Events:** The occasions making or joining highlights of SNS allow the client to advance gatherings, workshops, meetings or social events that will be facilitated. For example, various clients make occasions on lislinks.com in regards to participation of a specific meeting or class by the individuals.
- **Group Searching/Joining:** People can seek different sorts of bunches identified with various fields and join these that are identified with their fields of intrigue. There are different kinds of gatherings accessible on Social Networking Sites, for example, proficient related, social based, form related, innovation, news, library related, social affiliations, human rights, shopping, show-casing, training, sports and the travel industry.
- **Friend Searching/Adding:** It likewise encourages the inquiry for specific kinds of companions and sends friend requests to be part of friends' list.
- **Message Post:** This is the most advantageous approach to communicate with companions through post hostile to send messages over.
- **Chatting:** Social Networking Sites offer the office of messaging and video based talking with their companions.
- **Games:** They give various sorts of gaming offices. Anybody can turn into a part and access office on their particular page.
- **Appearance and Layout:** Users can make their decision based appearances of individual pages on these sites. They can likewise modify their substance on sites before showing it to other people.
- **Tagging:** It is the way toward giving a catchphrase to specific substance to portray it as indicated by possess capacities and offer it with others. The clients can label explicit data to their companions.
- **Download applications:** It is a little program which is made by the clients for different purposes.

## **Statement of the Problem**

Social networking sites, over the years have changed from few user based sites into a phenomena that has become a platform for huge number of users. However, the growth and development of social networking sites have brought great concerns on parents and educational authorities with respect to potential risks that are facing the university students as they use online social networking frequently for gathering information.

The risk associated with social networking sites when used for oral communication rather than face-to-face communication results in damaging interpersonal communication among the users. Although social networking brings convenience in connecting with people far away, it causes addiction and establishes a feeling of loneliness, insensitivity and disconnection with the real world. It is significant to choose the social networking site prior creating our profile and entering personal details for the risk of privacy. Hence, the present study discusses the usage of social networking sites and its prospects and challenges for university students of Tamil Nadu.

## **Need for the Study**

The use of social networking sites among the university students requires much attention with increasing number of students creating profile and feeding their personal information into the sites. The increasing activity on the sites by student community can negatively impact the normal activity of students' life. This can also become a hindrance to the academic development as well as social engagement of students. Therefore, there is a need to study, assess and evaluate the issues revolving the usage of social networking sites among the student community.

## **REVIEW OF LITERATURE**

Singh and Kumar (2013) from Punjab University directed an investigation to gauge the use of social networking among their research students. The discoveries of the investigation demonstrates that larger part of the respondents were observed to know and making utilization of social media in their exploration work. Their examination additionally uncovers that Facebook is the most well known social networking locales among the exploration researchers. American young people go through normal 3.8 hours daily on social networking from a PC, cell phone as well as tablet.

Walsh et al. (2013) found that female first-year college students go through almost 12 hours daily utilizing social media by and large. Also they found a relationship between lower GPAs and higher social media use. The researchers additionally found the utilization of a few sorts of social media has gainful impacts, such as helping students recognize a sense of identity and establish networking skills.

Manjunatha (2013) explained 80% of the students investing impressive measure of energy in utilizing social networking sites routinely. Dominant part of Indian students (62.6%) spent up to 10 hours out of every week of their time on utilizing social networking sites and apparently 17.5% of students went through over 10 hours a week

Stollak et al. (2011) revealed that 78.3% of students spent major time on Facebook networking site while 77.2% among them spent over 30 minutes per day browsing the site. It was also demonstrated that over 75% of web clients in India are school and college going students. Among them, 89% of students use it for email and social networking.

Su, (2011) cites in his articles that Professor Christine Greenhow has discovered that students assemble essential bonds when they interface with school companions on Social Networking Sites. "At the point when students feel associated and have a solid feeling of having a place with the instruction network, they improve the situation in the instructive establishments," said Greenhow, a training teacher. "They endure in training at higher rates and accomplish at higher rates. It's really encouraging that taking part in Social Networking Sites could assist them with developing and extend their bonds after some time." Greenhow recognizes there are potential entanglements, yet says it's limited to overlook the positive angles. She has contemplated youthful Internet propensities since 2007, and found that secondary school students are boosting their inventiveness and specialized abilities through the sites.

Hargittia's (2008) investigation of undergrads SNS utilization recognizes the distinction of the individuals who are SNS clients, and all the more explicitly are Facebook clients. The examples from the University of Illinois demonstrated that 88% of them were SNS clients, with 78.8% of that rate being Facebook clients

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Dwyer et al., (2007) contemplated how trust in a specific site and different individuals can influence client's readiness to share data and grow new connections. The connection between web protection concerns and readiness to share data and grow new connections was examined. The investigation led with an examination of Facebook and MySpace. The outcomes demonstrated that online kinships can create in sites where trust perceived is low and security of protection is insignificant. The comparative study uncovered fascinating similitude and contrasts between the two sites.

Dwyer, Hilts and Widmeyer (2008) discovered that dynamic investment in contemporary society is winding up progressively dependent on computerized advances, a pattern that demonstrates that Social Networking Sites, an innovation installed in the everyday lives of a great many individuals around the world.

Hargittai (2007) says that the decision of social networking site utilized may increment both advanced and social disparity. In which she says that there is an advanced gap among the relatives, relatives and companions circle. The imbalance is extremely distinctive that individuals who use PC for web and different facilities. .

Acar and Sheldon (2008) reported that as a normal Facebook client has a few times a larger number of companions on Facebook than, all things considered, in light of an apparent lower danger of tolerating new individuals, simplicity of asking for an enrolment, social attractive quality (positive sentiment of online ubiquity) and inability to reject individuals who are never again reached.

Lenhart and Madden (2007) have led a study for Pew Internet and American Life Project among the US youth and found that half of the considerable numbers of young people who approach the web utilize Social Networking Sites. Among this 66% say that their site is limited or private. 48 percent of them visit the site once in multi day

Telwall and Halser (2007) directed an investigation on the weblog. The center goal of the examination was to explore the abilities and constraints of weblog search engines. Evaluative examination was embraced for this specific investigation. From the discoveries it was reasoned that in spite of the fact that blog seeking was a helpful new method, looking the consequences of discoveries were sensitive to the decision of internet searcher. The outcome demonstrates that from individual to individual. The utilization of parameter, search engine and amount of spam varies with one another.

Acquisti and Gross (2006) carried out a study, titled "Imagined communities Awareness, information Sharing and Privacy on Facebook", to comprehend hidden statistic or social contrasts between the networks of the system's individuals and non-individuals and effect of privacy concerns on behaviour of the member. In this examination, the specialists discovered that age and status of students are the most essential factors in deciding the Facebook participation, however the security concerns likewise play a role, yet just for non-graduate students. Majority of the individuals know about the perceivability of their profiles and they depend without anyone else capacity to control the data they scatter. In any case, they archive huge divisions between explicit protection concerns and revelation behaviour with actual information.

Boyd's (2006) reports Friendster's popularity get under way on an influx of advancement here. Friendster ought to have ruled the market, yet what it picked up by being the first to accomplish sensible achievement, it lost through a progression of specialized and social stumbles, most strikingly the organization's assurance to arrange how its initial adopters drew in with the site.

El-Badawy & Hashem (2015), as they would like to think the more youthful age examined in this exploration paper are school students between the ages of 12 to 19 years of age. A couple of the stages they use are Facebook, YouTube, Google, and numerous others that will be talked about in the discov-



eries of this exploration. The more youthful age is the people that will lead our reality later on, they should be accomplished to have the capacity to affect this world and improve Egypt a nation making a course for progress. The investigation directed about the diverse things they are presented to, that may influence them adversely or emphatically. Their examination means to evaluate the recurrence at which the students are social networking, and whether it has any impact on their scholastic execution

Piotrowski (2015) intended to examine the measure the extent of the exploration space of instruction typology by directing a substance investigation of exposition inquire about around there. A watchword hunt of the term (Social Media) yielded 662 studies spoke to in ProQuest's Dissertations and Theses database. The creator condensed the real result discoveries of 29 expositions that had an explicit spotlight on SM-Education issues. Of these, just 2 thinks about revealed any negative perspectives by either students or personnel on the execution of SM stages for scholastic purposes. Educators' absence of adequacy in Web 2.0 technology, security issues, and information over-burden were the real concerns noted. As these outcomes depend on territories of investigatory enthusiasm of youthful scientists, the flow discoveries give an indicator of developing patterns with respect to basic issues in Social Media-Education research.

Subramani (2015) analyzed the scholastic utilization of social media applications by college students, and to contemplate the use of different scholarly uses of social media by the college students. The number of inhabitants in the investigation comprised of thirteen noteworthy order of students in Doctoral, M Phil and Master Branches. The sample size of the examination included 482 students chose through helpful inspecting method. The organized survey was utilized for data collection.

Helou and Mahamat (2014) endeavoured to get students' discernments on how their utilization of social networking sites impacts their scholarly execution and led a primer review of a gathering of Malaysian college student to accumulate beginning discoveries on their utilization of social networking sites and its effect on their scholastic execution. This investigation found that the majority of respondents concurred that social networking sites positively affect their performance academic wise.

Nee and Ken (2014) examined the effects of fusing Edmodo as educational system, into a classroom setting on the scholastic accomplishment of Biology students dependent on three sorts of reasonable dimension contains immediate, basic, and complex idea. The outcomes showed that students that were told by the guidance with mediation played out a bigger on the gain scores of all the three psychological dimensions; than those taught by the customary methodologies. This instructive system will saturate all aspects of the educational modules as another worldview of educating devices.

Kulandairaj (2014) said that social media underpins communication among individuals in which they make offer or trade data and thoughts in virtual networks and networks; it relies upon portable and online advancements to make very intuitive stages. They acquaint generous and inescapable changes with correspondence between associations, networks, and people, the expanded utilization of the Internet as another device in correspondence has changed the manner in which individuals interface. As of late, another method for online communication has risen with its own arrangement of quirks. This new communication style occur using social networking site.

Steiner (2012) stated that heap of existing stages for social media fluctuate in reason, target group and prominence. Habitually referenced among them in this investigation are Facebook, Twitter, LinkedIn, YouTube and Tumblr. For example, a composition concentrated course incorporated an address on the significance of social media stages, similar to Twitter. It was joined by an activity where we were required to compose tweets in a breaking news style. In another course, the educator set up a Facebook page used to share recordings and additionally give refreshes about the class. Being in classes and tuning in to boards and meetings that fused social media or that supported this sort of joining made her think

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about how different schools moved toward the contraption and how it was being coordinated into their projects, educational module and online presence.

Thanuskodi (2013) academic libraries cater to the diverse needs of scholars, scientists, technocrats, researchers, students, and others personally and professionally invested in higher education. Due to advancements in information and communication technologies (ICT), the vision and mission of academic libraries are changing in developing countries.

Dutta (2011) "Social Responsibility of Media and Indian Democracy" expresses that broad communications have affected human life in the present century in various structures. They have given data and diversion to individuals crosswise over nations. Print media, being the pioneer over an extensive timeframe has now got solid rivalry from Television media, which is in charge of a considerable lot of the social changes. The principle open intrigue rules that the media need to consider incorporate opportunity of distribution, majority in media proprietorship, decent variety in data, culture and feeling, bolster for the law based political framework, bolster for open request and security of the state, all inclusive achieve, nature of data and culture spread to the general population, regard for human rights and keeping away from mischief to people and the general public. Advising the subjects about the improvements in the general public and helping them to settle on educated decisions, media helps majority rules system to work in its actual spirit.

Yoo and Gretzel (2010) accentuated that it is important to look at the ramifications of identity with regards to social media since it has been observed to be an imperative factor affecting a wide assortment of human practices and decisions.

Kaplan and Haenlein (2010) characterized social media as "a gathering of Internet-put together applications that work with respect to the ideological and innovative establishments of Web 2.0, and that permit the creation and trade of User Generated Content". Kaplan and Haenlein then ordered social media into six noteworthy sorts dependent on a lot of hypotheses, which are media explore (media extravagance hypothesis and social presence), and social procedures (self-introduction and self-revelation), in particular cooperative activities, sites, content networks, social networking sites, virtual amusement universes and virtual social universes. Kaplan and Haenlein even recognized social media from Web 2.0 and user-generated content

Taylor and Kent (2010) opined that social media instruments incorporate intelligent social networking sites, and also blogs, digital recordings, message boards, online recordings and picture albums, and cell phone cautions. In addition, social media are viewed as easy to use, modest, adaptable web and versatile based advances that take into consideration the sharing of user-generated materials.

Thanuskodi (2013) this chapter reports the result of a survey conducted at Annamalai University to determine the extent to which users are aware and make use of e-journals. The study also examines the search pattern of e-journals. A questionnaire was distributed among the faculty members, research scholars, and post-graduate students to collect desired data. A total of 200 questionnaires were distributed to the selected sample of Faculty of Engineering and Technology; 180 valid samples were collected. The result reveals that 46.67% of respondents want to access only electronic version of journals, whereas only 23.88% of users want to read the printed journals, but 29.45% of respondents want to use both electronic and printed journals. The study found that most of the respondents 73.33% use e-journals for writing papers. 68.33% of respondents use e-journals for studying their course work, and 51.11% of respondents use them for research work. The analysis reveals that most of the respondents, 73.33%, use e-journals for writing papers.

Curtis et al. (2010) considered the selection of social media by PR professionals in the non-profit organizations by utilizing the Unified Theory of Acceptance and Use of Technology (UTAUT). Their survey estimated social media reception with relations to execution anticipation, exertion hope, social impact, encouraging conditions, and wilfulness of utilization, self-viability and anxiety. They found that social media apparatuses are getting to be gainful techniques for correspondence for PR experts and associations with characterized PR divisions are bound to receive social media advancements and use them to accomplish their authoritative objectives. Nevertheless, PR professionals are bound to utilize social media devices on the off chance that they discover them realistic.

Mahajan (2009) in the paper entitled Use of social networking in a linguistically and literally rich India' investigated the use, effect and issues identified with Social Networking sites and their effect on the social and cultural ethics of India. It also described the top most social networking websites of India alongside their awful and great elements.

## **RESEARCH OBJECTIVES**

- To know the significance of social networking sites among the students generation
- To study the impact of social networking sites on university students
- To determine the benefits obtained from using the social media
- To ascertain the threats involved in using social media platform by the students

### Research Question

1. Research Question 1 (RQ1): Does the dimensions viz. Interactive, Socialization, Information Sharing, Social Awareness and Facilitation have an impact on Knowledge management?
2. Research Question 2 (RQ2): Does the dimensions viz. Interactive, Socialization, Information Sharing, Social Awareness and Facilitation have an impact on SNS Threat?
3. Research Question 3 (RQ3): Does the dimensions viz. Knowledge management and SNS Threat have an impact on Students' Achievement?

### Hypotheses

- H<sub>01</sub>: There is no significant difference between age groups with regards to the Interactive, Socialization, Information Sharing, Social Awareness, Facilitation, Knowledge Management, SNS Threat and Students Achievement.
- H<sub>02</sub>: There is no significant difference between degree pursuing groups with regards to the Interactive, Socialization, Information Sharing, Social Awareness, Facilitation, Knowledge Management, SNS Threat and Students Achievement.

## **Analysis and Discussion**

It can be seen from Table 1 that "Gender" obtained the following ratings: 70.2% respondents are male and 29.8% respondents are female.

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Table 1. Gender – wise distribution of respondents

Particulars	Number of Respondents	Percentage (%)
Male	342	70.2
Female	145	29.8
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data

It can be seen from Table 2 that “Age” obtained the following ratings: 14.4% respondents are below 20 years, 33.7% respondents are between 20 – 22 years, 48.9% respondents are between 23 – 25 years and 3.1% respondents are above 25 years.

It can be seen from Table 3 that “Degree Pursuing” obtained the following ratings: 39.6% respondents are UG, 51.1% respondents are PG and 9.2% respondents are others.

It can be seen from Table 4 that “Are you member of any social networking sites” obtained the following ratings: 94.5% respondents are yes and 5.5% respondents are no.

Table 2. Age- wise distribution of respondents

Particulars	Number of Respondents	Percentage (%)
Below 20 years	70	14.4
20 – 22 years	164	33.7
23 – 25 years	238	48.9
Above 25 years	15	3.1
<b>Total</b>	<b>487</b>	<b>100</b>

Source: Primary Data

Table 3. Education-wise distributions of respondents

Particulars	Number of Respondents	Percentage (%)
UG	193	39.6
PG	249	51.1
Others	45	9.2
<b>Total</b>	<b>487</b>	<b>100</b>

Source: Primary Data

Table 4. Memberships of social networking sites

Particulars	Number of Respondents	Percentage (%)
Yes	460	94.5
No	27	5.5
<b>Total</b>	<b>487</b>	<b>100</b>

Source: Primary Data

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It can be seen from Table 5 that “Which of the following Social Networking Sites do you use” obtained the following ratings: 34.9% respondents says Facebook, 7.4% respondents says twitter, 5.5% respondents says Linked in, 1.8% respondents says Pinterest, 3.7% respondents says Google+, 9.2% respondents says Instagram, 24.4% respondents says WhatsApp and 12.9% respondents says You tube.

It can be seen from Table 6 that “Reasons for using social media by university students” obtained the following ratings: 27.7% respondents says Learning, 7.4% respondents says Events, 7.6% respondents says Networking, 2.7% respondents says Entertainment, 6.8% respondents says Chatting With Friends, 10.5% respondents says Obtaining Information, 22.6% respondents says Sharing Information, 12.1% respondents says killing time and 2.7% respondents says others.

It can be seen from Table 7 that “Problems faced by students using Social Media Sites” obtained the following ratings: 18.5% respondents says Electricity, 24.6% respondents says Bandwidth, 30.8%

*Table 5. Most preferred use of social networking sites*

<b>Particulars</b>	<b>Number of Respondents</b>	<b>Percentage (%)</b>
Face book	170	34.9
Twitter	36	7.4
Linked in	27	5.5
Pinterest	9	1.8
Google+	18	3.7
Instagram	45	9.2
WhatsApp	119	24.4
You tube	63	12.9
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data

*Table 6. Reasons for using social media*

<b>Particulars</b>	<b>Number of Respondents</b>	<b>Percentage (%)</b>
Learning	135	27.7
Events	36	7.4
Networking	37	7.6
Entertainment	13	2.7
Chatting With Friends	33	6.8
Obtaining Information	51	10.5
Sharing Information	110	22.6
Killing Time	59	12.1
Others	13	2.7
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data

## Usage of Social Networking Sites Among Post Graduate Students

Table 7. Problems faced while using social media sites

Particulars	Number of Respondents	Percentage (%)
Electricity	90	18.5
Bandwidth	120	24.6
Time management	150	30.8
Infrastructure	55	11.3
Privacy	36	7.4
Bullying	9	1.8
Physical Problems	27	5.5
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data

respondents says Time management, 11.3% respondents says Infrastructure, 7.4% respondents says Privacy, 1.8% respondents says Bullying, and 5.5% respondents says Physical Problems.

It can be seen from Table 8 that “Number of hours spent using SNS by university students” obtained the following ratings: 12.9% respondents says Less than 30 minutes, 29.6% respondents says 30 min to 2 hours and 57.5% respondents says Above 2 hrs.

**Inference:** “Above 2 hours” dominates the rating for “Number of hours spent using SNS by university students”.

It can be seen from Table 9 that “Location” obtained the following ratings: 33.7% respondents are in Urban, 53.4% respondents are in Semi-urban and 12.9% respondents are in Rural.

Table 8. Time spent for using SNS by university students

Particulars	Number of Respondents	Percentage (%)
Less than 30 minutes	63	12.9
30 min to 2 hrs	144	29.6
Above 2 hrs	280	57.5
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data

Table 9. Nativity -wise distribution of respondents

Particulars	Number of Respondents	Percentage (%)
Urban	164	33.7
Semi-urban	260	53.4
Rural	63	12.9
<b>Total</b>	<b>487</b>	<b>100</b>

Source: Primary Data

### **Usage of Social Networking Sites Among Post Graduate Students**

It can be seen from Table 10 that “Students interact about the society through SNS” obtained the following ratings: 5.5% respondents rated strongly disagree, 4.3% respondents rated disagree, 12.7% respondents rated neutral, 50.9% respondents rated agree and 26.5% respondents rated strongly agree.

It can be seen from Table 11 that “Virtual interactions for sharing research findings by the university students” obtained the following ratings: 7.2% respondents rated strongly disagree, 6.8% respondents rated disagree, 15.2% respondents rated neutral, 42.3% respondents rated agree and 28.5% respondents rated strongly agree.

It can be seen from Table 12 that “There is convergence of personal and professional network through SNS” obtained the following ratings: 10.9% respondents rated strongly disagree, 16.2% respondents

*Table 10. Students interaction with society through SNS*

Particulars	Number of Respondents	Percentage (%)
Strongly Disagree	27	5.5
Disagree	21	4.3
Neutral	62	12.7
Agree	248	50.9
Strongly Agree	129	26.5
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data

*Table 11. Virtual interactions for sharing research findings*

Particulars	Number of Respondents	Percentage (%)
Strongly Disagree	35	7.2
Disagree	33	6.8
Neutral	74	15.2
Agree	206	42.3
Strongly Agree	139	28.5
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data

*Table 12. Convergence of personal and professional network through SNS*

Particulars	Number of Respondents	Percentage (%)
Strongly Disagree	53	10.9
Disagree	79	16.2
Neutral	131	26.9
Agree	141	29.0
Strongly Agree	83	17.0
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data

### **Usage of Social Networking Sites Among Post Graduate Students**

rated disagree, 26.9% respondents rated neutral, 29% respondents rated agree and 17% respondents rated strongly agree.

It can be seen from Table 13 that “Many SNS are competing to give the best features in terms of socialization, interaction, privacy and entertainment” obtained the following ratings: 6.4% respondents rated strongly disagree, 8% respondents rated disagree, 17.7% respondents rated neutral, 45% respondents rated agree and 23% respondents rated strongly agree.

It can be seen from Table 14 that “SNS is largely used for socializing with friends as well as interacting with lecturers” obtained the following ratings: 16.6% respondents rated strongly disagree, 9% respondents rated disagree, 21.1% respondents rated neutral, 42.1% respondents rated agree and 11.1% respondents rated strongly agree.

It can be seen from Table 15 that “Helping you to maintain friendships” obtained the following ratings: 11.1% respondents rated strongly disagree, 14% respondents rated disagree, 10.5% respondents rated neutral, 44.6% respondents rated agree and 19.9% respondents rated strongly agree.

It can be seen from Table 16 that “Social media usage should not be blocked in educational institution” obtained the following ratings: 4.5% respondents rated strongly disagree, 4.7% respondents rated disagree, 14.4% respondents rated neutral, 52% respondents rated agree and 24.4% respondents rated strongly agree.

It can be seen from Table 17 that “Improving communication skills” obtained the following ratings: 18.5% respondents rated strongly disagree, 18.3% respondents rated disagree, 15.2% respondents rated neutral, 30% respondents rated agree and 18.1% respondents rated strongly agree.

*Table 13. SNS Features in terms of socialization, interaction, privacy and entertainment*

<b>Particulars</b>	<b>Number of Respondents</b>	<b>Percentage (%)</b>
Strongly Disagree	31	6.4
Disagree	39	8.0
Neutral	86	17.7
Agree	219	45.0
Strongly Agree	112	23.0
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data

*Table 14. SNS is largely used for socializing with friends as well as interacting with lecturers*

<b>Particulars</b>	<b>Number of Respondents</b>	<b>Percentage (%)</b>
Strongly Disagree	81	16.6
Disagree	44	9.0
Neutral	103	21.1
Agree	205	42.1
Strongly Agree	54	11.1
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data



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It can be seen from Table 18 that “SNS has impacted your social life” obtained the following ratings: 16% respondents rated strongly disagree, 20.9% respondents rated disagree, 15.4% respondents rated neutral, 29.8% respondents rated agree and 17.9% respondents rated strongly agree.

It can be seen from Table 19 that “SNS helps in participating political parties, volunteering with civil society and students organizations” obtained the following ratings: 7.8% respondents rated strongly disagree, 9.4% respondents rated disagree, 13.3% respondents rated neutral, 52.2% respondents rated agree and 17.2% respondents rated strongly agree.

It can be seen from Table 20 that “Students develop virtual interpersonal relationships through SNS” obtained the following ratings: 9.9% respondents rated strongly disagree, 15.2% respondents rated dis-

*Table 15. Helping to maintain friendships*

Particulars	Number of Respondents	Percentage (%)
Strongly Disagree	54	11.1
Disagree	68	14.0
Neutral	51	10.5
Agree	217	44.6
Strongly Agree	97	19.9
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data

*Table 16. Social media usage should not be blocked in educational institution*

Particulars	Number of Respondents	Percentage (%)
Strongly Disagree	22	4.5
Disagree	23	4.7
Neutral	70	14.4
Agree	253	52.0
Strongly Agree	119	24.4
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data

*Table 17. Improving communication skills*

Particulars	Number of Respondents	Percentage (%)
Strongly Disagree	90	18.5
Disagree	89	18.3
Neutral	74	15.2
Agree	146	30.0
Strongly Agree	88	18.1
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data

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Table 18. Impact of SNS with social life

Particulars	Number of Respondents	Percentage (%)
Strongly Disagree	78	16.0
Disagree	102	20.9
Neutral	75	15.4
Agree	145	29.8
Strongly Agree	87	17.9
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data

Table 19. SNS helps in participating political parties, volunteering with civil society and students organizations

Particulars	Number of Respondents	Percentage (%)
Strongly Disagree	38	7.8
Disagree	46	9.4
Neutral	65	13.3
Agree	254	52.2
Strongly Agree	84	17.2
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data

agree, 13.1% respondents rated neutral, 40.9% respondents rated agree and 20.9% respondents rated strongly agree.

## Suggestions

University students should involve themselves in forming a group or community which would focus on their studies in helping them to learn and acquire new information. The students should be taught enough to limit the time spent on social networking sites. Parents can likewise provide guidance and screen their

Table 20. Students develop virtual interpersonal relationships through SNS

Particulars	Number of Respondents	Percentage (%)
Strongly Disagree	48	9.9
Disagree	74	15.2
Neutral	64	13.1
Agree	199	40.9
Strongly Agree	102	20.9
<b>Total</b>	<b>487</b>	<b>100.0</b>

Source: Primary Data

adolescent children to constrain the time they spent on social networking. They should rather utilize those hours to peruse other scholarly books that will enhance their insight.

Most of the students make utilization of smart phones with internet facilities to get to social networking sites. Along these lines such students should be urged to utilize a similar facility to enhance their learning as opposed to utilizing such facility to chat with companions for a long time in social applications such as WhatsApp. Teachers should assist the students with making significant utilization of social networking sites by joining them into their activities.

This should be possible by acquainting the students with the social networking sites that are entirely for scholarly work and research. Both the parents and teachers should attempt endeavors to urge the students to invest more energy studying their books than on social networking sites.

Students should be informed about the threats regarding getting dependent on social networking. Parents of students, teachers, management of the universities and direction advisors must urge the students to stop utilizing Social Networking Sites since it misleads the young children. It must be ensured that university students utilize Social Networking Sites appropriately for the sake of limited entertainment as well as for communicating with their families, friends and educators.

Creators of Social Networking Sites and organizations must enhance the security and protection that they are providing for their clients to advance a sheltered situation particularly for children of adolescent age. Since the majority of the users do not know about the need for changing the default protection settings, it is fundamental to set the default setting as sheltered as could be expected under the circumstances. The SNS creators additionally needs to offer easy to understand rules that assist the users to change the security settings effectively.

## **CONCLUSION**

People are naturally inquisitive and have the penchant to be constantly forward looking; choosing not to move on is not worthy to him. Thus, people have the tendency to advance in different perspectives among which innovative improvement shapes part. Internet is the latest and one of a kind innovation ever of. Absolutely Internet has encouraged the lives of people colossally through the plenty of points of interest it gives. Internet has empowered social association through Social Networking Sites. The most famous Social Networking Sites are Facebook, Twitter, Google Plus and numerous others. Through these networking sites an individual can take part in multitudinous exercises, for example, sharing videos and pictures, approaching national and in addition worldwide contacts, etc.

Social networking sites have turned into a standard mode for a huge number of youngsters and grown-ups from all around the globe including India. These sites urge and empower individuals to trade data about themselves, share pictures or videos, and use online journals and private information to speak with companions, other people who share interests and now and again even the world at large. Networking websites work like an online network of internet clients. Contingent upon the site being referred to, a considerable lot of these online network individuals share a typical intrigue, for example, leisure activities, religion, or legislative issues.

The greater part of current students assemble have approached the Internet and PCs for a huge level of their lives and time. Students take a gander at these logical advancements as a coherent expansion of customary specialized strategies (letter, telephone calls and wire, and so forth.) and watch the Social Networking Sites as regularly an a lot snappier and increasingly appropriate approach to connect with

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companions and gatherings. They are even mindful of the peril and dangers associated with these Social sites which are a positive marker that Indian youth are not just techno-keen and socially dynamic through social networking sites yet they likewise have social awareness.

It is explored that the vast majority of the adolescents are turning towards this pit hole of spending most of the time and money on Social Networking Sites because of peer pressure. They need to keep up their status in the present aggressive condition among their companions. This empowers them for quick selection of Social Networking Sites for keeping up their companions, having a great time sharing of information and amusement, and etc.

In managing the instructive effect on students, Social Networking Sites has made its impact on the present youth which was apparent through the investigation that school youth select Social Networking Sites for instructive related issues and additionally for stimulation, fun and training. The investigation likewise demonstrates that the entire idea of Social Networking Sites depends just on Facebook overwhelming over alternate sites like Twitter and My Space.

In general, Social Networking Sites are imperative instruments of correspondence, amusement and partaking in this period. Thusly there has been extensive ascent in its use particularly in the Indian Society. Actually, the youths are progressively inclined to be associated with Social Networking sites than some other group. Social Networking Sites encourage sharing of data, expanding contacts, etc. However an exceptional change has been seen relating to the use of Social Networking Sites in connection to relational connections among the university students.

The study on the use of Social Networking sites by the University students' of Tamil Nadu conveys the existing pattern that there exists a held demeanor in the utilizing academic contents through Social Media for academic perfection. While 'Google' is an all around acknowledged medium for looking through all or any sort of data through Internet, there is a developing pattern of utilizing Social Media for specific data. Today, Social Media is the new Google where one can make separate group for detailed exchanges identifying with all fields of study. Social Media constructs a platform for one-on-one and one-to-many for pointed insights concerning the subject and to improve dominance over a subject. The prime consumers of the Social Media are students who approach boundless utilization for they have additional time and psyche to concentrate on their quest for knowledge.

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# Chapter 10

## Media Literacy Among College Students: A Study of Sivagangai District, India

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### **ABSTRACT**

*The chapter discusses the impact of some of the selected the literacy of media literacy. It supports the students in developing the attitudes, values, and skills to solve the problems, decision making, and building their knowledge. The objective of the present study is to understand the practices on media literacy in college students in Sivagangai District. The chapter shows the respondent frequency of using the social media sites among the college students. Out the 112 respondents, 66 (58.93%) were female and 46 (41.07%) were male. Age wise distribution of respondents the table indicate 51.79% of respondents using social media of 17-20 category, 34.82% of respondents using social media of 21-25, 11.61% of the respondents in 26-30, 1.79% of respondents in above 31. As to the effects of using social media, location-wise distribution of the majority of respondents among 33 respondents, 35% village, 27.12% town, and 23.08% taluk are effects of waste of time. Among 32 respondents, 25% village, 32.20% town, and 23.08% taluk are effects of affecting academic performance.*

### **INTRODUCTION**

Media Literacy is the ability of information access, analyze, evaluate, & produce communication in a variety of forms. In essence of a media literate person can think critically about what they see, hear, and read in books, newspapers, magazines, television, radio, movies, music, advertising, video games, the Internet, social media and new emerging technology. Media literacy has become a center of gravity for

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countering “fake news,” and a diverse array of stakeholders from educators to legislators; philanthropists to technologists have pushed significant resources toward media literacy programs.

## **MEDIA LITERACY**

Media Literacy refers to your ability to understand the messages you are being told on television, radio, video games, movies, news programs, social media, and more. Essentially, media literacy means understanding:

- Media is constructed with a specific purpose in mind - it’s designed to make you think something.
- People will see the same thing and understand it differently.
- Constructing media is a business.
- It reflects political and cultural ideas.
- The type of story changes depending on the type of media.

### **Media Literacy Definition**

Media literacy has been most commonly defined as the skills of accessing, analyzing, evaluating, and communicating messages in a number of, Davies (1996) has emphasized listening, viewing, or reading audiovisual texts as basic skills that need to be learned by young audiences. The need for learning technical skills to decode the meanings behind the media, and developing a critical understanding of the relationship between different message content, forms the backbone of media literacy education.

Kubey (2004) notes that media literacy involves critical analysis of media messages, evaluation of sources of information for bias and credibility, increased awareness about how media messages influence people’s beliefs, attitudes, and behaviors, and production of messages using different forms of media. Similarly, the website of the National Association for Media Literacy Education describes the functions of media literacy in this way.

The Center for Media Literacy (2007) has endorsed the following five core concepts as central to media literacy:

- All media messages are social constructions (i.e., constructed by somebody and never able to reflect reality entirely).
- People who make media messages use creative languages that have rules (i.e., creative components such as words, music, movement, camera angle, and others are utilized to develop a media message in different formats such as a magazine cover, advertisement, etc.).
- Different people experience the same media messages differently.
- Producers of media messages have their own values and points of view.
- Media messages are constructed to achieve a purpose, usually for profit and/or power.

## **ROLE OF MEDIA LITERACY IN EDUCATION**

What is the role of media literacy in education, Much was written on this topic by both European and American scholars. As for the European tradition, Alvarado et al., (1993) edited an anthology of 20 essays originally published in the journal *Screen Education* during the 1970s and early 1980s.

As for the American tradition, Kubey (1998) contrasted the lack of progress in integrating media literacy education into public education in the United States with the success of doing so in other countries. Kubey presented a convincing explanation of this difference with political, economic, historic, and cultural factors.

Hobbs and Jensen (2009) updated Kubey's work by highlighting the central characteristics of media literacy programs as they evolved over time in the United States.

They provided a fascinating exploration of the future of media literacy around two issues:

- Media literacy's relationship to the integration of educational technology into the K–12 curriculum.
- The relationship between media literacy education and the humanities, arts, and sciences.
- Some scholars wrote more prescriptively than descriptively about the role of media literacy within educational institutions. Masterman's *Teaching the Media* (1985) is still a classic because of the way it lays out an argument about why media education is so important and presents a vision about how to foster greater media literacy in students when teaching about the media. More recently, Jenkins and colleagues (2006) in their article laid out a set of cultural competencies and social skills that young people need in the new media landscape.

### **Media Literacy Skills**

The skills and competencies that a media literate individual needs to possess are among the much-discussed issues in the literature. European Charter for Media Literacy, for instance, lists seven key competencies that media literate people should have and these include using media effectively, accessing and making informed choices about media content, understanding media content creation, analyzing media techniques and messages, using media to communicate, avoiding harmful media content and services, and using media for democratic rights and civic purposes. In addition to these competencies, literature highlights four main skills to be an effective media literate.

### **Review of Literature**

Review of literature is an early step for conducting research. It enables to avoid the duplication of research work and broadens the understanding of the research problem. Various research studies related to the present research problem "Media literacy among college students: A study of Sivagangai District" has been conducted in India and other countries of the world. These studies relate to the different aspect of social media affects, particularly in higher education by college student. In this chapter, a review of the selective and useful studies related to the research problem has been attempted.

Aifan (2015) The Pew Research Centre (2015) reported that 74% of the Internet users use social networking sites worldwide. Studies have provided evidence that social media is promising for increasing collaboration and cooperation in project –based learning. However, few empirical studies investigate the use of social media in educational settings, especially in the Middle East. The hypothesized model was

developed through the social learning theories of Bandura and Vygotsky, the Technology Acceptance Model of Davis, and the Diffusion of Innovation model of Rogers. Five hundred ten students (214 male and 296 female) participated in an electronic survey, and its findings reveal the students have positive attitudes ( $M= 3.99$ ,  $SD=.76$ ) towards using social media to support learning. The most frequently used tool by students was WhatsApp ( $M= 4.60$ ,  $SD=.88$ ), with which students have the highest experience ( $M= 4.58$ ,  $SD=.84$ ). Students reported facing two major barriers when utilizing social media which are some of the social media contents are against the students' religion ( $M= 4.12$ ,  $SD= 1.1$ ) and concerns about privacy and security issues related to the usage of social media ( $M= 3.72$ ,  $SD=1.19$ ). There was a significant relationship between the overall attitudes of the students and their intentions, with  $r(508)= .67$ ,  $p=.00$ . As social media tools continue to attract students' attention, more research on developing effective instructional methods for using social media to support students' learning, with consideration of cultural and religious aspects, is needed.

Alassiri, et.al. (2014) technology mediated social networking site conveniently allows its users to communicate, develop and maintained friendships. The usage pattern of social networking consumes time and exposes users profile information to online threat. Increasing security concern necessitate for a studied especially as the population of the mostly used online social networking site had rapidly increased to about 4.545 billion users spending an average time of 2 hours 43 seconds daily. The technological impact of social networking site reviewed focuses on the information used for communication, interaction and to socialize with other users. The studied highlighted alternative pathway to circumvent online security risks.

Alkindi and Al-Suqri, (2013) reported at a time when web 2. 0 applications in libraries had gained growing popularity globally; it appears that the library must considered marketing its services more regularly through the internet, taking advantage of web 2. 0 applications to improved access to its users and to promote information services. Many studies had discussed the importance of enhancing library services through web 2. 0 applications such as blogs, wikis, RSS (really simple syndication), podcasts and social networking sites (SNSS) However, very few studies had focused on social networking sites in relation to marketing strategies for library and information services. The main purpose of this paper was to explore the varied marketing activities of libraries on SNSS, focusing on Face book, as it was recognized as a popular SNS used among libraries. Additionally, the studied introduces the role of library and information professionals within SNSS, as well as user contributions to the marketing process. Web content was used in a quantitative approached. Twenty public libraries that had face book pages had been selected as subject samples

Al-Rahmi & Othman (2013)<sup>4</sup> studied, no doubt that Social media has gained wider acceptability and usability and is also becoming probably the most important communication tools among students especially at the higher level of educational pursuit. As much as social media is viewed as having bridged the gap in communication that existed. Within the social media Face book, Twitter and others are now gaining more and more patronage. These websites and social forums are way of communicating directly with other people socially. Social media has the potentials of influencing decision-making in a very short time regardless of the distance. On the bases of its influence, benefits and demerits this study is carried out in order to highlight the potentials of social media in the academic setting by collaborative learning and improve the students' academic performance. The results show that collaborative learning positively and significantly with interactive with peers, interactive with teachers and engagement which impact the students' academic performance.

## **Media Literacy Among College Students**

Anasi (2018) reported investigate the influence of gender on attitude towards the use of social media for continuing professional development among academic librarians in Ogun State, Nigeria. Descriptive survey design was used for the study. Research instrument used was questionnaire where 79 copies were administered to academic librarians, using total enumeration sampling technique. Five universities in Ogun State, Nigeria were selected for the study. The data collected were analysed using descriptive and inferential statistics such as percentage, frequency, mean, Pearson product moment correlation coefficient and t-test for data analysis. Statistical Package for Social Sciences (SPSS, version 19) was used to run the analysis. The study revealed that WhatsApp (75.0 per cent) is the most frequently used social media for continuing professional development among academic librarians. Attitude towards the use of social media for continuing professional development among academic librarians is positive. There is no statistically significant gender difference in attitude towards the use of social media for continuing professional development ( $t = 0.097$ ,  $df = 54$  and  $p > 0.05$ ). There is significant moderate positive relationship between attitude towards socialmedia use and frequency of use of social media ( $r = 0.439$ ;  $p < 0.05$ ). The study was necessary to identify gender difference in attitude towards the use of social media for continuing professional development by academic librarians in Ogun State, Nigeria.

Anunobi and Ogbonna (2012) the surveyed was conducted with the focus to determine the awareness and used of web 2. 0 tools by librarians in anagram state in Nigeria Questionnaire was designed and distributed to all professional librarians in the state who were members of the Nigerian library association. Result shows a low awareness and used of web 2. 0 tools by the librarians. Social networking sites were the mostly used among the various tools. Their used of the tools was dependent on the librarians' placed of work with the academic librarians using the tools more than others from other places of work. Most of the librarians used the tools for communication and profile publicity. Personality characteristics, computer expertise, motivation, lack of facilities and access restriction were among the impediments to the librarians' used of web 2. 0 tools.

Apuke and Ezeah (2018) the results of this research provide a detailed account of social media addiction among international students. A qualitative investigation using a focus group discussion was carried out among 25 affirmative Nigerian students studying at one public university in Northern Cyprus. It was found that Face book is the most used and preferred social media among the students. In addition, the students primarily use social networking technologies for chatting, commenting and posting, reading news feeds, dating, and only occasionally employ it for academic purposes. Hence, the excess use of social networking sites transformed students into addicts as the entire respondents divulged that they use social media for more than 6 hours in a day. It was similarly discovered that depression and anxiety trigger students higher social networking sites involvement. Furthermore, social loneliness was likewise established as a factor that triggers their constant use of social media. This implies that the use of social media reduces boredom and provides maximum relaxation. In addition, higher levels of perceived support from online social networking friends similarly encouraged students to stay more online, thereby resulting in excessive social media use. This study concludes that the utilisation of social media has no direct negative influence on the students' academic performance, rather has a negative effect on their psychological well-being and health, resulting to sleep deprivation, fatigue, weakness, tiredness and blurry vision.

Arif and Kanwal (2016) This study aims to investigate the adoption of social media technologies and their impact on academic performance of distance education students at Allama Iqbal Open university (AIOU), Islamabad-Pakistan. This study opted Combined-Technology Acceptance Model and Theory of Planned Behavior (C-TAM-TPB; Taylor & Todd, 1995) as theoretical model. Descriptive survey was

administered to collect data with the help of self-reported structured questionnaire on 365 students, randomly selected from the targeted population. The response rate was 84.6%. Majority of the respondents were familiar and using the social media technologies frequently such as Facebook, YouTube and WhatsApp whereas Twitter was rarely used, also the students were having poor knowledge about the technology. Similarly, majority of the respondents were having average knowledge and familiarity in using Skype. The results of t-Test disclosed that gender difference existed in opinion towards frequency to use Face book, Twitter, Wikipedia and WhatsApp only. The regression analysis also revealed that perceived usefulness, perceived behavior control, attitude towards use helped to enhance the students' actual use of social media technologies. However, perceived ease of use and subjective norms did not contribute in the use of the technologies. Furthermore, distance students' academic performance was increased by using the technologies. This study is delimited to five social media technologies; Face book, Twitter, YouTube, Wikipedia, WhatsApp, and Skype only. To our best knowledge, this is first comprehensive study in distance education perspective which may provide guidelines to offer off-campus students services through effective utilization of the social media technologies.

Bahramian and AmidiMazaheri (2018) reported recently, there has been a fast growth in the use of different kind of media especially in adolescents. Media literacy education is supported by numerous national organizations and institute as a potential tool to decrease negative media effects and to increase desirable use of media. However, there are little documents about their effects. This study was conducted to investigate the effect of educational intervention on media literacy among high school female students. This quasi-experimental study was complete on 100 female students in Semirom city, Isfahan province, the central of Iran, in 2017. Eligible students were selected and randomly assigned as intervention and control groups. Then, a media literacy intervention (7 sessions of 40-55 minute) was delivered by skilled and trained educators in field of media as facilitators only in the intervention group. The media literacy measure was administered at pre-intervention, post-intervention. Data were analyzed by SPSS software (version 20.0) Based on results independent t-test, demographic variables in students of intervention and control groups were similar as well the mean of media literacy scores before intervention, but 2 months after the intervention the differences were statistically significant between the intervention and control groups in all media literacy domains ( $P \leq 0.001$ ) except the creators of media message domain ( $P = 0.27$ ), and the selective uses of media messages ( $p = 0.21$ ). The present study recommends media literacy education can be practicably included into schools as a method to promoting critical analysis of media products.

Baro, et.al. (2013) studied aims to investigate the leveled of awareness and used of web 2. 0 tools by librarians in university libraries in Nigeria. A questionnaire was used to collected data from 176 librarians in 49 university libraries in Nigeria. It emerged that the librarians were more familiar with social networking sites, instant messaging, and media sharing sites, blogs and wikis. The popularity of these webs 2. 0 tools made them the most frequently used by the librarians. Web 2. 0 tools like Flickr, RSS feeds, and podcasts, social bookmarking, were among the least used. The studied revealed that librarians used web 2. 0 tools mostly for reference services online, library news/events, training resources, and image and video sharing. Lack of facilities such as computers with internet access, lack of skills, and lack of time were indicated as some of the barriers in the used of web 2. 0 tools by librarians in university libraries in Nigeria.

## **NEED OF THE STUDY**

- Social media are commonly used by all people in variable.
- Social media are popular among the educated society.
- Students are more interested in using social media.
- College students are using social media with nascent technology with the help of app.

## **OBJECTIVES OF THE STUDY**

1. To identify the level of social networking site among college students in sivagangai district.
2. To know the social media competence of art and science college students.
3. To awareness of Social media among college students.
4. To find out the frequency of use of social media.
5. To identify the devices used to access Social media by users.
6. To examine the preferred location to access social media
7. To identify the different purpose of using social media.
8. To identifies the satisfaction level of use of social media.
9. To know the problems being faced by the users while using social media.

## **Methodology**

For the survey of the primary data questionnaire method was adopted for that a questionnaire was prepared on the basis of the objective of the proposed study and was distributed randomly among the target population under the study. A Total number of 120 questionnaires were distributed among students they were personally requested to fill up the questionnaire and the filled-in-questionnaire was collected by the investigator from the students of all selected colleges in sivagangai district. 112 questionnaires were received back after filling by the students. The constitutes 93.33% (112/120) of the total response. While selecting sample, random sampling method has been adopted.

## **Limitation of the Study**

The project is limited to selected areas in Sivagangai district there are Sivagangai, Karaikudi, Devakottai, Pallathure, Amaravathiputhure, It covers only college students. Totally 16 arts and science colleges in sivagangai district, but it covers only 8 colleges. The chief respondents.

## **Data Analysis and Interpretation**

While data analysis in qualitative research can include statistical procedures, many times analysis becomes an on-going iterative process where data is continuously collected and analyzed almost simultaneously. Indeed, researchers generally analyze for patterns in observations though the entire data collection phase the form of the analysis is determined by the specific qualitative approach taken and the form of the data. The research carried out a study on Media literacy among college students-A study in sivagangai district.

Table 1. Gender wise distribution

S. No	Gender	Respondents	Percentage
1	Female	66	58.93
2	Male	46	41.07
<b>Total</b>		<b>112</b>	<b>100.00</b>

Table 1 shows the respondents frequency of using the social media sites among college students fact that out the 112 respondents, 66(58.93) respondents were female and 46(41.07) respondents were male.

Table 2 Show that the Age wise distribution of respondents the table indicate 51.79% majority of respondents using social media of 17-20 category, 34.82% of respondents using social media of 21-25, 11.61% of the respondents in 26-30, 1.79% of respondents in above 31.

Table 3 show that indicates the Education qualification wise distribution of respondents total number of respondent 112 number of respondent 81 (72.32%) from collected data UG students, 23(20.54%) of the respondents are collected from PG students, and 8 (7.14%) of the respondents are collected from research scholars in college students

Table 4 Show that the Location wise distribution of respondents the table indicate 52.68% majority of respondents using social media of Town category, 35.71% of respondents using social media of Village, 11.61% of the respondents in Taluk.

Table 5 Show that the Hosteller or Day scholar wise distribution wise distribution of respondents the table indicate 81.25% majority of respondents using social media of Day scholar, 18.75% of respondents using social media of Hosteller.

Table 6 Show that the majority of respondents are visiting social media sites for daily 71.74(33)% of the male respondents 62.12(41)% of the female respondents other respondents of Occasionally 13.04(6)%

Table 2. Age wise distribution

S. No	Age	Respondent	Percentage
1	17-20	58	51.79
2	21-25	39	34.82
3	26-30	13	11.61
4	above 31	2	1.79
<b>Total</b>		<b>112</b>	<b>100.00</b>

Table 3. Education qualification wise distribution

S. No	Education Qualification	Respondent	Percentage
1	UG	81	72.32
2	PG	23	20.54
3	Research scholar	8	7.14
<b>Total</b>		<b>112</b>	<b>100.00</b>

## Media Literacy Among College Students

Table 4. Location wise distribution

S. No	Location	Respondent	Percentage
1	Village	40	35.71
2	Town	59	52.68
3	Taluk	13	11.61
<b>Total</b>		<b>112</b>	<b>100.00</b>

Table 5. Hosteller or day scholar wise distribution

S. No	Are You a	Respondent	Percentage
1	Hosteller	21	18.75
2	Day scholar	91	81.25
<b>Total</b>		<b>112</b>	<b>100</b>

of male respondents 10.61(7)% of the females other respondents of Once in a two days 10.87(5)% of male respondents 10.61(7)% of the females and other respondents visit media for Once in a week 4.35(2)% of males 6.06(4)% of females and finally 10.61(7) percent of female respondents only visit social media for twice in a week.

Table 7 indicates the Gender wise respondents used to spend more time on social media. About (12) 26.09% male and (13) 19.70% female respondents used to spend more time on face book, (6) 13.04% male and (9) 13.64% of female respondents used to spend more time on Twitter, (6) 13.04% male and (8) 12.12% of female respondents used to MySpace. (3) 6.52% male and (6) 9.09% of female respondents used to Wikipedia. (1) 2.17% male and (5) 7.58% of female respondents used to online groups/forums. Used to spend more time on Slide share (1) 2.17% of male respondent only. It could be noted that majority of the male respondents 36.96% (17) spend time on you tube. Majority of the female respondents 37.88% (25) spend more time on you tube.

Table 8 shows that gender wise respondent member of social media. About the majority of (28) 60.87% male and (31) 46.97% female respondents member of social media face book, (11) 23.91% male and (16) 24.24% of female respondents member of social media MySpace, (5) 10.87% male and

Table 6. Gender wise frequency of use to social media

SI. No	Frequency of Use to Social Media	Gender	
		Male	Female
1	Daily	33 (71.74)	41(62.12)
2	Once in a two days	5 (10.87)	7 (10.61)
3	Once in a week	2(4.35)	4(6.06)
4	twice in a week	0	7(10.61)
5	Occasionally	6 (13.04)	7 (10.61)
<b>Total</b>		<b>46 (100)</b>	<b>66 (100)</b>



Table 7. Gender wise used to spend more time on social media

S. No	Used to Spend More Time on	Gender	
		Male	Female
1	Face book	12 (26.09)	13 (19.70)
2	Twitter	6 (13.04)	9 (13.64)
3	YouTube	17 (36.96)	25 (37.88)
4	MySpace	13.04(6)	8 (12.12)
5	Wikipedia	3(6.52)	6 (9.09)
6	Slide share	1(2.17)	0
7	Online groups/forums	1(2.17)	5 (7.58)
<b>Total</b>		<b>46 (100)</b>	<b>66 (100)</b>

Table 8. Gender wise member of social media

S. No	Member of Social Media Sites	Gender	
		Male	Female
1	Face book	28 (60.87)	31 (46.97)
2	Twitter	5 (10.87)	12 (18.18)
3	My space	11(23.91)	16 (24.24)
4	Hi5	2(4.35)	4(6.06)
5	LinkedIn	0	3 (4.55)
<b>Total</b>		<b>46 (100)</b>	<b>66(100)</b>

(12) 18.18% of female respondents used to Twitter. (2) 4.35% male and (4) 6.06% of female respondent member of Hi5. Only (3) 4.55% of female respondents member of LinkedIn.

Table 9. Gender wise purpose of social media

S. No	Purpose of Using Social Media	Gender	
		Male	Female
1	To find and share information	8 (17.39)	13 (19.70)
2	To chat with friends	12 (26.09)	14 (21.21)
3	To share videos and pictures	6 (13.04)	8 (12.12)
4	To prepare course material for study	4 (8.70)	5(7.58)
5	To update subject knowledge	3(6.52)	12 (18.18)
6	To write research paper	8(17.39)	5 (7.58)
7	To carry out project work	2(4.35)	6 (9.09)
8	Any other purpose	3 (6.52)	3 (4.55)
<b>Total</b>		<b>46 (100)</b>	<b>66 (100)</b>

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Table 9 shows that gender wise purpose of social media. It is evident from table that (8) 17.39% male and (13) 19.70% female respondents purpose were to find and share information, the majority of (12) 26.09% male and (14) 21.21% female respondents purpose were to chat with friends, (6) 13.04% male and (8)12.12% female respondents purpose were to share videos and pictures, (4) 8.70% male and (5) 7.58% female respondents purpose were to prepare course material for study, (3) 6.52% male and (12) 18.18% female respondents purpose were to update subject knowledge and (8) 17.39% male and (5) 7.58% female respondents purpose were To write research paper. (2) 4.35% male and (6) 9.09% female respondents purpose were to carry out project work and (3) 6.52% male and (3) 4.55% female respondents purpose were Any other purpose.

Table 10 shows the gender wise devices used to access social media. About the majority of (26) 56.52% male and (28) 42.42% female respondents to using the mobiles, (7)15.22% male and (11) 16.67% female respondents to using Laptop, (6) 13.04% male and (17) 25.76% female respondents to using Desktop, (7) 15.22% male and (10) 15.15% female respondents to using I-pad.

Table 11 shows the gender wise place of using social media. About (11) 23.91% male and (9) 13.64% female respondents to use the Department, (3) 6.52% male and (14) 21.21% female respondents to use the Library, (2) 4.35% male and (1) 1.52% female respondents to use the cyber café, Majority of (26) 56.52% male and (28) 42.42% female respondents to use the home and, (3) 6.52% male and (11) 16.67% female respondents to use the hostel, (1) 2.17% male and (3) 4.55% female respondents to use the Computer centre for using social media.

Table 10. Gender wise devices used to access social media

S. No	Devices Used to Access Social Media	Gender	
		Male	Female
1	Laptop	7 (15.22)	11 (16.67)
2	Desktop	6 (13.04)	(17)25.76
3	I-Pad	7 (15.22)	10 (15.15)
4	Mobiles	26 (56.52)	(28)42.42
<b>Total</b>		<b>46 (100)</b>	<b>66 (100)</b>

Table 11. Gender wise place of using social media

S. No	Place of Using Social Media	Gender	
		Male	Female
1	Department	11 (23.91)	9 (13.64)
2	Library	3(6.52)	14 (21.21)
3	cyber café	2 (4.35)	1 (1.52)
4	Home	26 (56.52)	28 (42.42)
5	Hostel	3 (6.52)	11 (16.67)
6	computers centre	1(2.17)	3 (4.55)
<b>Total</b>		<b>46(100)</b>	<b>66(100)</b>

Table 12. Gender wise reasons for frequent use of social media

S. No	Reasons for Frequent Use of Social Media	Gender	
		Male	Female
1	Most of my friends use it	18 (39.13)	21 (31.82)
2	To entertain	11 (23.91)	28 (42.42)
3	Easy interaction	17 (36.96)	17 (25.76)
<b>Total</b>		<b>46 (100)</b>	<b>66 (100)</b>

Table 12 shows that gender wise reasons for frequent use of social media. It is evident from table that (18) 39.13% male and (21) 31.82% female respondents Reasons for frequent use of the Most of my friends use it, (11) 23.91% male and (28) 42.42% female respondents Reasons for frequent use to entertain, and finally (17) 36.96% male and (17) 25.76% female respondents Reasons for frequent use of the easy interaction. It is seen from the above discussion that (18) 39.13% male respondents Reasons for frequent use of the Most of my friends use it and (28) 42.42% female respondents Reasons for frequent use to entertain.

Table 13 shows the gender wise flexibilities of using social media. About highly majority of (11) 23.91% male and (19) 28.79% female respondents to flexibilities use of Average, (12) 26.09% male and (17) 25.76% female respondents to flexibilities use very easy, (7) 15.22% male and (17) 25.76% female respondents to use moderately easy, (11) 23.91% male and (9) 13.64% female respondents to use Moderately and, (5) 10.87% male and (4) 6.06% female respondents to use very difficult.

Table 14 shows that gender wise benefits of using social media. It is evident from table that highly majority of (12) 26.09% male and (17) 25.76% female respondents benefits of using It enables the creation and maintenance of personal networking, (13) 28.26% male and (11) 16.67% female respondents benefits of using It increases self esteem and well being, and finally (6) 13.04% male and (9) 13.64% female respondents benefits of using It promotes read and write web skills. It is seen from the above discussion that (13) 28.26% male respondents benefits of using It increases self esteem and well being and (17) 25.76% female respondents benefits of using It enables the creation and maintenance of personal networking.

Table 15 shows that gender wise problems faced in using social media. It is evident from table that highly majority of (10) 21.74% male and (16) 24.24% female respondents problems faced in using lack

Table 13. Gender wise flexibilities of using social media literacy

S. No	Flexibilities of Using Social Media Literacy	Gender	
		Male	Female
1	Very difficult	5(10.87)	4(6.06)
2	Moderately	11 (23.91)	9(13.64)
3	Average	11(23.91)	19(28.79)
4	Moderately easy	7(15.22)	17(25.76)
5	Very easy	12 (26.09)	17(25.76)
<b>Total</b>		<b>46 (100)</b>	<b>66(100)</b>

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Table 14. Gender wise benefits of using social media literacy

S. No	Benefits of Using Social Media Sites	Gender	
		Male	Female
1	It encourages virtual meeting with co- students	2 (4.35)	3(4.55)
2	It increases self esteem and well being	13 (28.26)	11(16.67)
3	It helps in research and learning	4 (8.70)	7 (10.61)
4	It enables the creation and maintenance of personal networking	12 (26.09)	17 (25.76)
5	It helps to communicate the research output	4(8.70)	10 (15.15)
6	It promotes read and write web skills	6 (13.04)	9 (13.64)
7	It entertains	5 (10.87)	7 (10.61)
8	Any others	0	2 (3.03)
<b>Total</b>		<b>46 (100)</b>	<b>66(100)</b>

of security, (7) 15.22% male and (10) 15.15% female respondents problems faced in using lack of time, (4) 8.70% male and (10) 15.15% female respondents problems faced in using lack of Privacy, and finally (6) 13.04% male and (3) 4.55% female respondents problems faced in using lack of technical knowledge.

Table 16 show that satisfaction level wise distribution of respondents the table indicates 66.07% majority of respondents of using social media for Satisfied, 15.18% of respondents using social media of partially satisfied, 10.71% of the respondents is not satisfied.

Table 17 shows the location wise purpose of using social media, location wise distribution of the majority of respondents among 26 respondents 7.5% village, 35.59% town and 15.38% taluk are purpose of use to chat with friends. Among 21 respondents 12.5% village, 22.03% town and 23.08% taluk are purpose of use to find and share information. Among 15 respondents 12.5% village, 13.56% town and

Table 15. Gender wise problems faced in using social media literacy

S. No	Problems Faced in Using Social Media	Gender	
		Male	Female
1	Lack of time	7 (15.22)	10 (15.15)
2	Lack of security	10 (21.74)	16 (24.24)
3	Lack of Privacy	4 (8.70)	10 (15.15)
4	Not user friendly	1 (2.17)	3 (4.55)
5	Poor internet connectivity	3 (6.52)	4 (6.06)
6	Lack of technical knowledge	6 (13.04)	3(4.55)
7	Lack of interest	4 (8.70)	3 (4.55)
8	Power failure	4 (8.70)	3 (4.55)
9	Access denied by college	3 (6.52)	4 (6.06)
10	Bad network / Low bandwidth	3 (6.52)	4 (6.06)
11	Any others	1 (2.17)	6 (9.09)
<b>Total</b>		<b>(46) 100</b>	<b>(66) 100</b>

Table 16. Satisfaction level of social media

S. No	Satisfaction Level of Social Media Sites	Respondent	Percent
1	Highly satisfied	9	8.04
2	Satisfied	74	66.07
3	Partially satisfied	17	15.18
4	Not satisfied	12	10.71
	<b>Total</b>	<b>112</b>	<b>100</b>

Table 17. Location wise purpose of using social media

S. No	Purpose of Using Social Media	Type of Location			Total
		Village	Town	Taluk	
1	To find and share information	5 (12.5)	13(22.03)	3(23.08)	21(18.75)
2	To chat with friends	3 (7.5)	21(35.59)	2(15.38)	23.21
3	To share videos and pictures	9(22.5)	3(5.08)	2(15.38)	14(12.5)
4	To prepare course material for study	2(5)	5(8.47)	2(15.38)	8.04
5	To update subject knowledge	5(12.5)	8(13.56)	2(15.38)	15(13.39)
6	To write research paper	7(17.5)	5(8.47)	1(7.69)	13(11.61)
7	To carry out project work	5(12.5)	2(3.39)	1(7.69)	8(7.14)
8	Any other purpose	4(10)	2(3.39)	0	6(5.36)
	<b>Total</b>	<b>40(100)</b>	<b>59(100)</b>	<b>13(100)</b>	<b>112(100)</b>

15.38% taluk are purpose of use to update subject knowledge. The majority of 9 (22.5%) village for location wise purpose of using to share videos and pictures, 21 (35.59%) town for location wise purpose of using to chat with friends and with regards 2(15.38%) talk for location wise purpose of using to prepare course material for study and to share videos and pictures.

Table 18 shows the location wise affects of using social media, location wise distribution of the majority of respondents among 33 respondents 35% village, 27.12% town and 23.08% taluk are affects of Waste of time. Among 32 respondents 25% village, 32.20% town and 23.08% taluk are affects of Affecting academic performance. Among 25 respondents 12.5% village, 23.73% town and 46.15% taluk

Table 18. Location wise affects of social media on students

S. No	Social Media Sites Affects	Type of Location			Total
		Village	Town	Taluk	
1	Affecting academic performance	10(25)	19(32.20)	3(23.08)	32(28.57)
2	Unable to concentrate on study	5(12.5)	14(23.73)	6(46.15)	25(22.32)
3	Waste of time	14(35)	16(27.12)	3(23.08)	33(29.46)
4	Stay up and lack of sleep	11(27.5)	10(16.95)	1(7.69)	22(19.64)
	<b>Total</b>	<b>40(100)</b>	<b>59(100)</b>	<b>13(100)</b>	<b>112(100)</b>

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are affects of Unable to concentrate on study. Among finally 22 respondents 27.5% village, 16.95% town and 7.69% taluk are affects of Stay up and lack of sleep.

From the Table 19, it is noticed that the ANOVA test for significant level for the type of information delivery method with age groups. Since the P value is less than 0.05, Null hypothesis is rejected at 5% level. Hence, it is found that there is a significant difference in the: Social media use of education such as We learn a lot about our culture through the social media with respect to age groups of respondent. For remaining dimension, Social media use of education such as Social Media education should be required for students in elementary though college, Social Media literacy is a important skill for people to have, and I often find out about social trends through the media. The P value is more than 0.05, Null hypothesis is accepted at 5% level hence it is found that there is no significant different in the Social Media education should be required for students in elementary though college, Social Media literacy is a important skill for people to have, and I often find out about social trends through the media with respect to age groups of respondents.

Table 19. Social media use of education (one way ANOVA)

S. No	Content	Age	Respondents	Mean	SD	F	P
1	Social Media education should be required for students in elementary though college.	17 to 20	58	3.66	1.34	1.26	0.29
		21 to 25	39	3.72	1.21		
		26 to 30	13	4.31	0.48		
		above 31	2	4.5	0.71		
		<b>Total</b>	<b>112</b>	<b>3.77</b>	<b>1.23</b>		
2	Social Media literacy is a important skill for people to have	17 to 20	58	4.07	0.99	0.58	0.63
		21 to 25	39	3.97	0.84		
		26 to 30	13	3.77	0.83		
		above 31	2	4.5	0.71		
		<b>Total</b>	<b>112</b>	<b>4.01</b>	<b>0.92</b>		
3	We learn a lot about our culture through the social media.	17 to 20	58	3.21	1.40	3.62	0.02
		21 to 25	39	4	1.05		
		26 to 30	13	3.31	1.18		
		above 31	2	4.5	0.71		
		<b>Total</b>	<b>112</b>	<b>3.52</b>	<b>1.30</b>		
4	I often find out about social trends through the media.	17 to 20	58	3.93	1.09	0.54	0.66
		21 to 25	39	4.13	0.92		
		26 to 30	13	4.15	0.69		
		above 31	2	4.5	0.71		
		<b>Total</b>	<b>112</b>	<b>4.04</b>	<b>0.99</b>		

## **Suggestions**

New Media Literacy, in our opinion, is a higher level of computer literacy. Within computer literacy every college student should be able to perfectly use tools such as text editors, table editors, electronic presentations and work with the Internet. They should have these abilities before starting college. Students must be able to distinguish between facts and assumptions, and between facts and opinions. They must be able to compare, analyze and synthesize acquired data and construct their own conclusions and arguments. They must be prepared for the specifics and problems of electronic communication, and be able to express and present themselves clearly also in multicultural environment. So we are able to establish basic components of New Media Literacy, the question remains how to mediate them to students. Naturally it is good if a choice of specialized courses may be a part of study programs, but this is not always possible. That is why we think that using modern technologies directly in the process of teaching individual subjects is a suitable way. This way students and professors alike will acquire a lot of experience which will in return increase both their New Media Literacy and Cyber Emotional Intelligence.

## **CONCLUSION**

The present study was designed to investigate the use and implication of Social media among select college students. A case study of Student's behavior in view of analysis and inter presentation of data collection from users and presentation of results, the following conclusions can be arrived from this study. The present research suggests that social media sites have created a phenomenon over the past decade. YouTube, Face book and Twitter have emerged as the most popular websites and have continued to grow in popularity. These websites create new ways of communication with friends and family and also influence individual's self-concept. Social networking websites also offer new and innovative ways to communicate with other individuals in a quick manner. Ever increasing explosion of information and advancement in the technology of information sharing are the prime factors that necessitated the present generation to use the social networks. Students should not disclose personal information to strangers. They should work in accordance with strict and safe computing practices. They can protect their privacy by putting up fake biographical information and images, making the profile private and for friends only. They can also use social networking sites that provide better privacy and facilities to present highly customizable personal information. Training and awareness programmers should be given to educate users about the applications, benefits, and risks associated with social media sites.

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## **KEY TERMS AND DEFINITIONS**

**Data Literacy:** With the right tools and training, it’s easier than ever for students, parents, teachers, school leaders, and school partners to make informed decisions. Whether this looks like a student taking charge of her own growth or a teacher pinpointing specific skills his students need to enhance, data literacy could lead to a sea change in education.

**Digital Literacy:** These days, digital illiteracy is nearly as debilitating as traditional illiteracy. Digital devices like smartphones, tablets, and laptops have permeated every corner of our lives from work to school to personal relationships, and part of a well-rounded education includes being able to use these devices to achieve a variety of goals.

**Media Literacy:** Media creation and consumption is changing at a rapid pace. Someone who is “media literate” can adapt to new communication formats—whether that’s instant messaging, push notifications, wikis, online communities, blogs, or vlogs—and knows how to choose the most effective medium for communication in any given situation.

**News Literacy:** A little skepticism goes a long way. We learn the difference between fact and fiction at a young age, but in the digital world, it’s hard even for adults to be confident about what to believe. Rich news literacy learning experiences should be available to students throughout K-12, helping them learn not only how to find and read the news, but also how to think about it and evaluate it.

**Visual Literacy:** We take in more visual information than ever. The ability to comprehend—and to create—videos, photos, infographics, and other visuals has become essential for daily life and career success.

# Chapter 11

## Use of N-List Resources Among the Faculty Members of Affiliated Colleges of Bharathiar University, India: A Study

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### ABSTRACT

*Library consortium is an umbrella term that covers the concept. With cooperation it was possible for sharing of union catalog, document delivery services, storage facilities, collection development, and human resources at local, national, and regional levels. It is the single solution of these concepts. Consortium gives the freedom for a library having less collection as they can access any product at the nominal price. Out of 335 respondents, 232 (69.3%) respondents were aware of N-LIST resources, whereas 103 (30.7%) of them somewhat aware of N-LIST resources. This study shows that majority of the respondents were aware of N-LIST resources. All the respondents, 335 (100%), were utilizing the N-LIST resources. 177 (52.8%) respondents were spending '1-2 hours' for accessing N-LIST resources, 101 (30.1%) respondents were spending '3-4 hours', 30 (9%) of them spent 'below 1 hour', and 27 (8.1%) of them spent 'more than 5 years'. This analysis shows that nearly 53% of the respondents were spending '1-2 hours' to access N-LIST Resources in a day. 111 (60.3%) assistant professors and 66 (45.7%) associate professors were spending '1-2 hours' in a day to access N-LIST resources. The authors were made to aware about N-LIST resources the respondents have given 'guide by the librarian' as first priority, followed by 'orientation programme', 'trial and error method', 'through YouTube tutorial', 'online user guide', and 'guide by friends and colleagues' is the least priority.*

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## **INTRODUCTION**

Today libraries are shifting their role from the custodian of traditional resources to the provider of service-oriented digital information resources. Widespread use of computers, increased reliance on computer networks, the rapid growth of the internet and explosion in the quality and quantity of information, compelled libraries to adopt new means and methods for the storage, retrieval and dissemination of information. The modernization of libraries and information centers enabled to information transfer and access, thereby helping in established of well-known the network of libraries and information centers. This initiative paved the way for resource development, resource sharing and their utilization at various levels.

The National Commissions on Libraries and Information Centers in its National Programme Document (1975) defined a network as “Two or more libraries engaged in a common pattern of information exchange, through communications for some functional purpose”. (Sahoo, 2004). Co-operation amongst institutions for sharing their library resources has been practiced for decades. Traditionally, the primary purpose of establishing a library consortium is to share physical resources, including books and periodicals, amongst members. However, the mode of co-operation has been transformed with an infusion of new information technology, whether in the print-based environment or the digital environment. The emergence of the Internet, particularly the World Wide Web, as a new medium of information delivery triggered the proliferation of web-based electronic resources. An increasing number of publishers use the Internet globally to offer their publications to the international community of scientists and technologists. The technology provides an unparalleled medium for delivery of information with greater speed and economy

## **CONCEPT OF LIBRARY CONSORTIUM**

Library consortium is an umbrella term which covers the concept with co-operation it was possible for sharing of union catalogue, document delivery services, storage facilities, collection development and human resources at local, national and regional level. It is the single solution of these concepts consortium gives the freedom for a library having less collection as they can access any product at the nominal price.

The term consortium existed for decades but it is gaining so much importance in recent years. A consortium is said to ‘a co-operative arrangement among groups or institutions or an association or society’. Consortia are commonly formed to increase the purchasing capacity of the collaboration institutions to expand the resource availability and of offer automated services. In other words, it is described as a group of organizations whose purpose is to collectively facilitate and support the work of a service program in ways that add material and human resources beyond those available to each organization individually. A consortium is an association of two or more individuals, companies, organizations or governments (or any combination of these entities) with the objective of participating in a common activity or pooling their resources for achieving a common goal. The consortium is a Latin word, meaning ‘partnership, association or society’ and derives from consumers ‘partner’, itself form con ‘together’ and sors ‘fate’, meaning owner of means or comrade (Wikipedia – free Encyclopedia)<sup>7</sup>.

There are many different interpretations of the word “Consortium”. A consortium could be described as a group of organizations who come together to fulfill a combined objective or project that usefully requires co-operation and the sharing of resources. They sometimes develop out of existing working partnerships, but need to have a clear mutual goal in order to ensure their success. The aim should be

to deliver “more than the sum of the individual parts”. Consortia vary in how they are staffed, the roles they fulfill and how they are structured. Not all call themselves consortia; some choose “Network”, or partnership as a preferred description. However, they are sufficiently similar for us to be able to extract information, which could be useful to others, wishing to go down the route of developing a voluntary and community sector learning consortium.

The Consortium provides a forum for members to share common ideas and concern and serves as a vehicle through which the member’s shares resources and cooperate for the benefit of the members. The consortium promotes the role of higher education in the region’s economic and cultural life, and provides leadership on matters related to higher education in the community and in the various locations in which its members reside (Consortium of Universities of the Washington Metropolitan Area). Library co-operation is a very old concept and a form of resources sharing. Resource sharing entails apportioning, allocating, distributing or contributing something on a voluntary basis for mutual benefits, among a group of libraries with a view to achieve utilization of resource by the ultimate users at a wider level. The consortium model requires the libraries to shift from the “Owning Model” to an ‘Access Model’. (Lobo, and Bhandi, 2007).

## **REVIEW OF LITERATURE**

Rajawat (2018) in his study entitled “Library Consortia in India” has discussed the role of consortia in providing a great effect on the libraries and its particular users. The journals and e-journals though produced at high speed were relatively insufficient to the demands and the budget of the library could not be able to procure their demanded resources. The consortium had grown up due to budget insufficiency, demanding a variety of information needs, better and effective utilization of resources. The study analyzed the ever-present funding problem as consortia demand initial investments in licenses and information and communication technology. Usage of new e-resources and technologies had minimized the financial crisis. The study revealed that consortium has promoted the unity, harmony, and collaboration among the libraries.

Jeon and Menicucci (2017) in their study entitled “The Benefits of Diverse Preferences in Library Consortia” had depicted that the library consortium increased the aggregate payoff of the member libraries with similar preferences and was likely to lose from building a consortium and that those with diverse preferences were likely to gain by doing so. Combining libraries with diverse preferences had implied that their valuation for different publishers, journals were more symmetric, which intensifies competition among publishers for scarce combined budgets. A tension between short term and long term considerations might generate a library consortium trap. Building a consortium would always be beneficial in the first scenario. In contrast, the outcome of the menu pricing was equivalent to that of the pricing game played after the consortium was formed. The study also analyzed about the variety of the menu pricing game in which the consortium could not be formed with a high probability due to transaction costs and found that the outcome of this game is equivalent to that of the first scenario.

Chauhan (2017) in his study entitled “E-ShodhSindhu Consortia: A Boon to User of Indian Academic Libraries” has revealed that e-ShodhSindhu consortia provides access to qualitative e-resources including full-text and databases to the member academic institutions at lower rates of subscription and also provides access to qualitative electronic resources including full-text, bibliographic and factual databases to academic institutions at lower rates of subscription.

Romesh and Gupta (2015) in their paper entitled “Library Consortia in India” the study was conducted globally. It has most of the information available in the electronic or digital format. Consortia are all about sharing and improving access to information. A library consortium is a group of two or more libraries that have agreed to cooperate with each other in order to fulfill certain similar needs, usually resource sharing. The increasing price of published electronic journals, indexing and abstracting databases along with the traditionally published print subscriptions has forced the library community to explore alternative means of subscription. The study stated that consortium has helped the researchers, faculties and the students to retrieve the information and save their time. It benefits the libraries to procure more electronic resources in the library with limited library budget.

Rodrigues (2014) in his study entitled “Library Consortia: Bridging the Gap in the Availability of Information”, conducted a study to determine essential component in higher education, particularly in academic libraries that are undergoing a rapid and dynamic revolution. Consortia’s are formed with an objective to enhance the purchasing power of participating library amidst the present scenario of major financial crunch and escalating the cost of resources in electronic form. The librarians felt the urge to collaborate also for enhanced information access and to utilize the technology for resource sharing. The Evaluation of consortium for collective subscription of electronic resources has brought a revolution in the way information is provided to the students, faculty, and researchers in the academic library communities.

Kumar (2014) in his study entitled “Library Consortia: Advantages and Disadvantages”, has examined the explosion of information and found that the inadequate of the library has urged the libraries to adopt new philosophies and technologies for collection, development and reduction of costs of information. The electronic environment, as manifested by the World Wide Web, provides an opportunity to improve the measurement of the use of these resources. The consortium, with its collective strength of participating institutions, has attracted highly discounted rates of subscription with the most favorable terms of the agreement.

Muthu (2013) in his study entitled “Resource Sharing in Libraries: A Vital Role of Consortia”. Highlights for what is Resource Sharing? Why Resource Sharing? In India, Resource Sharing, in the true sense, has not yet developed in a big way. A few decades ago NISSAT came into being and some library networks started with much fanfare, Today NISSAT has been dismantled, only DELNET and INFLIBNET have a better record, but still they will have to go a long way to be worthy of the tasks assigned to them. Happily, now some consortia have started functioning. These consortia have started sharing e-journals. Library consortia help the library to achieve library objectives. Every library has common objective “right information to right user, at right time” to satisfy their users.

Goria (2012) in his study entitled “Role of Consortia for effective use of e-resources in Higher education: A Practical approach in Indian Libraries”, discussed that Consortia based access of e-resources has been provided in most of the Indian libraries of higher education and research institutes during the last decade. In consortium mode, users are able to access adequate and desired scholarly e-journals in Indian libraries and also it provides a brief overview of popular library consortia of India. The present paper also describes techniques to increase utilization of e-resources. Various emerging technologies i.e. RSS feeds, Google Reader, Delicious etc have been demonstrated practically for effective utilization of e-resources with minimum efforts and to create a User identification and password-based access of e-resources is also required to access the use of e-resources from any place.

Hulagabali (2012) in his study entitled “Understanding the Library Consortium to Harness the Teaching, Research and Publication Activities”, introduces the advantages, disadvantages, features and utilities of the library consortium and its models viz. Open Consortia, Closed Consortia, Centrally Funded Model,

Shared-Budget Model, Publisher Consortia Model and National Consortia Models. In Indian scenario major consortiums are CSIR, FORSA, HELINET, IIM, INDEST, INFLIBNET's N-LIST, and DAE etc. the effort of UGC-INFONET and INDEST-AICTE Consortium is appreciable and will definitely strengthen higher education system in India, free or highly subsidized access to scholarly e-resources will help educational institutions in full filling their mission in reality.

Thanuskodi (2011) in his study entitled "E-resource consortia: a boon for Indian University Libraries", examined that the library environment is currently undergoing a rapid and dynamic revolution leading to new generation of libraries with the emphasis on e-resources. A lot of efforts have been taken in the past few years to overcome this problem of financial crunch by resource sharing through consortia for university libraries. INFLIBNET, UGC-INFONET and INDEST-AICTE Consortium are major initiatives for university library users. Academic libraries have really understood that consortia based subscriptions are cost effective and also help redundant expenses and duplicate subscriptions. The age of library consortia brings cooperation locally, regionally, nationally, and internationally.

Varaprasad and Madhusudhan (2010) in their paper entitled "E-journal consortium: is it a success story always?" conducted a case study of CSIR e-journal Consortium have discussed the need for consortia, their types, advantages and disadvantages of a consortium, problems faced by the consortiums and possible solutions for some of the problems. It felt that there should be a concerted effort by the researchers and librarians in trimming the library budget, and judiciously use the money for subscribing core journals so that more than 90 percent of the users' needs can be satisfied. Increased cooperation and document delivery services among the homogeneous libraries may help in achieving higher user satisfaction. With the available ICT and the Internet, it is a simple task in the present context. Bundled packages and big deals from the publishers may be avoided and those journals, which satisfy to the highest degree of user needs, may only be subscribed.

Moghaddam and Talawar (2009) in their study entitled "Library Consortia in Developing Countries: An Overview". Have reviewed the efforts of consortia in developing countries and refers to co-operation, coordination and collaboration between the libraries for the purpose of sharing information resources. The library consortia are shifting from a peripheral and limited position of resource sharing to an integrated system-wide resource sharing in recent years in the West. With the help of networks and the internet, libraries in developing countries have also begun to create consortia at a national, regional and international level to share their resources and expand access to print and electronic collections and develop new services to meet their customers' needs. Membership of international consortia can be recommended for all developing countries as it brings them all together to redefine and re-engineer their consortia efforts.

Bajpai, et al. (2009) in their study entitled "Use of e-resources Through Consortia: A Boon to Users of Indian University Libraries", examined the libraries' function as an essential integral component in the higher education system. Academic libraries in India are facing a lot of problems due to static budget and exponential price hike of library collections. A lot of efforts have been taken in the past few years to overcome this problem of financial crunch by resource sharing through consortia for university libraries. UGC-INFONET and INDEST-AICTE Consortium are two major initiatives for university library users. In the long run consortia approach will be much more popular in the user community and that day is not so far behind when consortia approach will expand the country's information base.

Singh and Rao (2008) in their paper entitled "An overview of the Library Consortia in India", have discussed the Library consortia concepts. Initially, the academic libraries formed consortia for the primary purpose of sharing printed materials. These resources are shared among libraries that have common missions, goals and clients (users) and act on those commonalities. Earlier library resources were

shared through interlibrary loan, but in this Information communication technology (ICT) age it has gained momentum even in the developing countries. Library consortia provide physical and electronic delivery of materials, and integrate the collection-development process. These are distinct and crucial steps in moving toward the twenty-first-century library.

Bedi and Sharma (2008) in their study entitled “Library Consortia: A Step forward the Information Society”, have briefly discussed the major concepts of library consortia initiatives in India and analyzed the increasing cost of e-journals, indexing and abstracting databases along with the traditional printed journals, library cooperation and development. As the resources that are procured today through the consortium are mainly e-resources, it has become possible for the users to access and download the required materials without even going through the elaborate process of interlibrary lending. The advent of e-publishing has brought a revolution in journals publication, subscription as well as access to the scholarly literature. The age of library consortia is at the doorsteps to prove the library cooperation locally, regionally, nationally and internationally. It is one of the emerging toolkits for maximum libraries to survive if the libraries have to provide information to their users.

Gowda (2007) in his study entitled “UGC- Infonet: An Indian Consortium Model for Higher Education”, focused on the UGC-Infonet consortium. It is one of the landmark achievements in the field of higher education in India. It provides around 5000 full-text journals to 150 universities in the X<sup>th</sup> plan and is planning to cover all the remaining universities as well as 17,000 colleges in a phased manner in the XI<sup>th</sup> plan. At present it includes 25 databases to cover all fields of higher learning of relevance to universities including: Arts, humanities and social sciences, physical and chemical sciences, life sciences, computer sciences, mathematics and statistics. Today, the tremendous developments in ICT, library consortia and licensing models, it has become possible to have wide access to online resources at a more affordable price than ever.

Krishnamurthy (2007) in his study entitles “Accessing of E-Journals: A Consortia Approach”, conducted a study on the advent of the ‘Big Deal’ in particular a consortia model that enables a group of libraries to pool their purchasing through a central consortium that negotiates a multi-year electronic access agreement directly with a large publisher, providing online access to many additional titles at relatively little extra cost. It has played a significant part in the rapid uptake of electronic content by users throughout the world. Internet-based e-resources are increasing, used for scholarly purposes. It caters to mutual interests by setting up a library consortium to select, acquire, maintain, and preserve electronic information. It is one means of reducing or sharing costs as well as expanding the universe of information available to users and ensuring a successful outcome. The ultimate goal of cooperation is to join users and the documents and information they need; establishing relations among participants’ institutions is a means to that end. Consortia represent the possibility to test alternatives to the traditional automated library.

Chauhan and Chand (2007) in their study entitled “UGC-Infonet: E-Journals Consortium and Indian Academics: The Right Initiative at the Right Time”, studied about the UGC-Infonet E-Journals consortium initiatives undertaken by the Indian University Grants Commission (UGC) to facilitate free access to scholarly journals and databases in all fields and disciplines by the research and academic community across the country. All universities who are under the purview of UGC have been provided UGC-Infonet Connectivity and access to scholarly e-Journals and Databases. National Seminars conducted by INFLIBNET were well received by a large number of participants from all over the country. Seminar participants expressed appreciation for the vision of UGC and the support provided by INFLIBNET



for research and academic work. The effort of the National Negotiation Committee is appreciated in selecting the publications.

Sharif (2006) in his study entitled “Library Co-operation through Resource Sharing (RS): Models for Lahore Libraries”, reveals that the use of information and communication technology (ICT) to further enhances Resource Sharing initiatives. The advent of electronic formats has increased both the ease and efficiency of finding and producing virtual scholarly documents. The ICT tools such as web OPAC, e-formats, e-mail, MARC, Z39.50, Digital Libraries, help at local, national, and international level. Resource Sharing is an effective tool for providing extensive access with limited financial resources. Users’ demands and expectations have also arisen with the speedy growth of knowledge resources.

Sreekumar and Sunitha (2005) in their study entitled “Library capacity building through E-Journal Consortia: The Indian Scenario”, described E-journals as electronic equivalents of their print counterparts possessing many added features. E-journals offer a range of potential advantages to libraries and end-users: multiple simultaneous access to the same issue, remote access, in-built searching facilities, multi-media capabilities and reduced storage concerns. Consortium-based library subscriptions to E-journals and electronic full-text Databases are picking up good momentum in India. As the consortium initiatives demand the active involvement of LIS professionals as well as the promoting / beneficiary institutions, it normally evolves and grows with hardships and bottlenecks. At times we find that the movement draws its strength even from its weaknesses, problems and from its own hard-learned lessons. It is also to be noted that E-Journal subscription itself is a complex and complicated process, which adds up problems to the consortium activity in multiple ways.

Kumbar (2004) in his study entitled “Consortia for Management College Libraries in the E-Publishing Era: A Proposal”, has discussed the concept and significance of consortia in Indian context with a view to justify on the basis of tremendous growth as well as diversity of explicit knowledge, increased users’ demands, diminished budgets, galloping prices for subscribing periodicals and purchasing books, etc. Libraries in India have been affected by an uncertain financial environment in which resource buying has been restricted, causing them to look at ways of extending their purchasing capabilities to compensate for reduced budgets. The Advent of E-publishing has brought a revolution in journals publication, subscription and access to scholarly literature and the age of library consortia is at the doorsteps to prove cooperation locally, regionally, nationally and internationally. It is an encouraging sign with a good number of consortia efforts done in India by the consortium for a group of libraries falling under certain disciplines viz. FORSA for Astronomy CSIR for Scientific labs, INDEST for libraries in the area of Engineering and Technology including management libraries.

Arora (2003) in his study entitles “Indian National Digital Library in Engineering Science and Technology (INDEST): A Proposal for strategic Cooperation for Consortia-based access to Electronic Resources.”, has done analysis on the Indian libraries and institutions towards the formation of consortia of libraries for buying access to electronic resources. The proposed strategic cooperation called the Indian National Digital Library in Engineering Science and Technology (INDEST) is based on five project proposals submitted to three major Ministries /Departments of the Government of India, namely, the Ministry of Human Resource Development (MHRD), the Ministry of Information Technology (MIT), and the Department of Biotechnology. The INDEST is proposed to function as a consortium of engineering and technological libraries for nurturing core digital collections in engineering and technology. As a consortium of libraries, the INDEST would bring together institutions receiving financial support from these three Ministries/ Departments of the Government of India While these Ministries /Departments would provide financial resources for establishing the consortium and for obtaining core electronic

resources, the participating institutions would contribute for consortia-based subscriptions. The IND-EST would host a variety of Web-based digital resources including those available through national and international agencies with consortia and national licenses to provide access to authorized users in India.

Shachaf (2003) in his study entitled “Nationwide Library Consortia Life Cycle”, carried out a comparative analysis of several nationwide consortia (from Australia, Brazil, China, Israel, Italy, Micronesia, Spain and the U.K.) using six criteria that enable delineation of a developmental pattern. A four-stage life cycle sequence is outlined: embryonic, early development, development, and maturation. It’s comparative to “(1) comparing incidents applicable to each category, (2) integrating categories and their properties, (3) delimiting the theory, and (4) writing the theory”. This study explores a preliminary universal model for the development of consortia at the inter-organizational level of analysis.

Manjunatha and Shivalingaiah (2003) in their study entitled “Electronic Resource Sharing in Academic Libraries”, stated that the age of digital evaluation, escalating price of electronic information and resource sharing are critical for the effective functioning of libraries. Increased availability of information in digital format and high costs of journal subscription compels the libraries to work together. Technical advancements provide a platform for digital resource sharing and offer many opportunities for librarians to become more technical and professional. His work also attempted to identify the needs and factors influencing electronic resource sharing and presented requirements and strategies for effective resource sharing in academic libraries.

Jain (2001) in his study entitled “Building Capacities - Resource Sharing in India: A case study of the Institute of economic growth library”, states that resource sharing becomes more important and inevitable for developing countries like India, where the information centers/ libraries are facing short of funds and resources. Further libraries find the space problem for storing purposes and hence they think about library networks and resource sharing. Resource sharing from its elementary concept of inter-library lending, now includes cooperative acquisition, collection development, shared cataloging, centralised processing, exchange of content page of journals, sharing of bibliographical data, centralised periodicals collection, exchange of electronic documents and articles, obtaining photocopies of articles etc. In India, in the past two decades, information technology has made significant progress. The current state of information handling is indeed sufficient to support and encourage the sharing of resources among libraries. Especially, the present decade has witnessed a renewed interest in library cooperation for mutual benefits, at the national and international levels.

Mauti, Chege, and Kiplag (2018) in their study entitled “Evaluating Access and Use of Information Resources by Postgraduate Students at the Adventist University of Africa Library in Kenya”, conducted a sample study on 142 postgraduate students out of 473. Stratified and purposive sampling techniques were used. From the research findings, the majority of the respondents indicated that books form the highest percentage of resources found in the library as represented by 48.6%, Books were rated highest with a mean of 4.34, an indication that respondents considered them to be very good, It was established that 48.6% of the postgraduate students access the information resources through the information literacy skills. 57.8% of the respondents do not have adequate information technology skills. The study recommended more print-based journals to be subscribed to cover all the programs and suggested the University to ensure that all students are computer literate in order to gain skills that enable them to retrieve information using Information Communication Technology (ICT).

Papanna and Ravvivenkat (2017) in their study entitled “Information Sources and Services in First Grade College Libraries of Chitradurga District: A Survey”, did a survey empowered with a structured questionnaire and distributed to college librarians. The study indicates that out of (27.31%) college

libraries 23 have separate independent budget, it is suggested that the college authorities must focus on building the infrastructure in libraries, provide professional manpower to libraries, set in motion the concept of introducing library automation in libraries, framing a policy for collection building and rules for providing services to library users in an effective and efficient manner.

Olajide and Adio (2017) in their study entitled “Effective utilisation of university library resources by undergraduate students: A case study of Federal University Oye-Ekiti, Nigeria”. The research design used for this study is the descriptive research design of the survey type and the instrument used was a structured questionnaire administered to students in the university. The sample study is 400 targeted undergraduate students to whom four hundred copies of the questionnaire were distributed across the four faculties of the university while three hundred and eighty-four (384) copies of questionnaires were returned and found useable/fit for the analysis representing a response rate of 96%. It was revealed in the study that erratic power supply, functional resources, adequate reading space and lack of physical facilities.

### **Objectives of the Study**

- To assess the demographic information of the faculty members of autonomous and aided colleges affiliated to Bharathiar University.
- To assess the level of awareness on N-LIST Resources among the faculty members of autonomous and aided colleges affiliated to Bharathiar University.
- To evaluate the purpose for which N-LIST Resources by the faculty members of autonomous and aided colleges affiliated to Bharathiar University.
- To estimate the extent usage of N-LIST Resources by the faculty members of autonomous and aided colleges affiliated to Bharathiar University.

### **Hypotheses of the Study**

- There is a significant difference in the frequency of usage of N-LIST Resources with respect to the type of management, college status, gender, qualification and teaching experience.
- There is a significant difference in the usage of the N-LIST e-journal database with respect to the type of management, college status, gender, qualification and teaching experience.
- There is a significant difference in the usage of the N-LIST e-book database with respect to the type of management, college status, gender, qualification and teaching experience.

### **Discussion and Analysis**

Out of 335 respondents examined, majority of the respondents were belonging to aided colleges 243 (72.54%), followed by self – finance 79 (23.58) and only 13 (3.88%) from the government college respectively. It is concluded from the above table 1 that majority of the respondents are Aided college faculty members.

Out of 335 respondents examined, the largest number of respondents were belonging to autonomous colleges 301 (89.9%), followed by affiliated colleges 34 (10.1%) respectively. It concluded that most of the respondents are autonomous colleges.

## Use of N-List Resources Among the Faculty Members of Affiliated Colleges of Bharathiar University, India

Table 1. Frequency distribution of respondents among management

S. No	Type of Management	No of Respondents	Percentage
1	Government	13	3.88
2	Aided	243	72.54
3	Self – Finance	79	23.58
Total		335	100

Source: Primary Data

Table 2. Frequency distribution of respondents among college status

S. No	College Status	No of Respondents	Percentage
1	Affiliated	34	10.1
2	Autonomous	301	89.9
Total		335	100

Source: Primary Data

The sample selected for the study consists of both male and female respondents. The gender wise distribution of N-LIST Resources users is shown in Table 3 It may be seen from the table that majority of the respondents totaling 202 (60.3%) are female and the remaining 133 (39.7%) are male. It is concluded that female faculty members dominate more in number than male faculty members.

The age wise distribution of N-LIST Resources respondents is shown in the table 4 and figure 4 It is clear from the table that majority of the respondents numbering 148 (44.2%) are in the age group of 26 – 35 years, followed by the respondents between the age group of 36 – 45 years numbering 138

Table 3. Frequency distribution of respondents among gender

S. No	Gender	No of Respondents	Percentage
1	Female	202	60.3
2	Male	133	39.7
Total		335	100

Source: Primary Data

Table 4. Frequency Distribution of respondents among Age

S. No	Age	No of Respondents	Percentage
1	Below 25	2	0.6
2	26-35	148	44.2
3	36-45	138	41.2
4	Above 45	47	14
Total		335	100

Source: Primary Data

## **Use of N-List Resources Among the Faculty Members of Affiliated Colleges of Bharathiar University, India**

(41.2%). About 47 (14%) respondents fall in the age group of above 45 years. A few respondents accounting 2 (0.6%) are in the age group of below 25 years. The table clearly indicated that majority of the respondents are found to be with the age group of 26-35.

The designation of the respondents is taken as one of the variables for studying the use of N-LIST Resources by the faculty members of the aided and autonomous colleges in the study. The designation wise distribution of responses is shown in table 5. Table 5 it is observed from the table that majority of the respondents counting 184 (54.9%) are Assistant Professors and Associate Professors represent 151 (45.1%). It is concluded that most of the respondents are assistant professors in the study.

The academic qualification wise distribution is shown in the table 6. Out of 335 respondents, 249 (74.3%) respondents have completed Ph.D. Qualification, followed by UGC – NET 66 (19.7%) and 20 (6.0%) of the respondents are UGC – SET respectively, the M.Phil qualified respondents accounted to be 0 (0%). It is concluded that majority of the faculty members have completed Ph.D degree.

The teaching experience is shown in Table 7. 140 (41.8%) of the faculty members have 6 – 10 years' experience in teaching, followed by 96 (28.7%) of the respondents have 11 – 15 years' experience, then

*Table 5. Frequency distribution of respondents among designation*

S. No	Designation	No of Respondents	Percentage
1	Assistant Professor	184	54.9
2	Associate Professor	151	45.1
Total		335	100

Source: Primary Data

*Table 6. Frequency distribution of respondents among academic qualification*

S. No	Academic Qualification	No of Respondents	Percentage
1	M.Phil.	0	0
2	Ph.D	249	74.3
3	UGC- NET	66	19.7
4	UGC – SET	20	6.0
Total		335	100

Source: Primary Data

*Table 7. Frequency distribution of respondents among teaching experience*

S. No	Teaching Experience	No of Respondents	Percentage
1	0 – 5 Years	8	2.4
2	6 – 10 Years	140	41.8
3	11 – 15 Years	96	28.7
4	Above 15 Years	91	27.2
Total		335	100

Source: Primary Data

91 (27.2%) of the respondents have above 15 years teaching experience in the respective field. The study also indicated that only 8 (2.4%) of the respondents have 0 – 5 years of experience. It is indicated that most of the respondents have 6-10 years of experience in the teaching field.

The frequency of library visit by faculty members has been summarized form of a table 8. The table 8 depicts that out of 335 respondents, 177 (52.83%) respondents visit the library ‘Weekly’, followed by 80 (23.88%) respondents visit ‘Fortnightly’, 52 (15.52%) respondents visit the library ‘Daily’ and 26 (7.76%) respondents visit the library ‘Once a month’. The above table 8 depicts that 100 (54.35%) assistant professors visit the library ‘Weekly’, followed by 41 (22.28%) visit ‘Daily’, 29 (15.76%) visit ‘Fortnightly’ and 14 (07.61%) assistant professors visit the library ‘Once a month’. It is also clear from the table that 77 (50.99%) associate professors visit the library ‘Weekly’, followed by 51 (33.77%) visit ‘Fortnightly’ 12 (07.95%) visit ‘Once a month’ and 11 (07.28%) associate professors visit the library ‘Daily’.

The faculty members and library users have visited the library to use the library books and other materials, the borrowing services are the major services of any library. In the table 9 indicate that out of 335 respondents, 151 (45.1%) assistant and associate professors visit the library for the purpose of borrowing the books for sometimes, followed by 93 (27.8%) respondents always visit to the library for the purpose of borrowing the books, 67 (20%) respondents visit the library for the purpose of borrow the books most of the time, 22 (6.60%) respondents occasionally visit the library for the purpose of borrowing the books and only 2 (0.60%) respondents Never visit the library for the purpose of borrowing the books. The periodicals are essential for any library, it is published at regular intervals. Magazines, Journals are published in national level and international level. The table 9 indicates that 112 (33.4%) assistant and associate professor are visiting the library for the purpose of reading periodicals sometimes, followed by 91 (27.2%) respondents to read most of the time, 75 (22.4%) respondents to read occasionally the periodicals, 55 (16.4%) respondents to always visit the library read periodicals, and 2 (0.6%) respondents never visit the library for the purpose of reading periodicals.

The table 9 indicates that 133 (39.70%) assistant and associate professors are visiting library to consult reference books for teaching, followed by 95 (28.40%) respondents to consult reference books for most of the time, 73 (21.80%) respondents to visit and consult reference books always, 26 (07.80%) respondents occasionally to use the reference books and 8 (02.40%) respondents never consulted for reference books. The table 9 indicates that 141 (42.10%) assistant and associate professors are sometimes to visit library with the purpose of getting latest arrivals of books, periodicals, and others, followed by 132 (39.40%)

*Table 8. Designation wise respondents frequency of visit to the library*

S.No	Frequency of Visit to the Library	Faculty Members Designation		Total (%)
		Assistant Professor (%)	Associate Professor (%)	
1	Daily	41 (22.28)	11 (7.28)	52 (15.52)
2	Weekly	100 (54.35)	77 (50.99)	177 (52.84)
3	Fortnightly	29 (15.76)	51 (33.77)	80 (23.88)
4	Once a Month	14 (7.61)	12 (7.95)	26 (7.76)
Total		184 (54.9)	151 (45.1)	335 (100)

Source: Primary Data

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*Table 9. Designation wise respondents purpose of visit to the library*

S.No	Purpose of Visit Library	Classification	Designation (N=335)		Total
			Assistant Professor (%)	Associate Professor (%)	
1	To borrow the Books	Never	2 (1.1)	0	2 (0.6)
		Occasionally	2 (1.1)	20 (13.25)	22 (6.6)
		Sometimes	85 (46.2)	66 (43.71)	151 (45.1)
		Most of the time	41 (22.3)	26 (17.22)	67 (20)
		Always	54 (29.3)	39 (25.83)	93 (27.8)
Total			184 (54.9)	151 (45.1)	335 (100)
2	To read Periodicals	Never	0	2 (1.32)	2 (0.6)
		Occasionally	25 (13.6)	50 (33.1)	75 (22.4)
		Sometimes	68 (37)	44 (29.1)	112 (33.4)
		Most of the time	49 (26.6)	42 (27.8)	91 (27.2)
		Always	42 (22.8)	13 (8.6)	55 (16.4)
Total			184 (54.9)	151 (45.1)	335 (100)
3	To consult reference books	Never	0	8 (5.3)	8 (2.4)
		Occasionally	19 (10.3)	7 (4.6)	26 (7.8)
		Sometimes	80 (43.5)	53 (35.1)	133 (39.7)
		Most of the time	45 (24.5)	50 (33.1)	95 (28.4)
		Always	40 (21.7)	33 (21.9)	73 (21.8)
Total			184 (54.9)	151 (45.1)	335 (100)
4	To know the latest Arrivals	Never	0	3 (1.99)	3 (1)
		Occasionally	21 (11.41)	10 (6.62)	31 (9.3)
		Sometimes	57 (30.98)	84 (55.63)	141 (42.1)
		Most of the time	89 (48.37)	43 (28.48)	132 (39.4)
		Always	17 (9.24)	11 (7.28)	28 (8.4)
Total			184 (54.9)	151 (45.1)	335 (100)
5	To read newspapers	Never	0	11 (7.3)	11 (3.3)
		Occasionally	2 (1.1)	24 (15.9)	26 (7.8)
		Sometimes	70 (38)	69 (45.7)	139 (41.5)
		Most of the time	80 (43.5)	40 (26.5)	120 (35.8)
		Always	32 (17.4)	7 (4.6)	39 (11.6)
Total			184 (54.9)	151 (45.1)	335 (100)
6	To avail Inter library loan	Never	54 (29.3)	82 (54.3)	136 (40.6)
		Occasionally	62 (33.7)	38 (25.17)	100 (29.9)
		Sometimes	52 (28.3)	25 (16.56)	77 (23)
		Most of the time	14 (7.6)	0	14 (4.2)
		Always	2 (1.1)	6 (3.97)	8 (2.4)
Total			184 (54.9)	151 (45.1)	335 (100)

*continued on following page*

*Table 9. Continued*

S.No	Purpose of Visit Library	Classification	Designation (N=335)		Total
			Assistant Professor (%)	Associate Professor (%)	
7	To use reprographic Services	Never	3 (1.63)	87 (57.62)	128 (38.21)
		Occasionally	74 (40.22)	45 (29.8)	119 (35.52)
		Sometimes	40 (21.74)	13 (8.61)	53 (15.82)
		Most of the time	7 (3.8)	0	7 (2.09)
		Always	22 (11.96)	6 (3.97)	28 (8.36)
Total			184 (54.9)	151 (45.1)	335 (100)
8	To Browse E – Resources	Never	9 (5)	38 (25.17)	47 (14)
		Occasionally	19 (10.3)	24 (15.89)	43 (12.8)
		Sometimes	54 (29.3)	59 (39.07)	113 (33.7)
		Most of the time	51 (27.7)	19 (12.58)	70 (20.9)
		Always	51 (27.7)	11 (7.28)	62 (18.5)
Total			184 (54.9)	151 (45.1)	335 (100)

Source: Primary Data

respondents most of the time to collect the latest arrivals information, 31 (09.30%) respondents occasionally, 28 (08.40%) respondents always visit library with the purpose of getting latest arrivals of books, periodicals, and others while 3 (01%) are never have visited to get latest arrivals.

The table 9 indicate that 139 (41.50%) assistant and associate professors visit library to read the newspapers sometimes, followed by 120 (35.80%) respondents most of the time visit the library for reading newspapers, 39 (11.60%) respondents always visit library for reading newspapers, 26 (07.80%) respondents visit library occasionally to read the newspapers and 11 (3.3%) respondents never visited library for reading newspapers. The table 9 indicates that 136 (40.60%) assistant and associate professors Never used the interlibrary loan services, followed by 100 (29.90%) respondents occasionally used interlibrary loan services, 77 (23.10%) respondents used sometimes, 14 (04.20%) respondents used interlibrary loan services most of the time, and 8 (2.40%) respondents visit library always to use interlibrary loan services.

The table 9 indicates that 128 (38.20%) assistant and associate professors to never used reprographic service in library, followed by 119 (35.50%) respondents occasionally used the reprographic services, 53 (15.80%) respondents sometimes used the reprographic services, 28 (04.80%) respondents always visit library for using reprographic services and 7 (02.10%) respondents most of the time visit library for using the reprographic services. The library has to provide internet facilities for the library users. The table 9 indicates that 113 (33.70%) assistant and associate professors are sometimes visiting the library for using the browsing E-Resources, followed by 70 (20.90%) respondents browsing E-Resources for most of the time, 62 (18.50%) respondents always visiting library for browsing E-Resources, 47 (14%) respondents never browsed E-Resources, and 13 (12.8%) respondents to occasionally visit library for browsing E-Resources.

It is clear that most of the assistant and associate professors are visit the library for the purpose of to borrow the books 151 (45.10%) followed by to know the latest arrivals 141 (42.10%), 139 (41.50%) respondents to read newspaper, 136 (40.60%) respondents never to use interlibrary loan services, 133 (39.70%) respondents to consult the reference books, 128 (38.20%) respondents to Never use to the



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reprographic services, 113 (33.70%) respondents sometimes to browse, and 112 (33.40%) respondents sometimes to read periodicals.

The library print resources available in the most of libraries like, books, periodicals, thesis and dissertation, back volumes, newspapers, maps, etc., the table 10 stated that out of 335 respondents, from 212 (63.28%) assistant and associate professors opinion the library Print Resources are very good, followed by for 121 (36.12%) respondents print resources were good and for 2 (0.60%) respondents there is acceptable level of print resources.

The electronic resources/online resources available in different types, e-journals, e-books, e-databases, digital libraries, and e-thesis and dissertation, etc. the table 10 stated that, for the 183 (54.63%) assistant and associate professors the electronic resources are good, followed by for 102 (30.45%) respondents

*Table 10. Designation wise respondents library resources and services*

S.No	Library Services and Academic Activities	Classification	Designation (N=335)		Total
			Assistant Professor (%)	Associate Professor (%)	
1	Print Resources	Very Good	109 (59.24)	103 (68.21)	212 (63.28)
		Good	73 (39.67)	48 (31.79)	121 (36.12)
		Acceptable	2 (1.09)	0	2 (0.6)
		Poor	0	0	0
		Very Poor	0	0	0
Total			184 (54.9)	151 (45.1)	335 (100)
2	Electronic Resources	Very Good	56 (30.43)	46 (30.46)	102 (30.45)
		Good	96 (52.17)	87 (57.62)	183 (54.63)
		Acceptable	29 (15.76)	18 (11.92)	47 (14.03)
		Poor	3 (1.63)	0	3 (0.9)
		Very Poor	0	0	0
Total			184 (54.9)	151 (45.1)	335 (100)
3	Library Services	Very Good	21 (11.41)	20 (13.25)	41 (12.24)
		Good	94 (51.09)	77 (50.99)	171 (51.04)
		Acceptable	69 (37.5)	54 (35.76)	123 (36.72)
		Poor	0	0	0
		Very Poor	0	0	0
Total			184 (54.9)	151 (45.1)	335 (100)
4	Academic Activities	Very Good	11 (5.98)	38 (25.17)	49 (14.63)
		Good	119 (64.67)	84 (55.63)	203 (60.6)
		Acceptable	40 (21.74)	23 (15.23)	63 (18.81)
		Poor	14 (7.61)	6 (3.97)	20 (5.97)
		Very Poor	0	0	0
Total			184 (54.9)	151 (45.1)	335 (100)

Source: Primary Data

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the electronic resources are very good, 47 (14.03%) respondents there is acceptable level of electronic resources, and for 3 (01.63%) respondents the electronic resources are poor in their library.

The library services to provide information to library users, it includes current awareness service, alert services and online public access catalog (OPAC) etc, the table 10 stated that, for 171 (51.04%) assistant and associate professors library services is good, followed by 123 (36.72%) respondents there is acceptable level of library services and for 41 (12.24%) respondents the library services is very good.

The library is a heart of any institution. Academic activities of libraries to provide user education program and conducting orientation programs for new users and educate the library services, resources, e-resources, awareness programs to conduct the library users on a regular interval. The table 10 stated that, for 203 (60.60%) assistant and associate professors the library academic activities are Good, followed by 63 (18.81%) respondents state that there is acceptable level of library academic activities, for 49 (14.63%) respondents there is very good library academic activities, and for 20 (05.97%) respondents library academic activities is poor. It is clear from the above table 10 that the print resources are very good, while electronic resource, library services and academic activates in considered colleges are considerably good.

It is depicted that table 140 (76.09%) assistant professors use very frequently, followed by 21 (11.42%) respondents use occasionally, 15 (08.16%) respondents use frequently, 6 (03.27%) respondents use Never

*Table 11. Designation wise respondent's web browsers*

S.No	Web Browsers	Classification	Designation (N=335)		Total
			Assistant Professor (%)	Associate Professor (%)	
1	Google Chrome	Very frequently	140 (76.09)	126 (83.44)	266 (79.4)
		Frequently	15 (8.15)	0	15 (4.48)
		Occasionally	21 (11.41)	18 (11.92)	39 (11.64)
		Rarely	2 (1.09)	7 (4.64)	9 (2.69)
		Never	6 (3.26)	0	6 (1.79)
Total			184 (54.9)	151 (45.1)	335 (100)
2	Mozilla Firefox	Very frequently	52 (28.26)	41 (27.15)	93 (27.76)
		Frequently	81 (44.02)	51 (33.77)	132 (39.4)
		Occasionally	36 (19.57)	30 (19.87)	66 (19.7)
		Rarely	13 (7.07)	29 (19.21)	42 (12.54)
		Never	2 (1.09)	0	2 (0.6)
Total			184 (54.9)	151 (45.1)	335 (100)
3	Internet Explorer	Very frequently	0	0	0
		Frequently	28 (15.22)	28 (18.54)	56 (16.72)
		Occasionally	56 (30.43)	30 (19.87)	86 (25.67)
		Rarely	39 (21.2)	24 (15.89)	63 (18.81)
		Never	61 (33.15)	69 (45.7)	130 (38.81)
Total			184 (54.9)	151 (45.1)	335 (100)

Source: Primary data

and 2 (01.09%) respondents use rarely. It is also depicted that 126 (83.45%) associate professors use very frequently, followed by 18 (11.93%) respondents use occasionally, and 7 (04.64%) respondents use rarely. It is depicted that table 11 (44.02%) assistant professors frequently to use, followed by 52 (28.27%) respondents very frequently to use, 36 (19.57%) respondents occasionally to use, and 13 (03.89%) respondents rarely to use, and 2 (01.09%) respondents never to use. It is also depicts that table 51 (33.78%) associate professors frequently to use, followed by 41 (27.15%) respondents very frequently to use, 30 (19.86%) respondents occasionally to use, and 29 (19.20%) respondents rarely to use.

It is depicted that table 61 (33.16%) assistant professors never to use, followed by 56 (30.43%) respondents occasionally to use, 39 (21.19%) respondents rarely to use, and 28 (15.22%) respondents frequently to use. It is also depicts that table 69 (45.70%) associate professors never to use, followed by 30 (19.87%) respondents occasionally to use, 28 (18.54%) respondents frequently to use, and 24 (15.90%) respondents rarely to use.

It has shown that table 70 (40.21%) assistant professors face the network connectivity is low, followed by 36 (19.57%) respondents for high and moderate respectively, 28 (15.2%) respondents for very high and 10 (5.4%) respondents for not at all. It is also shows that table 52 (34.4%) associate professors face the network connectivity is low, followed by 35 (23.2%) respondents for high, 32 (21.2%) respondents for moderate, 24 (15.9%) respondents for very high, and 8 (5.3%) respondents for not at all.

It is show that table 88 (47.82%) assistant professors face the inadequacy of power supply is low, followed by 28 (15.21%) respondents for moderate, 26 (14.13%) respondents for not at all, 23 (12.50%) respondents for high and 19 (10.33%) respondents for very high. It is also shown that table 69 (45.70%) associate professors face the inadequacy of power supply is low, followed by 42 (27.82%) respondents for moderate, 25 (16.55%) respondents for high, 8 (5.3%) respondents for very high, and 7 (4.63%) respondents for not at all.

It has shown that table 87 (47.3%) assistant professors face the hardware and software support is moderate, followed by 52 (28.27%) respondents for low, 27 (14.68%) respondents for very high, 15 (08.15%) respondents for high and 3 (1.64%) respondents for not at all. It is also shown that table 67 (44.37%) associate professors face the hardware and software support is moderate, followed by 37 (24.5%) respondents for low, 25 (16.6%) respondents for very high, 16 (10.6%) respondents for high, and 6 (3.97%) respondents for not at all.

It is shown that table 103 (56%) assistant professors face the Human interface error is moderate, followed by 48 (26.08%) respondents for low, 30 (16.30%) respondents for high, and 3 (01.64%) respondents for not at all. It is also shown that table 58 (38.41%) associate professors face the Human interface error is low, followed by 50 (33.12%) respondents for moderate, 33 (21.86%) respondents for high, and 10 (6.62%) respondents for not at all.

The above table 12 shows that out of 335 respondents, 126 (37.61%) respondents face problem of network connectivity is moderate, followed by 157 (46.86%) respondents face problem of inadequacy of power supply is low, 154 (45.97%) respondents face problem of hardware and software support is moderate and 153 (45.67%) respondents face problem of Human interface error is moderate.

The estimated significance value is greater than 0.05 for variables 4-10 i.e. (Indian Journals, Institute of Physics, JSTOR, Oxford University Press, Royal Society of Chemistry, H W Wilson, and Cambridge University Press) therefore null hypotheses are accepted. Hence, there is no significant difference in the level of usage of N-List resources among assistant and associate professors in different colleges considered for the study.

*Table 12. Designation wise respondent's problems while accessing the internet*

S.No	Problems While Accessing the Internet	Classification	Designation (N=335)		Total (%)
			Assistant Professor (%)	Associate Professor (%)	
1	Network Connectivity	Very High	28 (15.2)	24 (15.9)	52 (15.52)
		High	36 (19.6)	35 (23.2)	71 (21.19)
		Moderate	36 (19.6)	32 (21.2)	68 (20.3)
		Low	74 (40.2)	52 (34.4)	126 (37.61)
		Not at all	10 (5.4)	8 (5.3)	18 (5.37)
Total			184 (54.9)	151 (45.1)	335 (100)
2	Inadequacy of Power supply	Very High	19 (10.3)	8 (5.3)	27 (8.06)
		High	23 (12.5)	25 (16.6)	48 (14.33)
		Moderate	28 (15.2)	42 (27.8)	70 (20.9)
		Low	88 (47.8)	69 (45.7)	157 (46.87)
		Not at all	26 (14.1)	7 (4.6)	33 (9.85)
Total			184 (54.9)	151 (45.1)	335 (100)
3	Hardware and Software support	Very High	27 (14.7)	25 (16.6)	52 (15.52)
		High	15 (8.2)	16 (10.6)	31 (9.25)
		Moderate	87 (47.3)	67 (44.4)	154 (45.97)
		Low	52 (28.3)	37 (24.5)	89 (26.57)
		Not at all	3 (1.6)	6 (4)	9 (2.69)
Total			184 (54.9)	151 (45.1)	335 (100)
4	Human interface error	Very High	0	0	0
		High	30 (16.3)	33 (21.9)	63 (18.81)
		Moderate	103 (56)	50 (33.1)	153 (45.67)
		Low	48 (26.1)	58 (38.4)	106 (31.64)
		Not at all	3 (1.6)	10 (6.6)	13 (3.88)
Total			184 (54.9)	151 (45.1)	335 (100)

Source: Primary data

Hence it is concluded that, the level of usage of N-list resources: journals among assistant and associate professor is the same. Except for the American Institute of Physics, Annual Reviews and Economics, and Political Weekly, there is a significant difference in usage level. It was found that the level of usage of American Institute of Physics, Annual Reviews and Economics, and Political Weekly journals is high among assistant professors.

The estimated significance value is greater than 0.05 for variables 1-10 and 12 i.e. (Cambridge Books Online, E-brary, EBSCOhost-Net Library Hindustan Book Agency, Institute of South East Asian Studies(ISEAS) Books, Oxford Scholarship, Springer eBooks, Sage Publication eBooks, Taylor Francis eBooks, MyLibrary-McGraw Hill and South Asia Archive) therefore null hypotheses is accepted. Hence, there is no significant difference in the level of usage of N-List resources e-books among assistant and

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*Table 13. Independent 't' test for designation wise respondents with the usage of N-LIST Resources: E-Journals*

S. No	Usage of N-LIST Resources	Designation	N	Mean	Std. Deviation	F	Sig.
1	American Institute of Physics	Assistant Professor	184	3.1	1.4	7.677	0.006*
		Associate Professor	151	2.72	1.04		
		Total	335	2.93	1.26		
2	Annual Reviews	Assistant Professor	184	4.11	0.78	6.46	0.011*
		Associate Professor	151	3.9	0.78		
		Total	335	4.02	0.79		
3	Economics and Political Weekly	Assistant Professor	184	3.01	0.87	6.806	0.009*
		Associate Professor	151	2.74	1		
		Total	335	2.89	0.94		
4	Indian Journals	Assistant Professor	184	4.43	0.56	0.219	0.64
		Associate Professor	151	4.4	0.63		
		Total	335	4.42	0.59		
5	Institute of Physics	Assistant Professor	184	3.2	1.5	2.208	0.138
		Associate Professor	151	2.98	1.13		
		Total	335	3.1	1.34		
6	JSTOR	Assistant Professor	184	3.96	0.99	1.008	0.316
		Associate Professor	151	3.86	0.78		
		Total	335	3.92	0.9		
7	Oxford University Press	Assistant Professor	184	3.76	0.75	1.627	0.203
		Associate Professor	151	3.87	0.79		
		Total	335	3.81	0.77		
8	Royal Society of Chemistry	Assistant Professor	184	3.19	1.1	0.036	0.85
		Associate Professor	151	3.16	1.28		
		Total	335	3.17	1.18		
9	H W Wilson	Assistant Professor	184	3.27	0.86	0.129	0.72
		Associate Professor	151	3.3	0.79		
		Total	335	3.28	0.83		
10	Cambridge University Press	Assistant Professor	184	3.32	0.76	0.505	0.478
		Associate Professor	151	3.38	0.71		
		Total	335	3.35	0.74		

Source: Primary data  
\*Significant at 0.05 level

associate professors in different colleges considered for the study. Hence it is concluded that, the level of usage of N-list resources: e-books among assistant and associate professor is the same. Except for world e-books library, there is a significant difference in usage level. It was found that the level of usage of world e-books library is high among assistant professors.

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*Table 14. Independent 't' test for designation wise respondents with the usage of N-LIST Resources: E-Books*

S. No	Usage of E-Books	Designation	N	Mean	Std. Deviation	F	Sig.
1	Cambridge books	Assistant Professor	184	3.97	0.75	0.832	0.362
		Associate Professor	151	4.05	0.71		
		Total	335	4.01	0.73		
2	E-brary	Assistant Professor	184	3.89	0.98	0.679	0.411
		Associate Professor	151	3.97	0.96		
		Total	335	3.93	0.97		
3	EBSCO Host. Net Library	Assistant Professor	184	3.99	0.81	0.007	0.931
		Associate Professor	151	3.99	0.84		
		Total	335	3.99	0.82		
4	Hindustan Book Agency	Assistant Professor	184	3.44	1.02	1.939	0.165
		Associate Professor	151	3.6	1.01		
		Total	335	3.51	1.02		
5	Institute of south Asia	Assistant Professor	184	3.32	0.83	0.98	0.323
		Associate Professor	151	3.41	0.93		
		Total	335	3.36	0.88		
6	Oxford scholarship	Assistant Professor	184	3.57	0.90	0.119	0.73
		Associate Professor	151	3.6	0.77		
		Total	335	3.59	0.84		
7	Springer E-books	Assistant Professor	184	4.12	0.98	3.435	0.065
		Associate Professor	151	4.3	0.82		
		Total	335	4.2	0.91		
8	Sage publication e-books	Assistant Professor	184	3.99	0.86	7.568	0.006
		Associate Professor	151	3.71	1.00		
		Total	335	3.86	0.94		

*continued on following page*

*Table 14. Continued*

S. No	Usage of E-Books	Designation	N	Mean	Std. Deviation	F	Sig.
9	Taylor Francis e-books	Assistant Professor	184	4.05	0.79	0.063	0.802
		Associate Professor	151	4.03	0.75		
		Total	335	4.04	0.77		
10	MyLibrary - McGraw Hill	Assistant Professor	184	3.99	0.69	1.123	0.29
		Associate Professor	151	3.91	0.72		
		Total	335	3.95	0.70		
11	World ebooks library	Assistant Professor	184	3.58	0.84	23.12	0*
		Associate Professor	151	4.03	0.87		
		Total	335	3.79	0.88		
12	South Asia Archive	Assistant Professor	184	3.35	0.83	0.402	0.526
		Associate Professor	151	3.3	0.75		
		Total	335	3.33	0.79		

Source: Primary data

\*Significant at 0.05 level

## Suggestions

- The activities and operations of the library and information centers are being influenced and drastically changed by pattern of common acquisition, subscription or licensing for access by the consortia ventures. In India all the existing consortia initiatives including AICTE-INDEST Consortium and UGC-Infonet E-Journal Consortium have been working separately with enthusiasm in providing more and more online resources for the benefit of the member institutions.
- Consortium of the libraries is an emerging opportunity for the libraries. The consortium subscription to online resources is expected to bring remarkable change in the academic environment. But it is seen that all the existing consortia are duplicating few journals subscriptions and connected working process, manpower, money and other materials for achieving the same goal. The one of the concepts of Consortium subscription is to avoid redundant expenses and duplication of subscription.
- In order to avoid such duplications, it would be desirable to bring all the centrally funded Indian higher education institutions and other Research and Developments organization to be members under one umbrella “Indian National Consortium”. A unified Indian National Consortium may be assisted by National Coordination Committee (NCC) and Subject Discipline Committee (SDC) in all the matters for the smooth functioning and advising the Government for further developments.

- Besides the major activities, subscription and identification of new electronic resources; interaction with member institutions; organizing training programs; and encouraging interactions amongst member libraries, consortia member institutions may consider providing increased availability of computer systems and direct links to online resources from the member institution's library web page.
- It would be desirable if studies are undertaken to evaluate the usage and usability of electronic resources in the Consortia member institutions to know the issues and challenges. Month-wise usage reports for online resources could be measured using log file system to prove the statistics provided by the publishers or Aggregators concerned to support future electronic resources building.
- Information professionals have to conduct more awareness programs to market the new electronic resources services at their respective institutions. Information center, Web-site, Internet, Newsletters, Strategic pages of the institutions highlighting services responsive to user requirements may be created by placing articles, net based posters and notices about the electronic journal service.
- Networking with thought leaders, influential persons in other departments and engaging them to spread the word about the consortium electronic resource services may be considered.
- In the interest of the consortia group, there should be a commitment from all the members in giving their best for the success of the Consortium They need to become real players in the creation and dissemination of scholarly communication.
- The publishers and distributors of the databases may be requested to give demonstration of their products in the consortia member institutes twice in a year. The Librarian may conduct workshops or seminars regularly to achieve the goal of the consortium.

## **CONCLUSION**

This study has highlighted that majority of users are aware and use N-LIST as one of their sources of information. This study also indicates that most users are satisfied with the information available on N-LIST. N-LIST is an effective consortium containing quality information. The N-List facility has enabled the faculty members, research scholars and students to excel their academic and research purposes further. The college education system is text book oriented and also is one of the main reasons for most of the college libraries for not registering with the N-LIST programme. Today we are living in web based environment; Now a day librarians most act as a knowledge creator, applying the skills of collection development, planning, selection, analysis and cooperation in order to manage the intersection of print and digital resources. Library and information professionals must take responsibility to popularize electronic resources and importance of the N-LIST Programme. N-LIST consortium is a land mark event in the history of Indian higher education. On the one hand, it is feasible solutions to meet the ever growing demand for the core scientific publications from the users and on the other, it is only available solution to the ever decreasing budget and ever increasing prices for the journals. In India as majority of the college libraries are facing financial crunch, they can register with N-LIST Consortium for accessing quality electronic resources to get over the resources hunger and financial crunch. This N-LIST Consortium helps the students and faculty in acquiring e-resources to get desired and relevant information.



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## **KEY TERMS AND DEFINITIONS**

**DAE Consortium:** The Department of Atomic Energy (DAE) Consortium, initiated in 2003, caters to the information requirement of 36 institutes including BARC, TIFR and SAMEER. The consortium is funded by the Department of Atomic Energy (DAE), Govt. of India.

**Electronic Resources in Medicine (ERMED) Consortium:** An initiative taken by Director General of Health Services (DGHS) to develop nation-wide electronic information resources in the field of medicine for delivering effective health care for all.

**HELINET: (Health Science Library and Information Network):** A Health Sciences Library and Information Network hosted by Rajiv Gandhi University of Health Sciences, Bangalore. HELINET is the first medical library consortium launched in 2003. It provides access to 600+ core international e-journals, 2000+ e-books and 1500+ videos to all affiliated colleges of RGUHS with an objective of networking the libraries affiliated to the University to promote resource sharing, especially with reference to international medical journals and databases.

**IIM Library Consortia:** A Digital Library network system based on internet technology to provide the IIM community (faculty, students and staff) an online web-enabled access to the information resources available in all the IIMs without any barriers of time and distance. It will be a simple, efficient and cost-effective system.

**N-LIST:** The National Library and Information Services Infrastructure for Scholarly Content (N-LIST), launched in 2010 as an NME-ICT funded project have graduated to be a college component of UGC-INFONET Digital Library Consortium. It provided access to more than 6,000+ e-journals and 30,00,000+ e-books to all Govt. /Govt. aided as well as non- aided colleges except colleges imparting courses in management, medical, nursing, agriculture, engineering, pharmacy.

## Chapter 12

# Implementing Information Literacy Skills and Soft Skills for Better Use of Library Resources and Services

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### **ABSTRACT**

*Information literacy (IL) is a set of skills that allows us to locate, evaluate, and use effectively the information that we need. IL skills are essential tools that help us successfully plan for the present and future scenario of information. Soft skills are a set of abilities that influence how we interact with each other. Soft skills and IL skills affect every person in every possible situation work, education, entertainment, etc. This chapter highlights the importance of soft skills in library profession, different types of soft skills, why soft skills are important, relevance of information literacy in the ICT era, concepts of information literacy, IL and school libraries, and various types of IL models and standards. Both soft skills and IL skills are essential for library professionals as well as the users, particularly while using the 21st century resources, so that the users will be energized in using the library resources effectively and efficiently.*

### **INTRODUCTION**

Soft skills are a set of skills that influence how we interact with each other. It is a set of abilities such as effective communication, problem-solving, creativity, analytical thinking, team building and maintaining good relations with colleagues and users of libraries. Soft skill is a term often associated with a person's EQ – Emotional Quotient; the cluster of personality traits, communication, language, interpersonal skills, leadership, managing with people, etc. The main role of librarian in a school library is to manage and

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collection of print resources, promote reading and a love of good literature and teach children how to find things in the library – use of computers, internet, OPAC, teaching Information Literacy and so on. These are essential for the better use of available resources effectively and efficiently in this ICT era.

Before the advent of computer, followed by the influence of internet, teaching children to find information was limited to the card catalogue for the print collections, a guide for the periodicals and standard print reference sources like dictionaries, encyclopedias, atlases, almanacs, year books, thesauri, biographies, etc. During 1970's and 1980's, we saw video discs, video cassette, audio cassette, micro films, micro fiche in libraries and these were replaced by computers and other 21<sup>st</sup> century electronic devices. The trend in using the resources has changed from how to find information in a limited number of resources to how to choose information that is most appropriate for the needs from the unlimited number of resources.

## **SOFT SKILLS: ESSENTIAL FOR PROFESSIONAL LIBRARIANS**

Soft skills play an important role for the success of the routine works of academic libraries. It is defined as “Soft skills is a sociological term, which refers to the cluster of personality traits, social graces, facility with language, personal habits, friendliness and optimism, that mark people to varying degrees. Soft skills complement hard skills, which are the technical requirements of a job”. (Personality Development & Soft Skills by Shalini Verma, 2013) In fact, soft skills are all the behaviours and feelings that exist within all of us that influence our ability to connect with others. These are individual's personal skills, i.e. interpersonal, non-specialized, such as leadership, responsibility, assertiveness, and conflict resolution or mood management. Sound soft skills reduce stress and conflict, improve relation building ability, enhance intimacy, increase understanding and promote joy that we, the library professionals needed for the success of our profession. Soft skills can play a vital role for the success of the library profession in following ways:

- To handle interpersonal relations.
- To take appropriate decisions.
- To communicate effectively.
- To have good impression and impact.
- To gain professional development.

To handle the users of the 21<sup>st</sup> century technological era, especially to handle with the techno savvy young generation in academic libraries, soft skills play a significant role in day to day activities. With the increased use of computers, mobile phones and internet, the importance of listening has increased manifold.

## **WHY SOFTSKILLS ARE IMPORTANT FOR THE LIBRARY PROFESSIONALS**

Soft skills are learned right from our childhood – the way we are brought up, educated, groomed to behave in a society. Children imitate in an attempt to learn soft skills. Soft skills are all the behaviours and feelings that exist within all of us that influence our ability to connect with others. These are individual's

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personal skills, i.e. usually interpersonal, non-specialized and difficult to quantify. Soft skills are people skills backed by the emotional and social intelligence that help us to behave in a socially acceptable manner and adopt ourselves to a social environment so that others are comfortable in our company and vice versa. Soft skills involve our –

- Ability to function harmoniously with others.
- Attitude in learning new ideas.
- Readiness to accept people from different cultures.
- Willingness to make things work in our personal and professional lives.
- Ability to manage our own emotions.
- Ability to question and evaluate library services.
- Ability to evaluate the needs of all the users.
- Vision to translate traditional library services into the online medium.
- Ability to motivate, establish and maintain effective working relationships with associates, supervisors, volunteers and other community agencies and the public.
- Ability to analyze and learn new technologies.
- Ability to keep up with new technologies and librarianship.

Though the soft skills are shaped by our various intra-personal and inter-personal skills that determine our ability to adjust in a particular socio-cultural framework, they can be grouped into the following eight determinants.

- Emotional intelligence
- Empathy
- Communication & Listening skills
- Adaptability & Assertiveness
- Social Intelligence
- Rapport Building
- Team Building
- Decision-making & Problem-solving skills.

1. **Emotional Intelligence:** It is our ability to manage our emotions that arise involuntarily, depending on a pleasant or unpleasant situation. It determines our ability and willingness to fit into a particular task or social structure such as project team, sports team, music band, etc. This requires some personality attributes, namely emotional maturity, leadership qualities, eagerness to learn or learning aptitude, and willingness to share and embrace new ideas or open and flexible attitude.
2. **Empathy:** It is our ability to understand other's feelings – joy or sorrow, comfort or discomfort, pleasure or pain. It directly depends on our ability to feel emotions, identify and regulate, that in turn helps us to be sensitive towards others' expressed or unexpressed emotions.
3. **Communication and Listening Skills:** Communication skill helps to express our ideas before others. It includes lip reading, sign language, finger spelling etc. It is the ability to receive and deliver information. In library profession, communication is best achieved through proper presentation skills. Our ability to exchange ideas with others, understand others perspectives, solve problems

and successfully utilize the steps and processes significantly depends on how effectively we are able to communicate with others.

4. **Listening Skills:** The library professionals as information providers must have a listening skill, as he/she interact with the users of different types and age group. A passive listening helps him to understand the needs of his clientele and provide the available resources to satisfy his/her needs. Recent studies on the communication process across wide cross-section of people show that, as an average, approximately 9% of our time is spent in writing, 16% on reading, 30% on speaking and 45% in listening. Good listening skills help one to succeed in his/her personal as well as professional life.
5. **Adaptability and Assertiveness:** Adaptability is the ability to change and to fit in different circumstances – favorable or unfavorable. The ability to cope up with change is extremely important in the library profession in the present day Context. Assertiveness is the ability to stand by our own conviction rather than giving in to someone else’s direction. Being assertive enables us to follow our mind and heart and express it to others.
6. **Social Intelligence:** It is our ability to get along with others, and to get them to cooperate. It includes our awareness to situations and the social dynamics that governs us. It encompasses the whole range of our relationships with other humans and with the world in general.
7. **Rapport Building:** It is the ability and confidence to connect with the outer world. The skill of getting along with people is one of the most important yardsticks of success in today’s world. The key to achieve success in life is the ability to make sincere connections with people and surroundings.
8. **Team Building:** Team building is both an art and a science of bringing people of different backgrounds and opinions on the same platform and to attain the set goals. The individual who consistently performs well in teams is always held in high respect.
9. **Decision Making and Problem-Solving Skills:** Decision making can be regarded as the mental process resulting in the selection of a course of action among several alternatives. We have to make decisions every day. Some decisions are relatively straight forward and simple, while others are quite complex. On the other hand, problem solving forms an important part of thinking. It is a key skill that can make a huge difference in our life. But problems are something that we do not like. They are time-consuming and to compel us to think about an uncertain future and make us insecure. Regardless of the nature of the problems, the main part of our role is finding way to solve them.

## **Soft Skills vs. Hard Skills**

Soft skills exist within all of us. They influence our ability to connect with others. Soft skills complement hard skills, which are the technical requirement of a job. On the other hand, hard skills are known as ‘technical skills’ and are acquired through the cognitive aspect of one’s intelligence. These can be learned through formal learning, training or coaching in areas such as Science, Arts, Commerce, Computers, etc. Hard skills constitute the minimum skills necessary to do a job. Reading, Writing and Arithmetic (the 3Rs), computer skills, proficiency with software applications, operating machines, capacity to handle foreign languages, etc. belong to this category. These skills are typically easy to observe and quantify. On the other hand, soft skills are that skills that one can learn and have over a period of time through the non-cognitive aspect of intelligence, which is influenced by the individual upbringing, environment, day to day life experiences, etc. It is all about projecting oneself and one’s professional skills in the best possible way.



*Table 1. Difference between soft skills and hard skills*

<b>Soft Skills</b>	<b>Hard Skills</b>
Acquired informally and through social surroundings	Acquired through formal education
About relationships and social competence	About techniques and professional competence
General attitude to life situations	Subject based skills
People oriented	Job oriented
Attitude centric	Aptitude centric

## **THE ROLE OF LIBRARY IN BUILDING 21<sup>ST</sup>CENTURY SKILLS**

There is a wide spread movement in politics, business and education – to shift the emphasis in education from the industrial skills needed in the 20<sup>th</sup> century to the knowledge skills or competencies needed for success in the 21<sup>st</sup> century. Communication, Collaboration, Critical thinking and Creativity – the 4Cs - adding to the traditional 3Rs – Reading, Writing and Arithmetic to focus more on technological skills. But the common core element of this new movement is to concentrate on developing students’ capacity to find, evaluate, organize and transform information now available in the staggeringly large, unfiltered and collaborative digital universe. These skills fall under the term ‘Information Literacy’.

### **Information Literacy**

We are living in the age of information, where internet and related technologies are being influenced in our daily life. In this digital age, where computers and technologies are powerful and the people throughout the world are information literates. The ability to find, use, evaluate and communicate information effectively and efficiently is commonly known as information literacy. Information Literacy empowers the ability to access, evaluate and use information effectively and efficiently. To be information literate, one need to know why, when and how to use all of the tools and think critically about the information they provide. Information literacy enables learners to master the content and extend their investigations. An information literate individual is able to

- Determine the extent of information needed.
- Access the needed information effectively and efficiently.
- Evaluate information and its sources critically.
- Incorporate selected information into one’s knowledge base.
- Use information effectively to accomplish a specific purpose.
- Understand the economic, legal and social issues surrounding the use of information, and access and use information ethically and legally (American Library Association, Information Literacy Competency Standards for Higher Education).

Information Literacy is the main contributor for lifelong learning. It is related to Information and Communication Technology (ICT) skills. The ICT skills enable the readers to use computer software applications, databases, etc. to achieve the academic goals and also it helps to improve the social, economic and cultural life of the users. It is the umbrella term for emerging literacy’s like IT literacy, media

literacy, bibliography literacy, digital literacy, computer literacy, network literacy, health literacy, and so on. The advent of internet and other electronic and digital resources, besides, application of information communication technologies in automation of libraries and housekeeping operations has highlighted the need of information literacy to a larger extent. The use of these automated libraries and digital resources became difficult without guidance and basic skills. Therefore, user instruction/library orientation became mandatory to readers of all levels to provide necessary skills for best exploitation of digital resources.

## **Definition**

Paul Zurkowski, (1974), president of the Information Industry Association, introduced the concept of “Information Literacy” in a proposal submitted to the National Commission on Libraries and Information Science (NCLIS). The proposal recommended that a national programme be established to achieve universal information literacy within the next decade. Since then, information literacy has been widely accepted and become a part of library profession. Many definitions, standards and models are brought out by different authors and professional associations on Information Literacy. According to Zurkowski “people trained in the application of information resources to their work can be called information literates. They have learned techniques and skills for utilizing the wide range of information tools as well as prime sources in molding information-solutions to their problems”. In 1989, the Final Report of the American

Library Association Presidential Committee on Information Literacy recognized the importance of information literacy and provided a definition in terms of requisite skills. “To be information literate, a person must be able to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information”. This definition has been widely accepted and became the basis of subsequent definitions.

The American Association of School Librarians (AASL) defined “Information Literacy is the ability to find and use information in the keystone of lifelong learning” (Byerly/Brodia, 1999). Under the component of information literacy, AASL stated that, “Information Literacy accesses information efficiently and effectively, evaluates information critically and competently, and uses information accurately and creatively”.

## **Concepts of Information Literacy**

Information Literacy comprises many different concepts that have evolved beyond library instructions and information skills. While library instruction emphasizes the location of library materials, information literacy concept focuses on information strategies, process of information seeking and information use competencies. Some of the Information Literacy related terms shown in IFLA Guidelines on Information Literacy are:

- Information fluency
- User education
- Library instruction
- Bibliographic instruction
- Information competencies
- Information skills
- Development of Information skills, etc.

Information Literacy aims to develop both reading interest and critical thinking. It helps the students to find the information they need for both academic and co-curricular activities. It also helps the students for problem-solving activities and develops creative abilities. The digital media, especially the internet has significantly increased the potential for active participation in all the activities, which leads to the overall development of students' achievements. The information literate people understand how to find information, the need to examine how to manage and communicate information. Using information in a variety of formats requires literacy's traditional ones like reading, writing and arithmetic skills. Other literacy's such as media literacy, network literacy, computer literacy, traditional literacy, library instruction, cultural literacy, visual literacy etc. are implicit to information literacy.

### **Importance of Information Literacy Skills**

Information is the foundation of power and efficiency since the beginning of humanity in every aspect. The importance of information is well recognized as an essential component in decision making and as a vital resource for the development of the nation. It is stated that information is the fifth need of human beings, after air, water, food and shelter. With the advent of ICT, followed by the developments in the library field, the resources of the libraries have also moved from clay tablets to the print documents, to the micro-forms, e-resources, internet and so on (Lib 2.0). The effective use of information resources gives value to the information. In this regards, the information professionals have to strive hard to provide right information to the at the right time to the needy users. There are many methods evolved over a period of time to give awareness programmes to the user community for the effective use of information. Among them, the user education, library orientation, bibliographic instruction and information literacy skills getting its priority to prepare the users as an effective consumers of information resources and services.

Information literacy enables the people to interpret and make informed judgments as users of information sources as well as to become producers of information. Information literate people are able to access information about their environment; their education helps them to make decisions of their own. We learn and become knowledgeable only when we possess IL skills that enable us to acquire information when there is a need. Information Literacy skills are needed for our daily life, for self-education, problem-solving and decision making activities. The development of IL skills and knowledge is a prerequisite for lifelong learning and assume control over one's own learning.

### **Information Literacy Skills and School Libraries**

School libraries are the first steps in the ladder of educational system as far as the use of library resources and services are concerned. Hence to introduce user education/library instruction and followed by the implementation of information literacy skills are the need of the hour. In order to satisfy the techno savvy young generation and to handle the 21<sup>st</sup> century IT based resources, IL skills must be given to the users to use the available resources effectively and efficiently. Unfortunately, in our country, in many states, the condition of school libraries is pathetic; except in CBSE schools, Kendriya Vidyalayas, Navodaya Vidyalayas Public Schools and Central Govt. fund supported schools, where professional libraries are appointed to execute the job. In Kendriya Vidyalaya libraries, library orientation/user education is being given to the readers, oriented to library collections, services and library programmes at the beginning of the academic sessions. The users need additional knowledge and skills in retrieving and handling different types of resources in this digital age. Many students in schools and colleges finish their educa-

tion, without understanding the Information Literacy skills in an information based society. Hence, in this ICT era, IL skills must be taught in school level and it must be included in the school curriculum, so that, they will be trained to use the needed sources effectively and efficiently and that will help them for their higher studies and later that will help them to create interest to become lifelong learners.

## **Information Literacy Models and Standards**

### **Models**

There are many models applicable to test the information literacy levels. Some of the well accepted models are:

- Seven Pillars Model for Information Literacy (SCONUL, 1999)
- The Big6 skills Information Problem-solving Approach to Information Skills Instruction
- Empowering 8 Model developed by IFLA
- The SEA-change model in Information Literacy: Assessing information literacy development in reflective writing.

There are many more models of IL, but the Empowering 8 Model developed at the IFLA-ALP sponsored Information Literacy workshop hosted by National Institute of Library and Information Science (NILIS), University of Colombo in 2004 specifically for the stakeholder in the Asia Pacific Region is widely accepted one. Reference has specifically been made to this model because it has not been reported and discussed comprehensively in the professional literature.

Empowering – 8 Models:

Prof. Russel Bowden in his keynote address published in the Proceedings of the Information Skills for Learning: Part II “**Empowering – 8**” International Workshop (2005) sponsored by IFLA-ALP, UNESCO-IFAP) has beautifully described the eight steps of this model in the following words:

1. **Identify:** Subject, audience, key words and plan strategy
2. **Explore:** Resources required, information available
3. **Select:** Relevant information; stages of work, appropriate citation
4. **Organize:** Information earlier selected, between fact, fiction and opinion
5. **Create:** Information in your own words, revise and edit and create bibliography
6. **Present:** Share information with appropriate audience; display in appropriate format
7. **Assess:** Feedback, self-assessment and assessment with teacher
8. **Apply:** Review feedback and apply to next learning activity

An information literate person must learn to know, to do, to be and to work together. He should be able to make sense, ensure quality, learn independently, think critically, and use information ethically and strategically. Empowering 8™ is now registered as an intellectual property of National Institute of Library and Information Science programmes offered by NILIS and in a variety of other education contexts of Sri Lanka. Though it is registered as a property of NILIS it does not restrict anyone from using this trademark for nonprofit making educational purposes. Empowering 8™ is a model which can

be used to solve any information problem effectively using eight stages with several sub stages under each component.

## **Standards**

Some of the well-accepted Standards are:

1. American Library Association – Information Literacy Standards for Higher Education.
2. ACRL Information Literacy Competency Standards for Higher Education Task Force
3. Information Literacy Competency Standards for Nursing
4. Information Literacy Standards for Student Learning published by AASL

## **Information Literacy Competency Standards for Higher Education**

Information Literacy Competency Standards for Higher Education provides a framework for assessing the information literate individual. It also extends the work of the American Association of School Librarians Task Force on Information Literacy Standards, thereby providing higher education an opportunity to articulate its information literacy competencies with those of K-12. The competencies presented in the standard showed the specific indicators that identify a student as information literate. In the IL competency Standards for higher education by ACRL, it has five standards and twenty-two performance indicators. The ACRL standards are very popular and widely accepted and tested around the world. It includes the expected outcomes under each performance indicator, which are developed with the purpose of providing guidance in the development, assessment methods and strategies for measuring students' learning outcomes. The standards focus upon the needs of students in higher education at all levels. These standards can be used to assess the IL skills of teachers, librarians, students, etc.

## **CONCLUSION**

We are living in a very complex and staggering digital world. Soft skills and information literacy skills are essential components of the modern library context and both will complement to the library professions for executing the job in an effective way. The main responsibility of the librarian's job is to meet people's information needs; hence these skills are essential for both the users and the library professionals to handle the 21<sup>st</sup> century resources. Therefore, these skills must be taught from school level onwards; if so, it would be easier to both the librarians and the users to retrieve and use the needed information effectively. To provide resources, services and facilities is one way that the libraries seek to meet the needs, and to teach and to provide opportunities to learn and handle the resources is the other way that library professionals can do. If we believe that information literacy, soft skills and technological skills are essential for success, then we must assure that people have frequent opportunities to learn and practice these skills. For the success of the library profession, it is suggested to include both the soft skills and information literacy skills in the school curriculum, so that students from the young age can be trained to use the resources available in the library efficiently and effectively for a better tomorrow.

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## **KEY TERMS AND DEFINITIONS**

**Higher Education:** Higher education is tertiary education leading to award of an academic degree. Higher education, also called post-secondary education, third-level or tertiary education, is an optional final stage of formal learning that occurs after completion of secondary education.

**ICT:** Information and communications technology (ICT) is an extensional term for information technology (IT) that stresses the role of unified communications and the integration of telecommunications (telephone lines and wireless signals) and computers, as well as necessary enterprise software, middleware, storage, and audiovisual systems, that enable users to access, store, transmit, and manipulate information.

**Information Literacy:** Information literacy is a set of skills that allows us to locate, evaluate and use effectively the information that we need. IL skills are essential tools that help us successfully plan for the present and future scenario of information.

**Secondary Education:** Higher education is tertiary education leading to award of an academic degree. Higher education, also called post-secondary education, third-level or tertiary education, is an optional final stage of formal learning that occurs after completion of secondary education.

**Soft Skills:** Soft skills are a set of skills that influence how we interact with each other. It is a set of abilities such as effective communication, problem-solving, creativity, analytical thinking, team building and maintaining good relations with colleagues and users of libraries.

# Chapter 13

## Research Output on Maize (Zea Mays): A Scientometric Study

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### ABSTRACT

*This chapter attempts to analyse quantitatively the growth and trend of Maize (Zea Mays) Cereal Crop research in terms of publication output as reflected in web of science database. During the period 2008-2017, a total of 16,217 papers were published by the scientists respectively on Maize Crop. The study reveals that the growth of literature follows the exponential growth pattern. USA is the top country in Maize research with its contribution of 4,797 papers, which is (29.6%) of the global research output of Maize research followed by Peoples Republic China with 2,912 papers (18%); India was the fifth position in the Maize research with 1,560 papers (5.3%) and has liner growth pattern. The most preferred journals were the Agronomy Journal with 658 papers (4.06%) followed by the Crop Science with 427 papers (2.63%). The authorship pattern reveals that co-authored papers accounted for 97% of total output.*

### INTRODUCTION

Maize (*Zea mays* L) is one of the most versatile emerging crops having wider adaptability under varied agro-climatic conditions. Globally, maize is known as queen of cereals because it has the highest genetic yield potential among the cereals. It is cultivated on nearly 150 m ha in about 160 countries having wider diversity of soil, climate, biodiversity and management practices that contributes 36% (782 m t) in the global grain production. Scientometrics deals with the output qualities in terms of organizational research structure, resource inputs and outputs. It is describe the discipline using the growth pattern and

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other characteristics and also investigated the particularly in measuring and computing the emerging trust areas. In the present study, this is the first study in the field of Maize research taking scientometric.

## **REVIEW OF LITERATURE**

Teli and Maity (2015) have analyzed the growth pattern of Higgs Boson literature during 2005-2014. The Scopus database has used to retrieve relevant data. Identified 4359 records contributed worldwide. The distribution of publications based on the year of production, country wise productivity, document type of the publications, Major subject categories, authors whose contribution is in the maximum level were studied. In India, the research in this field is infantile stage. The lacking on the contribution may be due to non- availability of international collaboration.

Bagalkoti (2015) have analyzed the study of academic rankings of the National Assessment and Accreditation Council (NAAC) accredited 50 Indian Universities output of publications in India extracted from Scopus database. This study explores that, 108666 papers during the study period 2001-2010. The average output is 2173 papers, in comparison the largest Number of papers 6533 (6.01%) was published by Jadavapur University, followed by Banaras Hindu University 6249 (5.75%). A total 336027 citations received, with an average citation per paper as 3.09. Utkal University scored highest average (9.23). According to collaboration, Anna University (7.22%) stands in the top place. This study provides the reader with a comprehensive understanding of a university, ranking schemes based on its methodological issues, and impacts on society. The rankings are used in policy and academic discussions.

Tripathi, Sharma and Garg (2015) have focused analyzes publication output of India on cereal crops reflected by its coverage in Indian Science Abstracts (ISA) and CAB Abstracts during 1965-2010. This paper indicates that highest number of papers (43.80%) published on rice, followed by wheat (24.28%). The highest numbers of papers published in Indian Journal of Agricultural Science. Indian Agricultural Research Institute, New Delhi, Tamil Nadu Agricultural University, Coimbatore and Punjab Agricultural University, Ludhiana contributed about 7% of papers each. The major research was focused on 'genetic and plant breeding' (28.2%) followed by 'agronomic aspects' (27.9%). The authorship pattern reveals that Co-authored papers accounted for 90% of total output. The findings of the study will be beneficial for the scholars and scientists who are engaged in research of various disciplines of crop science as well as policy makers in the field of agricultural sciences.

Kumari, Amsaveni and Surulinathi (2015) have examined the global level perspective of Occupational Therapy research output during the period of 1989 to 2015, and the data extracted from the Web of Science database. 8095 publications were retrieved. This study explores, the highest number of records has found to be at 2013. Author's productivity dominates and there is a need of promoting single author productivity in this field. It found that in the year 2007, 386 records have published with highest Global Citation Score of 6525. University of Queensland tops first in the ranking followed by the University of Toronto with high Global Citation Scores. In the country wise, distribution of publications the United States of America stood in first rank position and India holds the 25<sup>th</sup> position in the global ranking. India has to improve in the field of Occupational Therapy in future.

Rajneesh and Rana (2015) have examined research output of Computer Science Literature, articles published in the Source "Journal of the ACM", for 10 years in between 1999 and 2008. The study stated that a total number of 336 papers comprise of 10799 citations. The highest average citations per article were 37.25 the overall average of the citations per article is 32.14. Journals and conference proceedings

## **Research Output on Maize (*Zea Mays*)**

and both of them together have shared 77% of the total citations. 3926 (36.88%) citations authored by a single author, whereas 6719 citations (63.12%) were multiple authors. It is evident that Computer science is one of the emerging disciplines.

Karpagam (2014) has evaluated the nanobiotechnology literature, from extracted from SCOPUS database for the period 2003-2012. A total of 114684 papers published during 10 years, which received 2,503,795 citations with an average of 21.83 citations per paper. It has been observed that during 2003–2012, USA held the first position by a number of publications (34,736), h-index (349), g-index (541), hg-index (434.52) and p-index (326.47). Developing countries such as India, China, South Korea and Canada showed increasing trends in their publications and their activity index showed increasing trends. Top 10 institutions contributed 7.16% share of total publications. Massachusetts Institute of Technology, USA received the highest h-index (120) among the top 10 institutions. Biomaterials (1631), the top journal of publication output; Nano Letters had the highest impact with an average citation per paper (73.86) and American Chemical Society received the highest h-index (158) among the top 10 journals.

Tan (2014) have evaluated the global scientific output of proteomics research in the Science Citation Index-expanded from 1995 to 2010. Proteomics and Journal of Proteome Research were the most productive journals. The categories of biochemical research methods, and biochemistry and molecular biology hold about one-third of proteomics research, respectively. The USA took the lead in total publications, while China had the quickest increasing based on its national policy. The most productive institution was Harvard University, but one of China's institutions, Chinese Academy of Science, surpassed it in 2010.

Manoharan et al., (2014) have analyzed the research literature output on Fibromyalgia; the data were downloaded from Pub med database. About 4607 articles are taken for validating the law of scattering, 80/20 rule, and author productivity is measured by Kumaravel's prepotency Index that is supported by Dr. Ranganathan's canon of prepotency. Among 943 journals that have produced 4957 research papers, 188 (20%) journals have produced 3794 papers which are nearly 80 percent of the total output and 1272 articles (27.61%) were contributed by single authors. 2950 articles (51%) of a total number of articles were contributed by the authorship pattern of two to five authors. The important finding is that, in spite of the fact that research collaboration is the trend of the day, more than one-fourth of publications in fibromyalgia research are the results of solo research or research in peril.

Chitra, Jeysankarand Abu (2014) have examined the research output of lung cancer in the G7 and the BRIC countries with 73,788 publications downloaded from Scopus database from the period 2003–2012. Among the G7 countries, US topped with 27375 (44.58%) papers, followed by Japan with 10666 (17.37%). Among the BRIC countries, China topped with 9759 (78.82%) papers, followed by India with 1519 (12.27%) papers. China had the highest growth rate of 26.16 followed by India (23.20), Brazil (11.11) and finally Russia (4.93). Japan (one of the G7 country) and Russia (one of the BRIC country) have highest collaboration rate of 0.80 followed by China (0.79) and Italy (0.78). The Study stated that in recent 5 years, the "Output from the BRICs shifted steadily to more closely resemble that of the G7. The publication activity has increased considerably for the BRIC countries such as China, India, and Brazil than the G7 countries.

Krishnanand Raja (2014) have analyzed the Current science Publications research output, the data collected from Science Citation Index (SCI) database with in the period of 2000 to 2013. Among 2357 records, the most productive author was Aswal V. K with 108 papers and the highest number of records 334 in 2011 and 322 in 2010. Total 73.8% of the literature was published records were articles. India was the top produced country with 1363 publications (57.8%) followed by USA with 293 publications

(12.4%). Most productive Institution was Bhabha Atom Research Center (BARC), which topped with 143 publications. This study was very useful for the identifying the potential feature.

Ranganathanand Balasubramani (2014) have analyzed the literature output of the Green Energy Research in India, indexed in a web of science from 1999 to 2013. A total of 1105 publications have 34493 cited references and identified that majority of papers are multi-authored. The highest publication was 189 in the year 2012 with 170 Global Citation Scores followed by 166 papers in 2011 with 719 Global Citation Score and 88 papers in 2008 with 1275 Global Citation Scores. The lowest publication is 18 in 1999 with 83 Global Citation Scores. The Authors “Rai SB” published the highest number of articles for the study period with 29 records and the researcher suggest tracking citation record of papers so that the impact of publications in Green Energy may be visible.

Siddanagouda et. al., (2014) has analyzed Indian engineering research output as reflected in the Web of Science (WOS) database for the period 1999 to 2013. India has produced 48,570 publications, and received 444223 citations during the period 1999-2013, Average Citations per Publication is 9.15. Indian Institute of Technology (IIT), Delhi contributed the highest publications to the field of engineering, i.e. 18824 publications with 38.61%. In terms of citations received the Council of Scientific Industrial Research (CSIR), Delhi has received the highest citations i.e. 73920 with 9.98 average citations per paper (ACP). The largest number of collaborative publications (3356) of India in engineering research was with the United States with 6.98% share. The study suggests the need to increase the pace of Indian engineering research and improve its quality.

Santhakumarand Kaliyaperumal (2014) analyzed the mobile technology literature output as reflected in engineering index database during 2003-2012. This study stated that a total of 144567 publications were published. The most prolific author is Wang, who contributed 223 publication and Institute of Electrical and Electronic Engineering (IEEE) with 1248 publications. The relative growth rates (RGR) has decreased and the doubling time (DT) has gradually increased from 0.71 in 2004 to 5.15 in 2012. The majority of publications were found in the English language. A large number of researchers and scientists are pursuing their research in the field of mobile technology, giving hope that more literature would be published on the subject from all the countries in the world.

Ram (2013)has analyzed the key activities of apocynin research being carried out throughout the globe from the year 1908 to 2011 with 1,424 documents with 39,780 citations and average 28.50 citations per paper. USA (35.88%) is the most productive country undertaking research in the area of apocynin. India is 16<sup>th</sup> in overall publication output on apocynin. Most of the papers have been published in joint authorship, which reflects the collaborative nature of research. None of the Indian institutes makes their appearance as most productive institutions.

Fricke et al., (2013) have investigated the novel influenza related research, the time interval from 1900 to 2009. In 51, 418 publications from 151 different countries, 37 percent of publications from USA followed by Germany and the UK more than 5 percent. Journal of Virology ranks first followed by Vaccine and Virology and Robert Webster seems to be the most prolific author contributing the most publications in the field of Influenza. This study reveals an increasing and wide research interest in influenza.

Surulinathi, Balasubramani and Kalidhasa (2013) have analyzed the growth and development of Green Computing, as reflected in publication output of 3324 bibliographic records covered by Web of Science during 1956-2011. Among the 42 countries, Germany has produced 270 (16.24%) articles and France and Italy have more than 200 articles produced in this field. UK and Spain contributed more than 100 articles. North American countries contributed their output 1317 in total where the USA (33.36%) stands in the highest position among them all, and the reason may be the impact of the advancement of

### **Research Output on Maize (*Zea Mays*)**

the new and recent technologies applied highly in the USA and followed by Canada, Mexico. The Indian authors contributing in the area of Green Computing is just 128 (3.9%) articles.

Swain, Swain and Rautaray (2013) have analyzed 275 scholarly articles of Library Review from the year 2007 to 2011; single authored articles occupy the prominent position indicating the supremacy of solo research. The degree of collaboration in the publications of this journal is found to be 0.36. It is evident that LR has accommodated over 22 citations per article and regard to country productivity, the UK leads the table, followed by the USA and Nigeria. The findings of this study will serve as a model for future single journal bibliometric studies of journals of similar stature.

Serenko (2013) has described the overall volume of scientometrics Knowledge Management works has been growing, reaching up to ten publications per year by 2012, but their key findings are somewhat inconsistent. The top six most productive countries are the USA, the UK, Canada, Germany, Australia, and Spain. Knowledge management exhibits attributes of a healthy academic domain with no apparent anomalies and is progressing towards academic maturity. This is the first documented attempt to conduct a meta-analysis of scientometrics research of the Knowledge management.

Bharadwaj and Ram (2013) have focused the Osteoporosis research output, one of the silent disease causes of fractures and disability in the aged. The data were obtained from Scopus from the year 1973 to 2012. USA is the most productive country with global share 27.21% publications. Indian researchers have contributed 1.02% with 921 papers. AIIMS, Delhi is the most productive institution in India. India's highest research collaboration has been with USA within the period. Osteoporosis International (21 papers; IF 4.58) is the most productive journal in Indian research and N. Chattopadhyay (25 papers, 12.25%, and h-index 12) from Central Drug Institute; Lucknow is the most productive author in Osteoporosis research.

Dutt and Nikam (2013) have examined the Solar cell research for the period of 20 years from the Web of Science (WOS) database. The 90% contributions from top 22 Indian Institutions like IITs, IISc, CSIR, DAE and seven State Universities. CSIR-IICT, IISc, Shivaji University (AU) and Alagappa University (AU) had the highest citation rate and citation per paper. The International research trends as more than 90% originating from the USA, UK and other advanced countries in Europe. Among the all types of Solar cells Organic and Polymer solar cell, dye-sensitized solar cell, photoelectrochemical solar cell and quantum dot solar cell were the recent focus of research of Indian scientists.

Rajendran, Manickaraj and Elango (2013) have examined the Indian research output in the field of Wireless communication during 2001 to 2012, the publications reflected in Scopus database. The total 1128 publications, 808 (71.63%) appeared as conference papers and 284 (25.18%) as article. Authorship Pattern showed that two authored publications were highest with 42.55% and lowest by more than six authored with 1.69%. Majority of papers were with 2 to 4 authors. Degree of collaboration is 0.95 for the study period, which reveals that there exists a high level of collaboration among the authors. Anna University is the leading institution in this research field and IITs contributed significant number of papers.

Muthukrishnan and Srinivasaragavan (2013) have analyzed the Indian Research output on global warming from Science citation Index (SCI) during 1999 to 2012. A total of 1164 research publications with 3434 authors in 417 journals and an average publication per year 83.14. The highest 273 records was published in the year 2011. The highest Total Local Citation Score has appeared in the year 2007 and the least in 1999. Among the authors, H. Pathak has authored highest 24 publications of 6.92%. Current Science is the only journal, which has published 169 records (14.41%). The research on global warming in India has steadily increased by every year.

Muthamilarasi, Chellappandi and Arokiasamy (2013) have analyzed the allergy research literature in global level during the period 1999 to 2012, data retrieved from WoS database. Among the total 61458 research papers, 31% of papers were from Journal of Allergy and Clinical Immunology. USA ranks first in productivity, the maximum publications are from European region and the Asia had a third place with nearly fifth of the productivity. The growing research trend in Allergy shows that it may take years to find out the remedy for all allergies for all related diseases.

Rajagopal, et al. (2013) have examined the growth and development of pheromone biology research as reflected in Science Citation Index (SCI) for the period 1978–2008. They were a total 330 publications from India, including 285 articles, 22 notes, 18 reviews, 4 letters and 1 conference paper, from 200 institutions. About 9.4% of publications were contributed by Indian Institute of Technology, Kanpur followed by Bhabha Atomic Research Centre, Bombay (7.27%). The growth rate of publications varied from 0.30 to 9.09% per year. Single authorship comes next with 24%. The publication trend shows that research activities are growing in this area.

Kavitha and Ponnudurai (2013) have analyzed the Indian health science literature research output during the year 1970–2012, the total 1,13,794 publications were downloaded from Scopus database. It is observed 25 countries were produced 89% of the total publications of health science; USA has 38.25% followed by UK (9.41%), Canada (5.91%), Australia (3.65%), Germany (3.2%) and Netherlands (2.56%). India occupies 10<sup>th</sup> position with the contribution of 1.96. The top institutions VA Medical Centre (0.84%) and University of Toronto (0.83%) were in top two positions. The journal articles (63.34%), followed by review (17.72%), Conference Paper (9.98%) and editorial column (2.19%). Social Science and Medicine (1591 articles), Annals of the New York Academy of Science (852) and Science (811) journals are the major contributors in health sciences.

Dutta and Rath (2013) have analyzed the 1198 articles on Cosmology research in India during 1999 to 2012 downloaded from Web of Science (WoS). The articles in the starting year 1999 was 61, and in 2012 was 122 just doubled in fourteen years, which means 7.7% growth on average. The lowest no. of article was published 2000 with 56 (4.7%) and the highest number of article was published in 2011 with 133 (11.1%). The two authored publications almost 33% (390 in number). Single authored publications 22.4% and more than 3-authored publication 18.2%. Almost all core journals are published from USA and European countries and possess high impact factor. The cosmology research in India is in steady growth and it is chiefly a collaborating effort with many other countries.

Sudharani and Nagaraju (2013) have analyzed the research publications from Webology as the source journal during 2004 to 2012. Among 101 articles, the highest number of articles 16 (15.84%) were published in the year 2008 Followed by 14 (13.86%) in 2006 and 2007. The single authored contributions 55(54.55%) have dominated followed by two authored were 32 (31.68%), three author were 12 (11.88%). the degree of collaboration was 0.45 .which shows the journal has a moderate collaboration during the period of the study. In terms of institutions, Universities with 87 (86.13%) followed by colleges and research institutions with four (3.96%) each. Govt. departments and societies were contributed 3 (2.97%). Country wise, that majority of the contributors are from India with 16 (15.84%) contributors followed by USA with 14 (13.86%) and Australia, Iran 11 (10.89%) each. Authors from Europe, Africa, and South America have also contributed to this journal.

Rajendran(2018) has studied the Paddy (*Oryza Sativa*) Cereal Crop research in India in terms of publication output as reflected in CAB Direct Online Database. It found that India is the top country in Agricultural research with its contribution of 29,038 papers which is nearly (15.9%) of the global research output of Agricultural research followed by the specific country are in China with 17,266 papers (9.4%).

## **Research Output on Maize (*Zea Mays*)**

Suresh, N and Thanuskodi, S (2018) has analysed India's research in Seed technology during the period 1989–2017 based on WEB OF SCIENCE records, it found that Seed Technology research output has grown by 475% between 2006-2009 which shows that there is an increasing trend of research activities in Seed Technology research. India was 3rd among the top ten most productive countries of the world in Seed Technology research during 1989-2017.

In the context of Crop Sciences Tripathia and Garg (2014) studies the research output of India in the discipline of crop sciences as reflected by the coverage of scientific output in three different databases i.e. SCOPUS, CAB Abstracts and ISA (Indian Science Abstracts) during 2008-2010. The study reveals that highest number of papers was published on rice and wheat crop. Agricultural universities and institutions under the aegis of Indian Council of Agricultural Research (ICAR) were most productive institutions. The major research is focused on 'genetics and plant breeding' followed by 'soil, climate and environmental aspects' and 'agronomic aspects'. Scientometric literature on Agriculture. Balasubramanian and Ramanan (2011) study indicated that global agricultural research output showed an upward trend. It revealed that USA produced the highest number of papers and the most preferred journal was Agriculture Ecosystems and Environment publishing 533 papers.

According to Thanuskodi (2011), identified bibliometric analysis of articles and references provided at the end of each article contributed in Indian Journal of Chemistry from 2005-2009. The analysis covers mainly the number of articles, authorship pattern, forms of document cited, etc. All the studies point towards the merit and weakness of the journal which will be helpful for its further development. This study showed that most of the contributions are India. The authorship pattern of the articles published during the period of study. Maximum number of articles were contributed by two authors. This study also showed that majority of the contributors preferred journals as the source of information which occupied the top position. All the studies point towards the merits and weakness of the journal which will be helpful for its further development. Garg et al., (2010) has studied 'plant genetics and breeding' out of 32,574 papers USA had produced the maximum number of publications followed by China. India produced about 9 per cent of the world publication output.

Biswas and Haque (2008) has described information use pattern of researchers in veterinary sciences and animal husbandry, and also bibliometric analysis of agriculture. Garg et al. (2006) has found that the Indian publication output in the agricultural sciences is on the decline and global agricultural research output showed an upward trend. Arunachalam and Umarani (2001) has analyzed the agricultural research output of Indian scientists indexed by CAB Abstracts 1998. The study found that majority of papers were published on pests, pathogens and biogenic diseases of plants (1301 papers), plant breeding and genetics (1135 papers) and plant production (786 papers). Agricultural universities contributed 4039 and Indian researchers preferred to publish in journal originated from UK, USA and India with 587, 368 and 208 journals respectively.

## **OBJECTIVES OF STUDY**

The main objective of this study is to research, the analysis output in Maize (*Zea mays*), as reflected in its publication output during 2008-2017 in web of science online database.

1. To examine the growth rate and doubling time of research output of Maize for the period 2008-2017.

2. To find out the most productive Countries and examine the share of Indian contribution in Maize research output.
3. To identify the Most preferred types of publications in Maize research.
4. To study the Top 10 journals publishing more research papers on Maize research.
5. To identify the Top 10 productive authors within in Maize research.
6. To identify the language wise distribution of Maize research.
7. To examine the authorship patterns and degree of collaboration.
8. To find High Productive Subject areas in Maize research.

## **Hypotheses**

Following hypotheses were drawn from the objectives of the study.

1. Linear growth model fits to the trajectory growth of Maize research output than the exponential growth model.
2. There is a significant relationship between countries research output and maize production.
3. Maize research is tending to collaborating authorship pattern.

## **Data Collection and Research Methodology**

Data collection is the first and foremost step of scientometrics study. The Data for this study have been retrieved from web of science online bibliographical database. The data collected for this purpose covers publications of the period 2008-2017. A query of the following form was made to collect data using WOS search string Topic search:= " Maize ANDZea mays ". Bibliographical data are distributed in Hitscite Software and MS Excel worksheet using for statistical analysis. By using publish or perish (PoP) software scientometric indicators for Maize research output (Table 1).

## **Analysis and Discussion**

Table 2 shows there are total 16217 publications in WEB OF SCIENCE during the period 2008 to 2017 for Maize research. An overall increasing trend was observed. The year 2017 has been identified as the most productive year with 12.12% of cumulative output. It shows that the total publications ( $n = 16217$ ) have been cited more than 14 times during the period 2008 – 2017. Even though the annual publication output is gradually increasing the average citation per paper has follows decreasing trend from 2013 to 2017.

The growth pattern of Maize research output is also show in table 3 to reveal best fit model. A simple linear and exponential growth model was performed on 10 years of data. The table 2 indicates the research publication output grows exponentially. The best fit of the curve gives  $y = 4E-36e^{0.044x}$ . This was evident from the table 2(a) by the higher value of co-efficient of determination  $R^2 = 0.918$  verses linear:  $R^2 = 0.902$ .

**Hypothesis:** *linear growth model fits to the trajectory growth of Maize research output than the exponential growth model.*

## Research Output on Maize (Zea Mays)

Table 1. Publish or perish (PoP) software scientometric indicators

Details	Description
Query date	12.12.2018
Search Topic	"Maize AND Zea mays"
Collection Span	2008-2017
Total Records	16219
Citations	236600
Cites_Year	21509.09
Cites_Paper	14.59
Cites_Author	62007.9
Papers_Author	4333.01
Authors_Paper	5.03
h_index	132
g_index	199
hc_index	84
hI_index	20.12
hI_norm	65

Table 2. Year-wise distribution of publications

Year	Records	Percentage	Cum.	Total Citation	CPP
2008	1327	8.18	1327	35092	26.44
2009	1390	8.57	2717	40418	29.08
2010	1467	9.05	4184	33656	22.94
2011	1556	9.59	5740	30438	19.56
2012	1511	9.32	7251	25590	16.94
2013	1543	9.51	8794	22348	14.48
2014	1624	10.01	10418	19664	12.11
2015	1896	11.69	12314	14894	7.86
2016	1937	11.94	14251	9789	5.05
2017	1966	12.12	16217	4705	2.39
	<b>16217</b>	<b>100</b>		<b>233600</b>	<b>14.59</b>

Table 3. Growth pattern fits statistics

Growth Model	Observations	R <sup>2</sup>	Degrees of Freedom (Df)	Significance
Linear Model	10	0.902	8	5%
Exponential Model	10	0.918	8	5%



**Inferences:** Hypothesis has been tested by the P value method. The P value for the linear growth model given in the table 3 is 0.00002586 which is lesser than the  $\sigma$  (5% or 0.05). Hence the null hypothesis “Linear growth model fits to the trajectory growth of Maize research output than the exponential growth model”. was rejected. It has been proven by the statistical analysis that the growth of Maize research publication output period 20008-20017 is exponential.

A study of data in table 4 indicates that the relative growth rate and Doubling time for publications of Maize research. The relative growth rate (RGR) and doubling time (DT). RGR is the increase in the number of publications per unit of time and it is calculated using the formula  $RGR = (\ln N2 - \ln N1) / (t2 - t1)$ , where N2 and N1 are the cumulative number of publications in the years t2 and t1. The parameter doubling time (DT) indicates the time required for publications to become double of the existing amount. DT is related to RGR in that if the number of articles doubles then the difference between the logarithms of numbers at the beginning and end of that period is 693 and it is calculated as  $DT = 0.693/RGR$ .

Table 5 that RGR has shown a gradually increasing trend from 2009 (0.67) to 2017 (2.11) whereas Doubling time had declining trend from 1.03 to 0.33 in the same period. This means that although the number of publications increased since 2008, its rate of growth also increased while the corresponding doubling time decreases. The mean relative Growth rate for the periods of 2008 to 2017 is 1.42. This study period resulted that the mean doubling time for total output 0.45.

Table 6 the analysis of country wise research output in the field of Maize during the period of 10 years. Out of 144 countries, USA has placed with 4797 research output and the percentage rate is 29.6% has got the first place based on the record count followed by Peoples Republic China has 2912 records and occupied the second rank, and the 3<sup>rd</sup> place has got by Brazil with 1560 articles and followed by Germany has 1000 records and globally is ranked in the fourth.

The study reveals that India is the 5th Position in Maize research with its contribution of 866 papers which is nearly (5.35%) of the global research output and growth pattern is linear during the study period.

**Hypothesis:** *There is a significant relationship between countries research output and maize production*

**Inferences:** It has been proven by the statistical analysis that the there is significant relationship between countries research output and maize production,  $r(8) = .1.00, P < .05, P = \text{value } 5.72$  (Table 7)

Table 8 shows that the various types of literature output in the forms of research articles, review, editorial material, meeting abstract, proceeding papers, Book chapter letter and etc. Based on the analysis, the results show that out of, the majority of 15088 (93.04%) are articles has placed in the first place and followed by 716 (4.42%) reviews, 182 (1.12%) proceeding papers, 182 (1.12%) and Book chapter 70(0.43%)

Table 4. Statistical test for growth pattern of maize research

	Coefficients	Standard Error	t Stat	P-Value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-144266.25	16964.92	-8.50	0.000028	-183387.43	-105145	-183387.43	-105145.08
X Variable	72.49	8.43	8.60	0.00002586	53.052	91.92998	53.052	91.93

## Research Output on Maize (Zea Mays)

Table 5. Relative growth and doubling time

Year	Papers	Cumulative of Papers	W1	W2	R(a) (1-2)	Mean R (a) (1-2)	Doubling Time Dt (a)	Mean Dt(a) (1-2)
2008	1327							
2009	1390	2717	7.24	7.91	0.67		1.03	
2010	1467	4184	7.29	8.34	1.05		0.66	
2011	1556	5740	7.35	8.66	1.31		0.53	
2012	1511	7251	7.32	8.89	1.57	<b>1.42</b>	0.44	<b>0.45</b>
2013	1543	8794	7.34	9.08	1.74		0.40	
2014	1624	10418	7.39	9.25	1.86		0.37	
2015	1896	12314	7.55	9.42	1.87		0.37	
2016	1937	14251	7.57	9.56	2.00		0.35	
2017	1966	16217	7.58	9.69	2.11		0.33	
					<b>14.17</b>		<b>4.49</b>	

Table 6. Country wise production and India share

Country	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total	%	Production*12 (in 1,000 metric tons)
USA	475	435	434	433	439	453	470	545	539	574	4797	29.6	370960
Peoples R China	109	159	205	238	260	285	352	391	460	453	2912	18.0	215981
Brazil	130	150	132	152	151	148	155	180	180	182	1560	9.6	82000
Germany	80	82	94	86	112	100	101	114	109	122	1000	6.2	62277
<b>India</b>	<b>61</b>	<b>68</b>	<b>69</b>	<b>61</b>	<b>66</b>	<b>89</b>	<b>99</b>	<b>120</b>	<b>114</b>	<b>119</b>	<b>866</b>	<b>5.3</b>	28720
Mexico	50	55	65	66	72	65	65	65	83	109	695	4.3	27450
Canada	52	65	55	82	74	47	59	66	56	72	628	3.9	14100
Pakistan	25	30	52	48	49	68	64	73	71	90	570	3.5	5701
France	58	60	60	49	55	38	53	44	57	51	525	3.2	14300
Spain	44	45	48	50	49	58	37	39	58	54	482	3.0	10000

Table 7. Country wise production statistical test

	Coefficients	Standard Error	t Stat	P-Value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-37110.7	6110.60	-6.07	0.001748538	-52818.51	-21402.93	-52818.51	-21402.93
Papers	85.19	2.67	31.86	5.72	78.31	92.06	78.31	92.06

*Table 8. Document wise research output*

Document Type	Publication	Percentage
Article: Journal	15088	93.04
Review	716	4.42
Article; Proceedings Paper	182	1.12
Review; Book Chapter	70	0.43
Meeting Abstract	65	0.40
Editorial Material	57	0.35
Correction	22	0.14
News Item	7	0.04
Article; Retracted Publication	3	0.02
Letter	3	0.02
Article; Data Paper	2	0.01
Article; Book Chapter	1	0.01
Book Review	1	0.01

Table 9 shows the contribution of core journal in the field of Maize. Out of 1501 journals, we have selected only top 10 Productive journals are taken into consideration for analysis. In this connection, the majority of 658 literature count contributed by AGRONOMY JOURNAL and has ranked first position and followed by CROP SCIENCE Journal has occupied in the second rank with 427 records. PLANT PHYSIOLOGY and PLOS ONE have got the third and fourth position each with 330 and 267 articles respectively.

Out of 41295 authors, top 10 prolific authors of Maize research during the year 2008 to 2017 along with their citation indicates are taken into consideration for analysis (Table 8) . A quantitative analysis of research output published by the authors found the top most prolific authors were Zhang FS 78 records

*Table 9. Top 10 productive journals*

Journal	Papers	%
AGRONOMY JOURNAL	658	0.566
CROP SCIENCE	427	0.367
PLANT PHYSIOLOGY	330	0.284
PLOS ONE	267	0.23
FRONTIERS IN PLANT SCIENCE	234	0.201
FIELD CROPS RESEARCH	226	0.194
JOURNAL OF EXPERIMENTAL BOTANY	218	0.188
MAYDICA	218	0.188
PLANT AND SOIL	218	0.188
SOIL SCIENCE SOCIETY OF AMERICA JOURNAL	213	0.183

## Research Output on Maize (*Zea Mays*)

with CPP 8.46 and has ranked first position and followed by Melchinger AE 70 records and CPP 6.04 occupied second rank, Third rank author Liu Y had 68 records and 3.38.

**Hypothesis:** *Maize research is tending to collaborating authorship pattern*

**Inferences:** Table 10 provides details about the descriptive statistics for authorship pattern. Totally 41295 authors produced 61217 research publication of whom 3.00% (n = 488) published single work. The degree of collaboration (0.97) shows that Maize research tending to collaborate in the research activity during the period of study. Hence the hypothesis “Maize research is tending to collaborating authorship pattern” is accepted for the study

Table 11 shows that more than 30 percent of articles are from Plant Sciences research and has predominant with 5172 record count and followed by Agronomy has placed in the second position with 4540 articles. The third rank has in the research area of Agriculture, Multidisciplinary with 1684 research output

Out of 15225 word count, here we have figured Top 10 keywords for analysis (figure 5). Based on the study, the word “Maize” is keyword used frequently of 7148 records in maize research followed that “Zea”(2975) and “Mays” (2927)

Table 10. Top 10 prolific authors

Author	Recs	Country	TLCS	CPP
Zhang FS	78	China	660	8.46
Melchinger AE	70	Germany	423	6.04
Liu Y	68	China	250	3.68
Scapim CA	67	Brazil	248	3.70
Li Y	64	China	121	1.89
Zhang J	62	China	210	3.39
Chen XP	54	China	326	6.04
Lal R	54	USA	121	2.24
Yan JB	51	USA	443	8.69
Li L	50	China	245	4.90

Table 11. Degree of collaboration

S.No	Authorship Pattern	No. of Publications
1	Single Authored Paper	488
2	Multi authored Paper	15729
3	Total No. of Authors	41295
4	Total No. of Publications	16217
5	Mean Paper Per Author	0.40
6	Mean Authors Per Paper	2.55
7	Degree of Collaboration	0.97

Table 12. Top 10 research area

Research Area	Records	%
Plant Sciences	5172	31.89
Agronomy	4540	28.00
Agriculture, Multidisciplinary	1684	10.38
Soil Science	1605	9.90
Environmental Sciences	1318	8.13
Biochemistry & Molecular Biology	1024	6.31
Biotechnology & Applied Microbiology	847	5.22
Genetics & Heredity	808	4.98
Food Science & Technology	710	4.38
Horticulture	585	3.61

## FINDINGS

- The greatest number of research output is in the year 2017 with 1966 in Maize research and the least number of articles in the year 2008 and 1327 respectively. The exponential growth rate of research articles is  $y = 4E-36e^{0.044x}$ , and the  $R^2$  value is 0.918 during the period of study.
- It found that total citation received 2008 -2017 is 236600; average citation per paper is 14.59: h index is 132 and g index is 199.
- The Growth rate is 0.67 in 2009 and which increase up to 2.11 in 2017. The mean relative Growth rate 1.42. This study period resulted that the mean doubling time for total output 0.45.
- The majority number of 78 records are contributed by ‘Zhang FS’ with 660 citations and placed in the first place, and the out of top 10 authors, the least number of 50 record counts with 2451 citations contributed by ‘Li L and 6 authors are from China.
- Plant Sciences 5172 (31.89%) has been identified as most productive research area followed by Agronomy 4540 (28%).
- Out of 1501 journals were Published maize research publication and most preferred journals are: AGRONOMY JOURNAL with 658 papers (5.66%) followed by the CROP SCIENCE with 427 papers (3.67%)
- Out of 144 countries were contributed research article in Maize research and USA was contributed 4797 (29.6%) research publications occupied the first position. Peoples R China contributed 2912 (18. %) occupied second position and India in the 5<sup>th</sup> position with published 866 (5.3%).
- It is identified that the degree of collaboration is 97% in the field of Maize research.

## CONCLUSION

This study has highlighted quantitatively the research output during the years 2008-2017 as available in web of science database. During this 10 years contribution in terms of number of publications is significant and more interdisciplinary nature. In India, maize is the third most important food crops after rice

## Research Output on Maize (*Zea Mays*)

and wheat, hence Indian researcher needs to contribute more research paper in maize. Databases such as Scopus and CAB Direct Online Database would have been appropriate source of data for the future research to reveal the research output of seed technology.

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## KEY TERMS AND DEFINITIONS

**Citation Analysis:** The examination of the frequency, patterns, and graphs of citations in documents. It uses the pattern of citations, links from one document to another document, to reveal properties of the documents. A typical aim would be to identify the most important documents in a collection.

**Crop:** Plant or animal product that can be grown and harvested extensively for profit or subsistence. Crop may refer either to the harvested parts or to the harvest in a more refined state. Most crops are cultivated in agriculture or aquaculture.

**Impact Factor (IF) or Journal Impact Factor (JIF):** An academic journal is a scientometric index which reflects the yearly average number of citations to recent articles published in that journal. It is frequently used as a proxy for the relative importance of a journal within its field; journals with higher impact factors are often deemed to be more important than those with lower ones.

**Maize (Zea Mays L):** Is one of the most versatile emerging crops having wider adaptability under varied agro-climatic conditions. Globally, maize is known as queen of cereals because it has the highest genetic yield potential among the cereals. It is cultivated on nearly 150 m ha in about 160 countries having wider diversity of soil, climate, biodiversity and management practices that contributes 36% (782 m t) in the global grain production.

**Scientometrics:** The field of study which concerns itself with measuring and analysing scientific literature. Scientometrics is a sub-field of bibliometrics. Major research issues include the measurement of the impact of research papers and academic journals, the understanding of scientific citations, and the use of such measurements in policy and management contexts.

## Chapter 14

# Gender Differences of ICT Skills Among LIS Professionals in Universities of Tamil Nadu: An Analytical Study

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### **ABSTRACT**

*The purpose of the chapter is to investigate the gender differences of ICT skills of LIS professionals working in the Universities of Tamil Nadu. The study covered 47 universities including 19 state universities, 2 central universities, and 26 deemed universities. In the present study, the data was collected from the respondents through a structured questionnaire using survey method and adopted simple random sampling. The questionnaire contains attitudes of communication skills, use of ICT and related gadgets, level of awareness/skill in the computer applications/services, attitude towards ICT implications, problems of implications of ICT, and areas of ICT skills where training is required among male and female respondents. Totally, 441 respondents are selected from these 47 universities including 325 male and 116 female respondents. The study used SPSS Ver. 23 was used for performing necessary statistical analysis means, s Ranks, Independent 'T' Test, and Chi-Square Analysis the collected data to draw necessary inferences. It is brought to light that 100% of male and female respondents agree that they would like to know more about ICT. Around 90% of male and female respondents agree that ICT helps them to present research articles in the seminars/workshops/conferences and find it easy to select appropriate ICT resources related to work environment. About 85-90% of both female and male respondents agree that ICT motivates the library staff to learn effectively, it saves the time of the library staff in many ways, it provides high level security for library resources, and it facilitates easy information exchanges. Further, the chapter also provided a platform to LIS professionals to find out the area of focus to learn and update their ICT skills in digital environment and electronic resources by LIS professionals for efficient delivery of library services for the betterment of the library as a whole.*

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## **INTRODUCTION**

Librarians have transitionally been concerned with certain functions and most of these have their parallels in the electronic publishing era. Collection development and acquisitions: deciding what materials to obtain for their user community finding out how to get hold of the chosen materials and buying them. A skill is the ability or talent to perform a task well or better than average. It is a human ability to apply and success in his/her profession. So library and information professionals are needed to have some of the basic skills. Information and Communication Technology applications transformed the traditional libraries into the automated libraries, digital library and online libraries and so on. To work in constant change and convert the technological environment in these libraries, there is a need mainly on the part of the library and information professionals to acquire and develop the required skills and competencies to the different methods of information and communication technology skills. The main ICT skills very important for LIS professionals because ICT required to manage libraries include handling of operating systems, use of application software packages, knowledge of databases and programming, acquaintance in webpage design, develop institutional repository, library automation software, technical skills, managerial skills and customizing open source software. So ICT skills need to study among the LIS professionals. This paper mainly discuss the Gender Differences in Information and Communication Technology skills in library and information professionals who are working in the university libraries of selected public sector and private sector by making the sample survey.

## **REVIEW OF LITERATURE**

Angeline (2019) conducted the engineering LIS professionals today needs to acquire knowledge and skills in ICT as the services of more and more libraries are now cantering around information technology, especially in educational institutions. The study found that the investigate the Internet and Computer Communication Network skills of library professionals. Questionnaire was used to collect data for this research. 190 library professionals participated in the study. Results show an improved computer literacy level for Library Professionals in the study. Jeyshankar, Nachiappan and Lavanya (2018) were studied the post graduate students of Alagappa University, applied their Information Retrieval skills in accessing electronic resources. The samples are collected from the 252 of four faculties' postgraduate students of Alagappa University. With the help of filled questionnaire, the collected data was further analysed by using simple percentage, standard deviations and Chi-Square test. This study mainly focused on information retrieving skill among graduate students of Alagappa University. Female respondents are more compare than male students. It aspires to measure the postgraduate graduates' use and access of searching the information using web tools, techniques and resources. This study finds that female respondents are high information retrieval skills compared to male. This study also emphasis most of the respondents Searching the electronic catalogue (OPAC) through theauthor, title and shelf searches." has highest mean score as far as both male and female respondents 4.54 (S.D. 0.789) and male respondents 4.35 (0.957) are concerned.

Thanuskodi (2015) examined ICT in library activities and services providing new dimensions for teaching, learning and research in higher educational institutions. With the help of ICT tools, it is possible to store, retrieve, disseminate and organize information by creating websites and databases. Information is now published both electronically and by print making it accessible to users according to their

demands. The study shows that out of the total 172 respondents, 53.48 per cent of them belong to the age group of 30-40 years and 20.93 per cent of them come under the age group of below 30 years. In this study, 22.58 per cent of the respondents have above 4 hours of access to internet. Majority of the respondents (37.03%) in the age group 40-50 years have above 4 hours of access to internet. The study reveals that librarian take the first position in their overall expertise in system analysis and design, assistant librarian the second, deputy librarian the third, technical staff the fourth and ministerial staff the last.

Vellaichamy and Jeyshankar (2015) focused on the Impact of Information and Communication Technology among the Physical Education Students in Alagappa University, Tamilnadu. Data was collected through a structured questionnaire from 214 students of various branches of physical education. The population includes UG students, PG students and Research Scholars. The findings show that Internet has become a significance source for the students as they use internet for education purposes, research work and updating knowledge. A half of the respondents (72.90%) have stated that internet used for E-Mail purpose only. Up to 72% of the respondents have stated that no computer lab is the prime barrier of using ICT Resources. The study suggests that for the optimum utilization of e-journals, consortia's and various other ICT based resources and services and the library should undertake the literacy/orientation programs on regular intervals for their respective respondents.

Seena and Sudhir Pillai (2014) were investigated the awareness, skill and attitude towards Information and Communication Technologies (ICT) among library professionals in Kerala University Library, Thiruvananthapuram. The study is based on a questionnaire survey of library professionals employed in the central and departmental libraries of the University of Kerala. The analyses revealed that the library professionals in the Kerala University library system have relatively average level skills in various ICT related tasks in libraries. Libsys software was more used in libraries and a good number of professionals indicated that the main constraint in the application of ICT in libraries is inadequate training in ICT applications. All the professionals expressed a positive attitude towards the application of ICT in libraries. Dhanavandan, Esmail, and Mani (2008) were analysed advances of ICTs and opportunities to improve their resources and services. This study looks at the use of ICT tools by a population of library professionals in the Indian state of TamilNadu, exploring the use of various tools, cross-tabulated by gender and age, and compiling a list of uses for these tools in professional settings.

## **OBJECTIVES**

- To identify the attitude towards Communication Skills among LIS Professionals gender –wise respondents.
- To identify the ICT knowledge level of among LIS professionals in universities in Tamil Nadu.
- To analyse the attitude towards ICT implications Vs. Gender of the Respondents.
- To identify the problems in the effective application of ICT in Libraries Vs. Gender and University-sector of the Respondents.
- To find out the Level of awareness/skill in the computer applications/Services among male and female respondents.
- To identify the areas of ICT Skills where Training is required among male and female respondents.

## Hypothesis

- There is no significant difference between the level of awareness / skill in the use of ICT and related gadgets, *computer applications/Services*, Attitude towards ICT implications, problems of implications of ICT and Areas of ICT Skills where Training and the gender of the respondents.

## Methodology

This study aims to the measuring the attitudes of ICT skills among the LIS professionals of universities of Tamil Nadu. There are 47 universities are covered this paper like 19 state universities, 2 central universities and 26 deemed universities are included in the list. The study adopted simple random sampling to select the respondents from these 47 universities. 441 respondents are selected from these 47 universities. 325 male and 116 female respondents. The questionnaire contains attitudes of communication skills, use of ICT and related gadgets, *Level of awareness/skill in the computer applications/Services*, Attitude towards ICT implications, problems of implications of ICT and Areas of ICT Skills where Training is required among male and female respondents. The study used SPSS Ver. 23 was used for performing necessary statistical analysis mean, s Ranks and Mann Whitney U Test, Independent ‘T’ Test and *Chi-Square Analysis*the collected data to draw necessary inferences.

## DATA ANALYSIS AND INTERPRETATION

Table 1 reveal that out of 441 respondents surveyed under the study, 73.7% (325) are male respondents and 26.3%(116) are female respondents. This makes it clear that most of the library professionals in Tamilnadu universities are males and only 1/4<sup>th</sup> of LIS professionals are females. Domination of male library professionals over female library professionals is made visible here.

Table 2 shows the attitude of the respondents towards their communication skills.

- **Agree:** A majority of 160 (36.3%) respondents agree that they show interest in what others say by smiling, nodding and using verbal fillers. It is followed by 128 (29%) respondents who agree that they can organize and express their ideas in a way that is meaningful to others and listen to another person and initiate and assert an opinion/ concern appropriately.
- **Neutral:** A maximum of 325 (73.7%) respondents are neutral that they can accurately interpret gestures, facial expressions.eg. gauges the mood/emotions of another person. 63.7% (281) of the

*Table 1. Gender-wise distribution of the respondents*

Gender	Frequency	Percent
Male	325	73.7
Female	116	26.3
<b>Total</b>	<b>441</b>	<b>100.00</b>

*Note.* Source: Primary Data

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*Table 2. Attitude towards communication skills*

Sl. No	Description	Agree	Neutral	Disagree
1	I can use appropriate vocabulary to explain how another person feels	116 (26.3%)	44 (10.0%)	281 (63.7%)
2	I can organize and express my ideas in a way that is meaningful to others	128 (29.0%)	32 (7.3%)	281 (63.7%)
3	I use only very simple vocabulary in my communication	128 (29.0%)	32 (7.3%)	281 (63.7%)
4	I can accurately interpret gestures, facial expressions .e.g. gauges the mood/emotions of another person.	116 (26.3%)	325 (73.7%)	0 (0.00%)
5	I can listen to another person and initiate and assert an opinion/ concern appropriately	128 (29.0%)	32 (7.3%)	281 (63.7%)
6	I show interest in what others say by smiling, nodding and using verbal fillers.	160 (36.3%)	281 (63.7%)	0 (0.00%)

respondents are neutral that they show interest in what others say by smiling, nodding and using verbal fillers.

- **Disagree:** 281 respondents (63.7%) disagree that they can use appropriate vocabulary to explain how another person feels, can organize and express their ideas in a way that is meaningful to others, use only very simple vocabulary in their communication and can listen to another person and initiate and assert an opinion/ concern appropriately.

Table 3 shows the gender-wise distribution of attitude of the respondents towards their communication skills.

A majority of 61.2% (199) of male respondents and 70.7% (82) of female respondents disagree that they can use appropriate vocabulary to explain how another person feels, can organize and express their ideas in a way that is meaningful to others, use only very simple vocabulary in their communication and can listen to another person and initiate and assert an opinion/ concern appropriately. 31.1% (101) of male respondents and 23.3% (27) of the female respondents agree that they can organize and express their ideas in a way that is meaningful to others, use only very simple vocabulary in their communication and can listen to another person and initiate and assert an opinion/ concern appropriately.

Table 4 shows the ranks and the results of Mann Whitney U Test along with Sig. level or p values. The left hand part of the Table shows the mean or average ranks for males and females on each of the six dependent variables. SPSS ranks 441 students from 441 (highest) to 1 (Lowest) so that a high mean rank indicates the group scored higher.

Table 4 shows the ranks and the results of Mann Whitney U Test along with Sig. level or p values. The left hand part of the Table shows the mean or average ranks for males and females on each of the six dependent variables. SPSS ranks 441 students from 441 (highest) to 1 (Lowest) so that a high mean rank indicates the group scored higher. The right hand part of the Table provides Mann-Whitney U, z score and the Sig. (Significance) level or p. The p-value is more than 0.05 for all the six variables. It accepts the null hypothesis i.e. there is no difference between male and female respondents in their attitude towards communication skills.

Table 5 shows the level of awareness and skill of the respondents in the use of IT tools and gadgets. 60-70% of the respondents are good at using IT and related gadgets like CD/DVD writing, USB, Digital

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*Table 3. Attitude towards communication skills: a gender analysis*

Sl. No	Description	Male			Female		
		Agree	Neutral	Disagree	Agree	Neutral	Disagree
I	I can use appropriate vocabulary to explain how another person feels	91 (28.0%)	35 (10.8%)	199 (61.2%)	25 (21.6%)	9 (7.8%)	82 (70.7%)
II	I can organize and express my ideas in a way that is meaningful to others	101 (31.1%)	25 (7.7%)	199 (61.2%)	27 (23.3%)	7 (6.0%)	82 (70.7%)
III	I use only very simple vocabulary in my communication	101 (31.1%)	25 (7.7%)	199 (61.2%)	27 (23.3%)	7 (6.0%)	82 (70.7%)
IV	I can accurately interpret gestures, facial expressions .e.g. gauges the mood/ emotions of another person.	91 (28.0%)	234 (72.0%)	0 (0.00%)	25 (21.6%)	91 (78.4%)	0 (0.00%)
V	I can listen to another person and initiate and assert an opinion/ concern appropriately	101 (31.1%)	25 (7.7%)	199 (61.2%)	27 (23.3%)	7 (6.0%)	82 (70.7%)
VI	I show interest in what others say by smiling, nodding and using verbal fillers.	26 (38.8%)	199 (61.2%)	0 (0.00%)	34 (29.3%)	82 (70.7%)	0 (0.00%)

Camera, laser printer and image scanner. 70-80% of the respondents are good at using mobile phone, webcam, barcode scanner and e-book reader. More than 80% of the respondents are good at using MP4 player, LCD projector, RFID technology and Internet.

20-30% of the respondents are very good at using IT and related gadgets like computer networking, mobile phone, webcam, barcode scanner and e-book reader. 30-37% of the respondents are very good at CD/DVD writing, USB, digital camera, laser printer and image scanner. 97% of the respondents are very good at using wireless internet. 63.7% (281) of the respondents are poor in their computer networking skills. In fact, this is the only one skill ranked as poor by the respondents. The respondents are either good or very good at the user of all other IT and related gadgets.

Table 6 reveals the gender-wise distribution of level of awareness or use of IT and related gadgets among the respondents. While most of the male respondents are very good at using IT and related gadgets like wireless internet (315, 96.9%), CD/DVD writing, Digital camera and laser printer (126, 38.8%) and USB (117, 36%), less number of male respondents are very good at RFID technology (43, 13.2%), LCD projector (60, 18.5). While most of the male respondents are good at using IT and related gadgets like RFID technology (282, 86.8%), LCD projector (265, 81.5%) and Internet (261, 80.3%), less number of male respondents are good at computer networking (50, 15.4%) and wireless internet (10, 3.1%).

While most of the female respondents are very good at using IT and related gadgets like wireless internet (114, 98.3%), RFID technology (102, 87.9%) and Internet (94, 81%), less number of female

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*Table 4. Attitude towards communication skills: a gender analysis: ranks and Mann Whitney U Test*

Ranks				Sum of Ranks	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
Skill	Gender	N	Mean Rank					
I	Male	325	226.40	73580.00	17095.000	23881.000	-1.753	.080
	Female	116	205.87	23881.00				
II	Male	325	226.54	73624.00	17051.000	23837.000	-1.804	.071
	Female	116	205.49	23837.00				
III	Male	325	226.54	73624.00	17051.000	23837.000	-1.804	.071
	Female	116	205.49	23837.00				
IV	Male	325	224.74	73040.50	17634.500	24420.500	-1.353	.176
	Female	116	210.52	24420.50				
V	Male	325	226.54	73624.00	17051.000	23837.000	-1.804	.071
	Female	116	205.49	23837.00				
VI	Male	325	226.49	73608.00	17067.000	23853.000	-1.817	.069
	Female	116	205.63	23853.00				
	<b>Total</b>	<b>441</b>						

*Table 5. Level of awareness/skill in the use of ICT and related gadgets*

Items	Level of Awareness		
	Very Good	Good	Poor
Computer networking	93(21.1%)	67(15.2%)	281(63.7%)
CD/DVD writing	160(36.3%)	281(63.7%)	0
Memory stick (flash drive, USB)	148(33.6%)	293(66.4%)	0
Mobile phone	120(27.2%)	321(72.8%)	0
Digital camera	160(36.3%)	281(63.7%)	0
Webcam	109(24.7%)	332(75.3%)	0
MP4 Player (e.g. iPod)	86(19.5%)	355(80.5%)	0
Laser printer	160(36.3%)	281(63.7%)	0
LCD /Multimedia Projector	78(17.7%)	363(82.3%)	0
RFID Technology	57(12.9%)	384(87.1%)	0
Barcode scanner	116(26.3%)	325(73.7%)	0
Image scanner	139(31.5%)	302(68.5%)	0
E- book reader	90(20.4%)	351(79.6%)	0
Internet (leased line, Dial up, Broadband)	86(19.5%)	355(80.5%)	0
Wireless Internet	429(97.3%)	12(2.7%)	0



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*Table 6. Level of awareness/skill in the use of ICT and related gadgets among male and female respondents*

Items	Male			Female		
	Very Good	Good	Poor	Very Good	Good	Poor
Computer networking	76(23.4%)	50 (15.4%)	199 (61.2%)	17 (14.7%)	17 (14.7%)	82 (70.7%)
CD/DVD writing	126(38.8%)	199 (61.2%)	0	34 (29.3%)	82 (70.7%)	0
Memory stick (flash drive, USB)	117 (36.0%)	208 (64.0%)	0	31 (26.1%)	85 (73.3%)	0
Mobile phone	98 (30.2%)	227 (69.8%)	0	22 (19.0%)	94 (81.0%)	0
Digital camera	126 (38.8%)	199 (61.2%)	0	34 (29.3%)	82 (70.7%)	0
Webcam	87 (26.8%)	238 (73.2%)	0	22 (19.0%)	94 (81.0%)	0
MP4 Player (e.g. iPod)	66 (20.3%)	259 (79.7%)	0	20 (17.2%)	96 (82.8%)	0
Laser printer	126 (38.8%)	199 (61.2%)	0	34 (29.3%)	82 70.7%	0
LCD /Multimedia Projector	60 (18.5%)	265 (81.5%)	0	18 (15.5%)	98 (84.5%)	0
RFID Technology	43 (13.2%)	282 (86.8%)	0	102 (87.9%)	14 (12.1%)	0
Barcode scanner	89 (27.4%)	236 (72.6%)	0	27 (23.3%)	89 (76.7%)	0
Image scanner	108 (33.2%)	217 (66.8%)	0	85 (73.3%)	31 (26.7%)	0
E- book reader	69 (21.2%)	256 (78.8%)	0	21 (18.1%)	95 (81.1%)	0
Internet (leased line, Dial up, Broadband)	64 (19.7%)	261 (80.3%)	0	94 (81.0%)	22 (19.0%)	0
Wireless Internet	315 (96.9%)	10 (3.1%)	0	114 (98.3%)	2 (1.7%)	0

respondents are very good at computer networking (17, 14.7%) and LCD projector (18, 15.5%). While most of the female respondents are good at using IT and related gadgets like LCD projector (98, 84.5%), MP4 player (96, 82.8%), e-book reader (95, 81.1%) and mobile phone & web cam (94, 81%), less number of female respondents are good at using wireless internet (2, 1.7%), RFID technology (14, 12.1%) and computer networking (17, 14.7%). 199 (61.2%) male respondents and 82 (70.7%) female respondents are poor in computer networking skills. The male and female respondents are not poor in the use of other 14 IT and related gadgets.

### Independent ‘T’ Test for Level of Awareness/Skill in the Use of it and

- **Related Gadgets and Gender of the Respondents:** To find out the difference between the level of awareness / skill in the use of IT and related gadgets and the gender of the respondents, independent ‘t’ test was used.
- **Hypothesis:** There is no significant difference between the level of awareness / skill in the use of IT and related gadgets and the gender of the respondents.
- **Analysis:** To verify the above hypothesis the respondents are classified into two groups namely, male and female. Further, the Level of awareness /skill in the use of IT and related gadgets which consist of various statements were concatenated using the compute variable option in SPSS into a single factor. To find out the significant difference, the Independent ‘t’ Test is applied and the details are presented in the Table 7& 8.

Table 8 shows the results of levene’s test for equality of variances along with descriptive statistics. The test reveals that the p-value is less than 0.05. So, null hypothesis i.e. there is no variation between the male and female respondents with regard to the level of awareness/skill in the use of IT and related gadgets, is rejected and alternative hypothesis is accepted. Since the population variances are relatively not equal, the researcher should look at the ‘Equal variances not assumed’ row for the t-test results.

The two-tail significance for ICT skills shows that the p-value (0.91) is greater than 0.05 and so the null hypothesis is accepted. There is 95 percent chance that the population mean difference falls somewhere between one minus and one plus value. The confidence interval includes zero, which means that there could be no difference. Thus, the t-test concludes that there is no significant difference between the level of awareness / skill in the use of IT and related gadgets and gender of the respondents.

Table 9 shows the level of awareness / skill in the computer applications among the respondents. Very few respondents are very good at ‘Windows OS’ (43, 9.8%), Programming languages (11, 2.5%) and Creating HTML/XML documents (11 (2.5%). While 90.2% (398) of the respondents are good at using ‘Windows OS’, only 5% (22) of them are good at using ‘Linux OS’. A majority of 149 (33.8%)

Table 7. Group statistics

Variable	Gender	N	Mean	Std. Deviation	Std. Error Mean
IT and Gadgets	Male	325	64.2185	5.34417	.29644
	Female	116	63.2672	5.11835	.47523

Table 8. Independent samples test

Variable		Levene’s Test		t-test for Equality of Means						
				t	df	Sig. (2-tailed)	MD	SE	95% CI	
		F	Sig.						Lower	Upper
IT and Gadgets	EVA	10.039	.002	1.664	439	.097	.95122	.57170	-.17240	2.07484
	EVNA			1.698	210.591	.091	.95122	.56011	-.15291	2.05535

Note. EVA = Equal Variances Assumed; EVNA = Equal variances not assumed

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Table 9. Level of awareness/skill in the computer applications/Services

Applications/Services	Very Good	Good	Poor
Operating system Windows	43(9.8%)	398(90.2%)	0
Operating system Linux	0	22(5.0%)	419(95.0%)
Programming Languages	11(2.5%)	149(33.8%)	281(63.7%)
Installation and customization of software	0	101(22.9%)	340(77.1%)
Create metadata /tag	0	146(33.1%)	295(66.9%)
Create HTML/XML document	11(2.5%)	90(20.4%)	340(77.1%)
Web page design	0	73(16.6%)	368(83.4%)
System Administration & Maintenance	0	50(11.3%)	391(88.7%)
Manage electronic resources	0	105(23.8%)	336(76.2%)
Development of institutional repository	0	128(29.0%)	313(71.0%)

respondents are good at programming languages followed by 146 (33.1%) respondents who are good at creating metadata / tags and 128 (29%) respondents who are good at developing institutional repositories.

61-70% of the respondents are poor in programming languages and creating metadata tags while 71-80% of the respondents are poor at installing and customizing software, creating HTML/XML documents, managing electronic resources and developing institutional repositories. 81-90% of the respondents are poor at designing web pages and acting as the system admin. A majority of 95% of the respondents are poor in using 'Linux OS'.

Table 10 reveals the level of awareness/ skill of male and female respondents in various computer applications/services.

- Male Respondents:** Only very few male respondents are very good at 'Windows OS' (31, 9.5%), programming languages and creating HTML/XML documents (6, 1.8%). A majority of 294 (90.5%) male respondents are good at 'Windows OS' while 120 (36.9%) are good at programming languages and 115 (35.4%) respondents are good at creating metadata /tags. A minimum of 17 (5.2%) male respondents are good at 'Linux OS', 42 (12.9%) are good at being a system admin and 56 (17.2%) are good at designing web pages. While 94.8% (308) of male respondents are poor at 'Linux OS', 283 (87.1%) are poor at being a system admin, 269 (82.8%) are poor at designing web pages and 246 (75.7%) are poor at creating HTML/XML documents.
- Female Respondents:** Very few female respondents are very good at 'Windows OS' (12, 10.3%), programming languages and Creation of HTML/XML documents (5, 4.35).

A majority of 104 (89.7%) respondents are good at 'Windows OS'. While 31 (26.7%) female respondents are good at creating metadata/tags, 29 (25%) female respondents are good at programming languages and 27 (23.3%) are good at developing institutional repositories. While 17 (14.7%) female respondents are good at creating HTML/XML documents and designing web pages, only 8 (6.9%) are good at being a system admin. While 95.7% (111) of female respondents are poor at 'Linux OS' and 93.1% (108) of them are poor at being a system admin. 99 (85.3%) are poor at designing web pages, 96 (82.8%) are

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*Table 10. Level of awareness/skill in the computer applications/services vs. gender of the respondents*

Applications/Services	Male			Female		
	Very Good	Good	Poor	Very Good	Good	Poor
Operating system Windows	31 (9.5%)	294 (90.5%)	0	12 (10.3%)	104 (89.7%)	0
Operating system Linux	0	17 (5.2%)	308 (94.8%)	0	0 (0.00%)	111 (95.7%)
Programming Languages	6 (1.8%)	120 (36.9%)	199 (61.2%)	5 (4.3%)	29 (25.0%)	82 (70.7%)
Installation and customization of software	0	80 (24.6%)	245 (75.4%)	0	21 (18.1%)	95 (81.9%)
Create metadata /tag	0	115 (35.4%)	210 (64.6%)	0	31 (26.7%)	85 (73.3%)
Create HTML/XML document	6 (1.8%)	73 (22.5%)	246 (75.7%)	5 (4.3%)	17 (14.7%)	94 (81.0%)
Web page design	0	56 (17.2%)	269 (82.8%)	0	17 (14.7%)	99 (85.3%)
System Administration & Maintenance	0	42 (12.9%)	283 (87.1%)	0	8 (6.9%)	108 (93.1%)
Manage electronic resources	0	85 (26.2%)	240 (73.8%)	0	20 (17.2%)	96 (82.8%)
Development of institutional repository	0	101 (31.1%)	224 (68.9%)	0	27 (23.3%)	89 (76.7%)

poor at managing electronic resources and 95 (81.9%) are poor at installing and customizing softwares. While 85 (73.3%) are poor at creating metadata/tags, 82 (70.7%) are poor at programming languages.

Table 11 shows the attitude of male and female respondents towards both positive and negative features of ICT implications.

- Positive Features:** 100% of male and female respondents agree that they like to know more about ICT. Around 90+ percent of male and female respondents agree that ICT help them to present research articles in the seminars / workshops/ conferences and find it easy to select appropriate ICT resources related to work environment. About 85-90% of both female and male respondents agree that ICT motivate the library staff to learn effectively, it saves the time of the library staff in many ways, it provides high level security for library resources and it facilitates easy information exchanges. 10% of the male respondents and around 5% of the female respondents disagree with the ability of ICT in saving time, providing high security and facilitating easy information exchange.
- Negative Features:** It is good to note that only 1-5% of both male and female respondents agree with negative features of ICT implications. 63-72% of male respondents and 75-78% of the female respondents disagree that they get overloaded information, unable to get updates on latest ICT tools / techniques, unable to cope up with ICT jargon, get distracted and don't find relevant information using ICT. 26-33% of male respondents and 17-23% of female respondents are neutral about these negative features of ICT implications.

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*Table 11. Attitude towards ICT implications vs. gender of the respondents*

S. No.	Description	Male			Female		
		Agree	Disagree	Neutral	Agree	Neutral	Disagree
<b>Positive Features</b>							
1	I like to know more about I CT	325 (100.0%)	0	0	116 (100.0%)	0	0
2	ICT helps to present research articles in the seminars/ workshops/ conferences	309 (95.1%)	16 (4.9%)	0	109 (94.0%)	0	7 (6.0%)
3	Find it easy to select appropriate ICT resources related to work environment	319 (98.2%)	6 (1.8%)	0	111 (95.7%)	0	5 (4.3%)
4	ICT motivates the library staff to learn effectively	294 (90.5%)	31 (9.5%)	0	104 (89.7%)	0	12 (10.3%)
5	ICT saves the time of library staff in many ways	284 (87.4%)	35 (10.8%)	6 (1.8%)	102 (87.9%)	5 (4.3%)	9 (7.8%)
6	ICT provides high level security for the library resources	284 (87.4%)	35 (10.8%)	6 (1.8%)	102 (87.9%)	5 (4.3%)	9 (7.8%)
7	ICT facilities easy information exchange	284 (87.4%)	35 (10.8%)	6 (1.8%)	102 (87.9%)	5 (4.3%)	9 (7.8%)
<b>Negative Features</b>							
8	I have got information overloaded	10 (3.1%)	224 (68.9%)	91 (28.0%)	2 (1.7%)	25 (21.6%)	89 (76.7%)
9	Not able to update on latest ICT tools / techniques / services	16 (4.9%)	224 (68.9%)	85 (29.2%)	7 (6.0%)	20 (17.2%)	89 (76.7%)
10	Not able to cope up with all the ICT jargon	6 (1.8%)	224 (69.9%)	95 (26.2%)	5 (4.3%)	22 (19.0%)	89 (76.7%)
11	These technologies can distract the library professionals	6 (1.8%)	234 (72.0%)	85 (26.2%)	5 (4.3%)	20 (17.2%)	91 (78.4%)
12	I don't find any relevant information using ICT	10 (3.1%)	205 (63.1%)	110 (33.8%)	2 (1.7%)	27 (23.3%)	87 (75.0%)

*Table 12. Chi-square analysis of negative implications of ICT among male and female respondents*

Negative Implications	Chi-square value	df	P value	H <sub>0</sub> Accepted or Rejected	Result
I have got information overloaded	2.659	2	.265	Null Hypothesis is accepted	No association
Not able to update on latest ICT tools / techniques / services	3.787	2	.151	Null Hypothesis is accepted	No association
Not able to cope up with all the ICT jargon	6.210	2	.045	Null Hypothesis is rejected	Association exists
These technologies can distract the library professionals	5.415	2	.067	Null Hypothesis is accepted	No association
I don't find any relevant information using ICT	5.485	2	.064	Null Hypothesis is accepted	No association

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To Investigate Whether There is an association between gender of the respondents and their opinion on negative implications of ICT, a chi-square statistics was used. Table 12 discloses the results of chi-square statistic and reveals that there is no association between the variables since p value is more than 0.05 in all the cases except the implication 'Not able to cope up with all the ICT Jargon' whose p value is less than 0.05. Thus, there is an association between gender of the respondents and this particular implication. Female and male respondents differ whether they are able to cope up with all the ICT jargon or not.

Tables 13 show the problems faced by the respondents in the effective application of ICT in libraries. All the male respondents, female respondents, government university respondents and private university respondents face the problems like Inadequate training in ICT applications, Lack of infrastructure in the library, No administrative support in training library professionals, Lack of support from authorities for implementing ICT applications in library, Lack of interest on the part of users, Non-availability of genuine softwares and tools like inverter / UPS to save the system, Problem of security due to virus, malwares etc., and Psychological flavor for traditional methods.

Table 14 details the areas of ICT skills where training is required by the male and female respondents. 68.9% (224) of male respondents and 76.7% (89) of female respondents fully require training on web designing and digitization & imaging technology while 199 (61.2%) male respondents and 82 (70.7%) female respondents fully require training on operating systems, software installation, system analysis, design and networking. Most female respondents fully require training on many areas of ICT than male respondents. 240-290 male respondents and 93-107 female respondents require training on transformation of data /OCR devices, library automation software, digital library software, blogging software, use of web 2.0 tools for library, reference management software, online information services and use of tools like printers, scanners, web cameras, barcodes etc. 100% of male and female respondents partially require

Table 13. Problems in the effective application of ICT in gender of the respondents

Problems	Male	Female	Total
Inadequate training in ICT applications	325 (100.0%)	116 (100.00%)	441 (100.0%)
Lack of infrastructure in the library	325 (100.0%)	116 (100.00%)	441 (100.0%)
No administrative support in training library professionals	325 (100.0%)	116 (100.00%)	441 (100.0%)
Lack of support from authorities for implementing ICT applications in library	325 (100.0%)	116 (100.00%)	441 (100.0%)
Lack of co-ordination among library staff	279 (85.5%)	103 (88.8%)	382 (86.6%)
Lack of interest on the part of users	325 (100.0%)	116 (100.00%)	441 (100.0%)
Non-availability of genuine softwares and tools like inverter / UPS to save the system	325 (100.0%)	116 (100.00%)	441 (100.0%)
Problem of security due to virus, malwares etc	325 (100.0%)	116 (100.00%)	441 (100.0%)
Psychological flavor for traditional methods	325 (100.0%)	116 (100.00%)	441 (100.0%)
Fear of ICT applications	0	0	0

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*Table 14. areas of ICT skills where training is required among male and female respondents*

Sl. No.	Variables	Male			Female		
		Partially Required	Required	Fully Required	Partially Required	Required	Fully Required
	Operating System	120 (36.9%)	6 (1.8%)	199 (61.2%)	29 (25.0%)	5 (4.3%)	82 (70.7%)
	Software installation / operations	17 (5.2%)	109 (33.5%)	199 (61.2%)	5 (4.3%)	29 (25.0%)	82 (70.7%)
	All areas of ICT application	72 (6.5%)	55 (16.9%)	198 (60.9%)	16 (13.8%)	18 (15.5%)	82 (70.7%)
	Web design	21 (6.5%)	80 (24.6%)	224 (68.9%)	6 (5.2%)	21 (18.1%)	89 (76.7%)
	Digitization and imaging technology	85 (26.2%)	16 (4.9%)	224 (68.9%)	20 (17.2%)	7 (6.0%)	89 (76.7%)
	Online cataloguing OPAC / Web OPAC	325 (100.0%)	0	0	116 (100.0%)	0	0
	System analysis and design	48 (14.8%)	78 (24.0%)	199 (61.2%)	11 (9.5%)	23 (19.8)	82 (70.7)
	Networking	40 (12.3%)	86 (26.5%)	199 (61.2%)	11 (9.5%)	23 (19.8)	82(70.7)
	MS Office	99 (30.5%)	226 (69.5%)	0	26 (22.4%)	90 (77.4%)	0
	Database searching technique	93 (28.6%)	232 (71.4%)	0	24 (20.7%)	92 (79.3%)	0
	Transformation of data / OCR Devices	83 (25.5%)	242 (74.05%)	0	23 (19.8%)	93 (80.2%)	0
	Library automation Software	38 (11.7%)	287 (88.3%)	0	13 (11.2%)	103 (88.8%)	0
	Digital library software	71 (21.8%)	254 (78.2%)	0	15 (12.9%)	101 (87.1%)	0
	Blogging software	82 (25.2%)	243 (74.8%)	0	18 (15.5%)	98 (84.5%)	0
	Use of web 2.0 tools for library	28 (8.6%)	297 (91.4%)	0	9 (7.8%)	107 (92.2%)	0
	Reference management software	83 (25.5%)	242 (74.5%)	0	19 (16.4%)	97 (83.6%)	0
	Providing online information services	37 (11.4%)	288 (88.6%)	0	12 (10.3%)	104 (89.7%)	0
	Use of tools like printers, scanners, web cameras, barcodes, etc.	83 (25.5%)	242 (74.5%)	0	19 (16.4%)	97 (83.6%)	0

training on online cataloguing (OPAC) / Web OPAC. More male respondents need partial training on various areas of ICT than their female counterparts.

To investigate whether there is an association between gender of the respondents and the areas of ICT training required, a chi-square statistics was used. Table 15 discloses the results of chi-square statistic and reveals that:



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Table 15. Chi-square analysis of required areas of ICT training among male and female respondents

Negative Implications	Chi-Square Value	df	P Value	H <sub>0</sub> Accepted or Rejected	Result
Operating System	6.878	2	.032	H <sub>0</sub> is rejected	Association exists
Software Installation	3.337	2	.189	H <sub>0</sub> is accepted	No association
All areas of ICT Application	4.381	2	.112	H <sub>0</sub> is accepted	No association
Web Design	2.548	2	.280	H <sub>0</sub> is accepted	No association
Digitization & Imaging Technology	3.787	2	.151	H <sub>0</sub> is accepted	No association
System Analysis and Design	3.636	2	.162	H <sub>0</sub> is accepted	No association
Networking	3.312	2	.191	H <sub>0</sub> is accepted	No association

- **ICT Training on ‘Operating System’:** The p value is less than 0.05. Thus, there is an association between gender of the respondents and this particular training area. Male and Female respondents significantly differ on whether they fully require, partially require or don’t require ICT training on ‘Operating system’.
- **ICT Training on all other areas:** There is no association between the gender of the respondents and the areas of ICT training required since p value is more than 0.05 in all other cases. Male and Female respondents don’t differ significantly on whether they fully require, partially require or don’t require ICT training on all other areas.

## MAJOR FINDINGS AND CONCLUSION

- **Attitude Towards Communication Skills:** It is uncovered that a majority of 160 (36.3%) respondents agree that they show interest in what others say by smiling, nodding and using verbal fillers. A maximum of 325 (73.7%) respondents are neutral that they can accurately interpret gestures, facial expressions e.g. gauges the mood/emotions of another person. 281 respondents (63.7%) disagree that they can use appropriate vocabulary to explain how another person feels, can organize and express their ideas in a way that is meaningful to others, use only very simple vocabulary in their communication and can listen to another person and initiate and assert an opinion/ concern appropriately.
- **Male and Female Respondents:** It is understood that a majority of 61.2% (199) of male respondents and 70.7% (82) of female respondents disagree that they can use appropriate vocabulary to explain how another person feels, can organize and express their ideas in a way that is meaningful to others, use only very simple vocabulary in their communication and can listen to another person and initiate and assert an opinion/ concern appropriately. 31.1% (101) of male respondents and 23.3% (27) of the female respondents agree that they can organize and express their ideas in a way that is meaningful to others, use only very simple vocabulary in their communication and can listen to another person and initiate and assert an opinion/ concern appropriately.
- **Male and Female Respondents:** It is made known that while most of the male respondents are very good at using IT and related gadgets like wireless internet (315, 96.9%), CD/DVD writing, Digital camera and laser printer (126, 38.8%) and USB (117, 36%), less number of male respon-



dents are very good at RFID technology (43, 13.2%), LCD projector (60, 18.5). While most of the female respondents are very good at using IT and related gadgets like wireless internet (114, 98.3%), RFID technology (102, 87.9%) and Internet (94, 81%), less number of female respondents are very good at computer networking (17, 14.7%) and LCD projector (18, 15.5%). 199 (61.2%) male respondents and 82 (70.7%) female respondents are poor in computer networking skills.

- **Male and Female Respondents:** It is discovered that a majority of 294 (90.5%) male respondents are good at 'Windows Operating System' while 120 (36.9%) are good at programming languages and 115 (35.4%) respondents are good at creating metadata /tags. A minimum of 17 (5.2%) male respondents are good at 'Linux OS', 42 (12.9%) are good at being a system admin and 56 (17.2%) are good at designing web pages. A majority of 104 (89.7%) respondents are good at 'Windows OS'. While 31(26.7%) female respondents are good at creating metadata/tags, 29 (25%) female respondents are good at programming languages and 27 (23.3%) are good at developing institutional repositories. While 17 (14.7%) female respondents are good at creating HTML/XML documents and designing web pages, only 8 (6.9%) are good at being a system admin.
- **Positive Features:** It is brought to the light that 100% of male and female respondents agree that they like to know more about ICT. Around 90+ percent of male and female respondents agree that ICT help them to present research articles in the seminars / workshops/ conferences and find it easy to select appropriate ICT resources related to work environment. About 85-90% of both female and male respondents agree that ICT motivate the library staff to learn effectively, it saves the time of the library staff in many ways, it provides high level security for library resources and it facilitates easy information exchanges. 10% of the male respondents and around 5% of the female respondents disagree with the ability of ICT in saving time, providing high security and facilitating easy information exchange.
- **Negative Features:** It is good to note that only 1-5% of both male and female respondents agree with negative features of ICT implications. 63-72% of male respondents and 75-78% of the female respondents disagree that they get overloaded information, unable to get updates on latest ICT tools / techniques, unable to cope up with ICT jargon, get distracted and don't find relevant information using ICT. 26-33% of male respondents and 17-23% of female respondents are neutral about these negative features of ICT implications.
- **Problems in the Effective Application of ICT in Libraries:** It is noticed that all the male respondents, female respondents, government university respondents and private university respondents face the problems like Inadequate training in ICT applications, Lack of infrastructure in the library, No administrative support in training library professionals, Lack of support from authorities for implementing ICT applications in library, Lack of interest on the part of users, Non-availability of genuine softwares and tools like inverter / UPS to save the system, Problem of security due to virus, malwares etc., and Psychological flavor for traditional methods. 279 (85.5%) male respondents, 103 (88.8%) female respondents, 158 (84%) government university respondents and 224 (88.5%) private university respondents have the problem of lack of co-ordination among library staff.
- **Areas of ICT Skills Where Training is Required:** It is discovered that 240-290 male respondents and 93-107 female respondents require training on transformation of data /OCR devices, library automation software, digital library software, blogging software, use of web 2.0 tools for library, reference management software, online information services and use of tools like printers, scanners, web cameras, barcodes etc. 100% of male and female respondents partially require train-

## ***Gender Differences of ICT Skills Among LIS Professionals in Universities of Tamil Nadu***

ing on online cataloguing (OPAC) / Web OPAC. More male respondents need partial training on various areas of ICT than their female counterparts. 68.9% (224) of male respondents and 76.7% (89) of female respondents fully require training on web designing and digitization & imaging technology.

The present study has provided an understanding to identify the acquired the gender differences of ICT skills and competencies of LIS professionals in the universities of Tamil Nadu. The findings showed that most of the male and female LIS professionals are ICT literate and have acquired knowledge and skill to manage the libraries. Very less number of female respondents are very good at computer networking (17, 14.7%) and LCD projector (18, 15.5%). 199 (61.2%). This study shows that a majority of 294 (90.5%) male respondents are good at 'Windows Operating System' while 120 (36.9%) are good at programming languages and 115 (35.4%) respondents are good at creating metadata /tags. A minimum of 17 (5.2%) male respondents are good at 'Linux OS', 42 (12.9%) are good at being a system admin and 56 (17.2%) are good at designing web pages. A majority of 104 (89.7%) respondents are good at 'Windows OS'. While 31(26.7%) female respondents are good at creating metadata/tags, 29 (25%) female respondents are good at programming languages and 27 (23.3%) are good at developing institutional repositories. While 17 (14.7%) female respondents are good at creating HTML/XML documents and designing web pages, only 8 (6.9%) are good at being a system admin. The study suggest the Universities may sponsor special projects, attending seminars and workshops with financial assistance for those LIS professionals / libraries to introduce library spaces, activities and endeavours with various flavours of ICT skills. This paper emphasis LIS professionals still to acquire, and improves Linux operating systems, mobile based library services, web designing, blogging software, adopting open sources software in libraries and so on. This study also insisted, the LIS professionals will learn themselves to compete in the electronic environment in the digital era. The LIS professionals changing their libraries based on use needs. The present study provided the gender relationship between the efficiency of a library and the technical know-how of LIS professionals. The finding of the study has provided a platform for future LIS professionals to assess the need for ICT knowledge and bring positive changes with improved efficiency as a whole.

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## **KEY TERMS AND DEFINITIONS**

**ICT Skills:** It is the ability to use tools of information and communication technology to define one's information problem clearly, access information efficiently, evaluate the reliability, authority and bias of the sources, organize and synthesize one's information with the best ICT tools available in order to use it effectively and responsibly and communicate one's new ideas effectively and ethically with the appropriate ICT tools available.

**Tamil Nadu:** Tamil Nadu is one of the 29 states of India. Its capital and largest city is Chennai. Tamil Nadu lies in the southernmost part of the Indian Peninsula and is bordered by the union territory of Puducherry and the states of Kerala, Karnataka, and Andhra Pradesh. It is bound by the Eastern Ghats in the north, the Nilgiri, the Anamalai Hills, and Palakkad on the west, by the Bay of Bengal in the east, the Gulf of Mannar, and the Palk Strait in the south east, and by the Indian Ocean in the south. Tamil Nadu is the eleventh largest state in India by area and seventh most populous state.

**Universities:** The term comprises of State Government aided Universities, Central Government funded universities or organizations and private universities of Tamil Nadu. The teachers in the LIS Schools and Library professionals in these universities are covered in the study.

# Chapter 15

## ShodhGangotri: The Pulse of Indian Research

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### **ABSTRACT**

*ShodhGangotri is an open access repository of Indian research in progress which is a new initiative that complements ShodhGanga – the reservoir of Indian theses. ShodhGangotri hosts electronic version of approved synopses and research proposals submitted to the universities in India by research scholars for registering themselves for the PhD programme and reveals the trends and directions of ongoing research in India and helps to avoid duplication of research. This chapter examines the current status of ShodhGangotri in different aspects namely universities, issue date, discipline, and state. University-wise analysis shows that 48% of the total number of synopses is submitted by Shri Jagdishprasad Jhabarmal Tibrewala University, 8.9% by Swami Ramanand Teerth Marthwada University, 8.7% by Dayalbagh Educational Institute, and 5.7% by Mahatma Gandhi University, and they occupy 1 to 4 positions, respectively. The chapter concludes with a suggestion that all universities and research institutions should make it mandatory to submit approved synopses and research proposals at the time of their PhD registration to make it experience the pulse of ongoing Indian research.*

### **INTRODUCTION**

In India, as per UGC as on 18.02.2019 there are 903 Universities which include 399 State Universities, 12 Deemed Universities, 48 Central Universities and 330 Private Universities. In each University there are one or more research divisions or institutions. Research is the creative and systematic work to increase the stock of knowledge of human culture and society to devise new application and to establish or confirm facts or to solve problems. As research is the torch of knowledge it is essential to make the research results accessible to all Universities /Institutions. UGC through its MPhil/PhD Regulation 2009, it is informed that all research scholars of MPhil/PhD should submit a soft copy of their theses to the UGC within 30 days after their successful completion, to host the same in INFLIBNET, accessible to all Universities /Institutions. It leads to the establishment of an open access repository- ShodhGanga-

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the reservoir of Indian theses. Recently INFLIBNET introduced ShodhGangotri to host the synopses or research proposals of on-going research.

## **SHODHGANGOTRI: INDIAN RESEARCH IN PROGRESS**

ShodhGangotri is an open access repository of Indian research in progress. Shodh is a Sanskrit word which means 'Research and Discovery' and Gangotri is one of the largest glaciers in the Himalayas and the source of origination of Ganga, the holiest and longest river in India. ShodhGangotri is an initiative by INFLIBNET in which research scholars/supervisors are requested to deposit electronic version of their approved synopses or research proposal submitted by the research scholars to the Universities for registering themselves for PhD. Synopsis in ShodhGangotri later on mapped to full text theses in ShodhGanga. When the full text thesis is submitted for a synopsis, a link will be provided from ShodhGangotri to ShodhGanga.

ShodhGangotri reveals the trends and directions research in Indian Universities and helps in avoiding duplication of research. Users can search synopses in ShodhGangotri in terms of their Universities and Departments, issue date, name of researcher or supervisor, title and key words. Advanced search using Boolean logic is also possible.

This study is to reveal the current status of ShodhGangotri. The data are collected from the web pages of ShodhGangotri. The analysis is done to analyze the composition of synopses of on-going research in Indian Universities/ Institutions in terms of 4 key aspects namely Universities and Departments, disciplines, states and issue date. As on 20 March 2019 there are 6450 synopses by 68 Universities and Departments and they were taken as the research population and were studied accordingly.

## **REVIEW OF LITERATURE**

Waghchoure (2015) in this study on advances in computer applications during the past few decades have brought radical changes in the way information is gathered, store, organized, accessed, retrieved and consumed. The Internet and the Web are constantly influencing the development of new modes of scholarly communication; their potential for delivering goods is quite vast, as they overcome successfully the geographical limitations associated with the print media. The Internet can be used for efficient retrieval and meeting information needs. This is very important for university libraries since most of them call for more and more research work. This important fact is convincing many libraries to move towards electronic resources, which are found to be less expensive and more useful for easy access. The present paper is the Comparative Study of Use of Electronic Resources by Social Scientists in University Libraries of Thailand and India. This study is sponsored by ICSSR-NRCT Bilateral Programme 2014.

Vasishta (2015) this article discusses the results of a survey conducted at the technical universities of North India among the research scholars and faculty to study their knowledge, perceptions and attitudes towards the e-resources. This investigation applied a standard survey method of questionnaire. The study examines preference and importance of e-resources among the research scholars and faculty of technical university libraries of North India and summarizes the findings.

Thanuskodi (2013) the present study evaluates the use of library facilities and information resources in university libraries in Tamil Nadu. A survey of 518 students from 5 universities in Tamil Nadu was

conducted through a set of questionnaires. The collected data covers the use of library resources, services, (e.g. reference services, photocopying services), etc. The chapter concludes that the main intention for the use of libraries has been the academic interest of the students.

Rajput (2014) in the Present study describes the users' attitude towards use of the electronic resources and services by the users of Jiwaji University Central Library, Gwalior, India. Advantages of electronic resources, UGC-Infonet programme and E-Resources available at Jiwaji University are discussed. The questionnaire method is used to solicit the opinions of different user groups. Examines the main purpose of the users to visit the library, their awareness about IT based services, identify the most impressive services, and detect the problems encountered by the users and also to find out the satisfaction of the users about the various types of services provided by the central library. Finally highlights the suggestions given by the users for improvement and better utilization of the library services.

Puttaswamy (2014) in the study presents the use of e-Resources by the faculty members and research scholars various engineering colleges of Visvesvaraya Technological University (VTU) Belgaum, Karnataka. The main aim of this study is to know the usage of e-Resources by faculty members and research scholars who have registered through the recognized Research Centers of Visvesvaraya Technological University (VTU), Belgaum, Karnataka. As a tool the survey method of questionnaire was distributed among the respondents of various departments. Out of 1000 questionnaires, 866 questionnaires were received from the respondents and 86.6% of respondents have replied to the quires. It is observed that majority of senior level teachers and research scholars access the e-Resources for the research work rather than teaching. The study revealed that, 94% of the users are depending on e-Resources which are more relevant for their study rather than print resources. The trend predicts that e-Resources has over taken the print resources and predicts that the print resources will be phased out in near future.

Thanuskodi (2013) this chapter reports the result of a survey conducted at Annamalai University to determine the extent to which users are aware and make use of e-journals. The study also examines the search pattern of e-journals. A questionnaire was distributed among the faculty members, research scholars, and post-graduate students to collect desired data. A total of 200 questionnaires were distributed to the selected sample of Faculty of Engineering and Technology; 180 valid samples were collected. The result reveals that 46.67% of respondents want to access only electronic version of journals, whereas only 23.88% of users want to read the printed journals, but 29.45% of respondents want to use both electronic and printed journals. The study found that most of the respondents 73.33% use e-journals for writing papers. 68.33% of respondents use e-journals for studying their course work, and 51.11% of respondents use them for research work. The analysis reveals that most of the respondents, 73.33%, use e-journals for writing papers.

Reddy (2014) the paper examined aims to assess and evaluate the use of e-resources by the faculty members of Priyadarshini College of Engineering and Technology (PCET), with a view to examine the exposure of faculty members to e-resources. Besides, it aims to highlight the problems encountered by the users and suggests some remedial measures for its improvement. The authors investigate the use of e-resources by the faculty members of PCET through a survey based on a structured questionnaire. Various statistical methods have been used for data analysis. The study confirmed that faculty members are aware of the e-resources and various types of e-resources, e-database, and e-journals. It suggests for the improvement in the access facilities with high Internet speed and subscription to more e-resources by the Central Library of PCET.

Lal (2012) the DeLCON was constituted by DBT as the libraries of DBT institutions were facing challenges in providing information to meet the users. Since 2009, the consortium has grown in terms



of the number of resources and users. The consortium is set to grow further in the coming years and envisages catering to all the biotechnology and life science institutes in the country.

Pradhan and Rai (2012) the SUSHI standard has helped in easy and systematic harvesting of usage statistics and subsequent analysis. The standard has minimized the time and effort on part of the Consortium collection of data, as such more time can be spent in analysis of usage and its trends. The timely analysis of the usage would enable tracking the access in universities and taking corrective measures in case of low usage because of change in local network settings or other temporary problems. It has also enabled the universities to analyze the journal level usage statistics and for finding out the usage in different subject areas. The university gets to know their most active and idle subject areas and can take corrective measures by imparting awareness programmes for e-resources that are used less often. It is expected that this initiative will indirectly help the Consortium in cost recovery in terms of better usage enabling administrators of the Consortium in the process of informed decision making.

Thanuskodi (2013) the quality of library collections depends heavily on the initial assessment requirements. An accurate assessment assists with meeting the goals and missions of the library, but the introduction of digital media and resources is accompanied with new challenges in measuring the effective use of the library's collection.

Moorthy and Pant (2012) DESIDOC as nodal agency to foster collaboration among different labs in library and documentation services, already there is an effective mechanism to share the resources among different labs. Each library / information resource centre of the labs has accessibility to DESIDOC resources through a well connected and dedicated intranet. Users from any of the DRDO labs across the country can request for the required information including articles, patents, standards, etc. These requests are serviced immediately if available with DESIDOC. In case of non-availability, the information is procured or got through inter library cooperation/loan and sent. About 85% of request are effective delivered within 48 hrs of the request received. DRDO e-journals Consortium has strengthened the resource sharing and provided information on 24x7 bases with improved quality and quantity.

Francis (2012) in his paper titled "Evaluation of Use of Consortium of E-Resources in Agriculture in Context of Kerala Agricultural University" discussed utilization of consortia-based digital information resources by the post graduate and doctoral students of the Kerala Agricultural University, Thrissur. Data was mainly collected using a restructured interview schedule. Results show that cent percent of the students were familiar with the use of digital information resources available online and 87.14 per cent of them used CeRA. Eighty two per cent students were acquainted with CeRA. The students in general would like to strengthen the CeRA services by adding more resources and facilities.

Madhusudan (2010) conducted a survey under the title "Use of Electronic Resources by Research Scholars of Kurushetra University" to determine the use of e-resources, users' skills in handling e-resources, and the purpose of their use. The paper concludes that electronic resources have become an integral part of the information needs of research scholars at Kurushetra University. Google was the most widely used search engine for locating information electronically. This study also shows that sufficiency of increased availability of computer systems and speed of internet may enhance the use of e-resources more effectively and efficiently.

Johnson and Kaye (2010) this study relied on an online survey of politically interested Web users during the 2004 presidential election to examine the degree to which people judged online information as credible. All online media were seen as only moderately credible, with blogs and online newspapers being rated higher than online broadcast and cable news. Reliance on the online source proved to be the strongest predictor of whether it was judged as credible.

Walmiki and Ramakrishnegowda (2010) reported the results of a survey on “E- Resources in University Libraries of Karnataka”. Attempts were made to know the internet facilities, procurement of CD-ROM databases and online resources, participation in consortium activities and e-resources accessible through such consortium. It was found that UGC- Infonet e-journal consortium is widely used 19 among all the universities but lack of funds, support in collection of e-resources. Some effective plans should be procured for subscription of online e-resources, CD-ROM databases, CD-Net facility and sufficient internet facility.

Swain (2010) the library is seen as a source of training and guidance to a community of learners who are concerned with navigating the complexities of locating and using digital resources and services. Moreover, the move towards a digital environment has resulted in a shift from the systematic one-to-one information flow of the past to a new model in which the users and the providers of information are able to relate in a many-to-many, dynamic relationship (Sharifabadi, 2006). Owing to the technological revolution and advent of modern information and communication technologies (ICT), the students’ community no longer relies upon the traditional library services. They are, however, encouraged to trust in electronic resources with a presumption that, the wealth of information available in electronic formats can utterly accomplish their scholastic needs as a better substitute to traditional print services. Moreover, students can have direct access to electronic information with consistency and a guarantee of equity of access. Besides, students can get certain advantages in accessing electronic information like, quick browsing, compound access, retrieval speed, sharing, print and down loading, comprehensive information coverage, and more so. Further, they can take advantage of the multifarious growth of knowledge in different subjects by using electronic media, which is not possible by moving from library to library for physical tracking of these documents. Thus, the major question remains how well the students’ community, in particular, is acquainted with the flood of electronic resources available via the channels of online databases, e-journals consortiums, open access free journals, web sites, blogs, wikis, etc. Hence, the present study attempts to evaluate the extent of students’ curiosity in the use of e-information for supplementing their scholarly needs with some constructive suggestions for the effective utilization of electronic resources in the respective business schools of Orissa (India) in the future.

Singh, et al. (2009) described a survey on the “Use of Internet Based E-Resources at Manipur University. The survey examines the utilization, purpose, difficulties and satisfaction level of users about internet based e-resource services. It was found that 89.8% users visit library for issue/ return of reading materials and 72.6% visit to access internet. The study revealed that erratic power supply and lack of required full text journals are problems related to internet based e-resources.

Akamine., et al. (2009) this study to cover we demonstrate an information credibility analysis system called WISDOM. The purpose of WISDOM is to evaluate the credibility of information available on the Web from multiple viewpoints. WISDOM considers the following to be the source of information credibility: information contents, information senders, and information appearances. We aim at analyzing and organizing these measures on the basis of semantics-oriented natural language processing (NLP) techniques.

Kumbar and Hadagali (2009) studied the “Use of UGC-Infonet E- Journals Consortium by Faculty Members and Research Scholars of Karnataka University, Dharwad”. It was observed that majority faculty members and research scholars were well aware of the consortium programme and considered it good programme. Training/ awareness programmes were indicated by them. Important suggestions were made to help the effective use of the consortium.

Swain and Panda (2009) attempted a study on “Use of Electronic Resources on Business School Libraries of an Indian State: A Study of Librarian’s Opinion.” The study examined the extension level of electronic information 20 services offered to users of business school libraries and highlighted problems and constraints faced by information professionals. The study pointed out that internet- based e-resources and Google and yahoo search engines were most widely used. The paper indicated some constructive suggestions for the development of the platform of e-resources and services.

Chowdappa, et al. (2009) conducted an analytical study on “Impact of Electronic Information Sources on the Academic Users in Mysore.” The paper depicts the extent of dependency of users of educational and research institutions of Mysore city on the electronic media. It is inferred that a huge percentage of users depend on both the media. 83.3% subject experts highlighted some suggestions for quicker and effective implementation of digital facilities, orientation and training is to be organized on regular basis.

Haridasan and Khan (2009) presented a research paper on “Impact and Use of E- Resources by Social Scientists in National Social Science Documentation Centre (NASSDOC).” The survey identified the acceptance of e-resources and determined their usage, performance, degree of user satisfaction, and barriers faced in the access of e-resources. The study concluded that almost all respondents were aware of the available e- resources and large number of research scholars and faculty members were using e-resources for research work. Many faculty members strongly agreed to the need for computer/ internet literacy. The 21 majority of users were satisfied with the availability of e-resources at NASSDOC.

Patil and Parameshwar (2009) explained about the “Use of Electronic Resources by the Faculty Members and Research Scholars in Gulbarga University, Gulbarga: A Survey” to study the information needs of the faculty members and researchers. It was revealed that majority of the faculty members and research scholars searched printed and electronic resources and UGC- Infonet consortium was known by them. There is need to train them and also expected other kinds of services. Many suggestions were highlighted to make the best use of e- resources. Sami and Iffat (2009) discussed the Use of electronic information services in research libraries to identify the awareness of electronic information services amongst technical and non- technical staff.” The results were drawn from the survey; the need to use EIS was high for the technical users during their education career. It was suggested that creating awareness was very essential for the usage of EIS. Proper training or orientation was also essential in order to make the users comfortable with the technology that had not been introduced.

Veenapani, et al. (2008) mentioned the “Use of E-resources and UGC-Infonet consortium by the teachers and research scholars in Manipur University to identify impact, significance and problems in using UGC-Infonet consortium. The survey indicated that 55% users were aware about UGC-Infonet consortium 86.67% felt need of regular training programme to make effective use of consortium. To assist the academic community, the opinion and suggestions should be carried out for the improvement of the system.

Lohar and Kumbar (2008) surveyed of 110 UG/PG students of different disciplines in JNN College of engineering Shimoga. They observed that the student community used CD-ROMs and internet for academic purpose. They strongly disagree that without CD-ROMs and internet their work would not suffer. Finally, they pointed out some suggestions to make aware the users about digital resources by providing hardware and software training and increasing CD-ROMs on all subjects and computers terminals.

## **OBJECTIVES**

1. To find out the top 20 Universities and Departments in terms of their number of synopses in ShodhGangotri.
2. To list the top disciplines in which research is going on.
3. To analyze state wise distribution of research in ShodhGangotri.
4. Year wise analysis to know the growth of ShodhGangotri using their issue date.

### **Top 20 Universities/ Institutions in ShodhGangotri**

As on March 2019 there are 68 Universities make their representation in ShodhGangotri by submitting their synopses. Top 20 Universities with their number of synopses are represented in table 1. It is found that Shri Jagdishprasad Jhabarmal Tibrewala University stands first with 3115 synopses followed by Swami Ramanath Teerth Marathwada University in second position with 575 synopses and Dayalbagh Educational Institute and Mahatma Gandhi University take third and fourth positions with 562 and 369 synopses respectively.

### **Discipline Wise Analysis of Research in Progress**

In discipline wise analysis it is found that large number of synopses submitted in ShodhGangotri is on pure science (namely Mathematics, Statistics, Botany, Zoology, Physics and Chemistry taken together) with a total of 1253 synopses followed by Commerce and Management with 1063 synopses. All branches of Engineering together contribute 625 synopses followed by languages and literature with 623 synopses, Education, Fine Arts, Pharmacy, social work, Psychology and Law disciplines occupy 5 to 10 positions as shown in Table 2.

### **State Wise Distribution of On-going Research**

Out of 29 states and 7 Union Territories only 21 state and 1 union territory make their representations in ShodhGangotri. Of these the state Rajasthan ranks first with 3587 synopses by its 7 universities followed by Maharashtra with 721 synopses by its 7 Universities. Uttar Pradesh stands at third position with 639 synopses by its 6 Universities and the Kerala state occupies fourth position with 394 synopses by its 4 universities. The other states with their number of Universities and number of synopses are as in table 3.

### **Year Wise Analysis Synopses in ShodhGangotri**

The year wise analysis is done on the basis of issue date of synopses. Year and number of synopses added on that particular year are shown in table 4.

It is noted that after a gradual growth up to 2013, a decrease in number of submission of synopses is seen in 2014 and 2015 and a Boom is noted in the year 2016 with addition of 1379 synopses in that year. The year 2018 is marked high by the addition of 2224 synopses of research in progress as shown in table 4 with its bar diagram.

Table 1. Top 20 universities in Shodh Gangotri

Sl. No.	University	Number of Synopses
1	Shri Jagdishprasad Jhabarmal Tibrewala University	3115
2	Swami Ramnath Teerth Marathwada University	575
3	Dayalbagh Educational Institute	562
4	Mahatma Gandhi University	369
5	Visva Bharathi University	275
6	The IIS University	231
7	Veer Narmad South Gujarat University	154
8	Pandit RAVishankar Shukla University	153
9	Jayoti Vidyapeeth Women's University	131
10	Himachal Pradesh University	93
11	Dr. Bahasaheb Ambedkar Marathwada University	84
12	Manav Rachna International University	12
13	Andhra University	73
14	Rama University Uttar Pradesh	66
15	Symbiosis International University	58
16	Dev Sanskriti Viswavidyala	48
17	Lovely Professional University	47
18	JK Lakshmi Pat University	46
19	Vivekananda Global University	33
20	Baba Ghulam Shah Badshah University	30

Table 2. Discipline wise analysis of research in progress. Top ten disciplines

Sl. No.	Subject	No. of Synopses
1	Pure Science	1253
2	Management & Commerce	1063
3	Engineering	625
4	Language & Literature	623
5	Education	570
6	Fine Arts	399
7	Pharmacy	390
8	Social Work & History	187
9	Economics	130
10	Psychology	96

*Table 3. State wise distribution of on-going research*

Sl. No.	Name of State	No. of Universities	No. of Synopses
1	Andra Pradesh	1	73
2	Arunachal Pradesh	1	5
3	Bihar	1	1
4	Chandigarh	2	161
5	Gujrat	4	158
6	Haryana	2	106
7	Himachal Pradesh	7	133
8	Jammu & Kashmir	1	30
9	Jharkand	1	5
10	Karnataka	5	10
11	Kerala	4	394
12	Madhya Pradesh	2	5
13	Maharashtra	7	721
14	Odisha	1	9
15	Punjab	1	47
16	Rajasthan	7	3587
17	Tamil Nadu	7	24
18	Thelangana	1	2
19	Uttar Pradesh	6	639
20	Utharanjal	4	53
21	West Bengal	2	284
22	Delhi	1	3
	<b>Total</b>	<b>68</b>	<b>6450</b>

*Table 4. Year wise analysis synopses in ShodhGangotri*

Issue Date	Number of Synopses
2011	7
2012	832
2013	871
2014	168
2015	250
2016	1379
2017	395
2018	2224
2019	324
Total	6450

## CONCLUSION

A large number of researchers submit their theses every year in India, but present status of ShodhGangotri is not satisfactory due to lack of stringent rules and regulations. As the ShodhGangotri is the only database of Indian research in progress all universities should make it mandatory to submit approved synopses or research proposals at the time of their registration to get a global exposure in the virgin areas of research and to make it experience the trend, progress and pulse of Indian research.

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## **KEY TERMS AND DEFINITIONS**

**E-Resources:** Electronic resources are materials in digital format accessible electronically.

**Higher Education:** Is tertiary education leading to award of an academic degree. Higher education, also called post-secondary education, third-level or tertiary education, is an optional final stage of formal learning that occurs after completion of secondary education.

**Synopsis:** Is a brief summary of the major points of a subject or written work or story, either as prose or as a table; an abridgment or condensation of a work.

**Thesis:** Or dissertation is a document submitted in support of candidature for an academic degree or professional qualification presenting the author's research and findings.

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