GROWTH AND DEVELOPMENT OF INFORMATION AND COMMUNICATION TECHNOLOGIES ENABLED INFORMATION SERVICES AMONG STUDENTS OF WOMENS COLLEGES AFFILIATED TO MADURAI KAMARAJ UNIVERSITY – A STUDY

Thesis submitted to Madurai Kamaraj University for the fulfilment of requirement for Award of degree of
Doctor of Philosophy in Library and Information Science

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CERTIFICATE

This is to certify that the Thesis entitled **GROWTH AND DEVELOPMENT OF INFORMATION AND COMMUNICATION TECHNOLOGIES ENABLED INFORMATION SERVICES AMONG STUDENTS OF WOMENS COLLEGES AFFILIATED TO MADURAI KAMARAJ UNIVERSITY – A STUDY** submitted by **A. SHEIK MAIDEEN (Reg. No. P5628)** for the award of Doctor of Philosophy in Library and Information Science is a record of research work done under my supervision and the Thesis has not previously formed the basis for the award of the any other Degree, Diploma, Associateship, Fellowship or any other similar title and I also certify that the Thesis represents an independent work on the part of the candidate.

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DECLARATION

I, **A. SHEIK MAIDEEN** hereby declare that the thesis entitled **GROWTH AND DEVELOPMENT OF INFORMATION AND COMMUNICATION TECHNOLOGIES ENABLED INFORMATION SERVICES AMONG STUDENTS OF WOMENS COLLEGES AFFILIATED TO MADURAI KAMARAJ UNIVERSITY – A STUDY** submitted to Madurai Kamaraj University is a partial fulfilment of the requirements for the award of the Doctor of Philosophy in Library and Information Science is my original research work under the guidance and supervision of **Dr.M.Ravichandran** College Librarian, Sri Meenakshi Government Arts College for Women (Autonomous), Madurai – 625002, It has not previously formed the basis for the award of any Degree, Diploma, Associateship, Fellowship or any other similar title.

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CHAPTER I

INTRODUCTION

CHAPTER - I

INTRODUCTION

1.1 INTRODUCTION

This opening chapter introduces the study by exploring the background and historical perspective of the development of the Internet and its prevalence and use. The human need for information is unlimited. People seek information from different sources and formats for undertaking a variety of jobs and tasks. They use information for decision making, discovering new phenomena, developing new techniques and technologies, and improving existing knowledge and theories. Information also plays a vital role in shaping human thinking and character building, communication, and the teaching process. Tremendous growth in knowledge, technological advancements and rapid changes in the modern world has led to an increased awareness of the importance of information in all aspects of life.

Academic institutions play a key role in society by preparing future generations to use the acquired knowledge to fulfill their responsibilities more effectively. The libraries of these institutions serve a variety of users such as students, faculty, administrators and staff with diverse information needs. These libraries collect a variety of information sources and offer various services for supporting instructional, research and learning activities. Hence, the importance of libraries in academic institutions is considerable and they are often viewed as a nucleus of academic activity

1.2 INFORMATION

The term ‘information’ has been derived from two Latin words “Forma” and “Formatio”. The terms such as knowledge, fact, data, news and message can be used as synonyms to the term information. It is not easy to define the term information precisely. Information means the communication of knowledge about an event of a given condition or the spread of knowledge about an event of a given condition or the spread of knowledge derived from observation, study experience or instruction.

According to Shere, J.H (1972), information, both in the sense as is used by the biologists and in the sense librarians use it, is a “fact”. It is the stimuli that one receives through senses. It may be an isolated fact or a whole cluster of facts; but it is still a unit; it is a unit of thought. According to Prof. Bhattacharya (1978) “Information is the message conveyed or intended to be conveyed by a systematized body of ideas”. It is defined variously by Belkin (2008) as a vital process of transfer of thought, knowledge, and all spheres of human mind. A comprehensive definition of the word ‘information’ is not possible due to its amorphous, complex and multifarious nature. However there is no universally accepted definition of information is yet crystallized; perhaps it will never be crystallized.

The word “Information” is used, in the context of user research, to denote a physical entity or phenomenon as in the case of questions related to the number of books read in a period of time, the number of journals subscribed to and so on, the channel of communication through which messages are transferred (as when

we speak of the incidence of oral versus written information), or the factual data, determined and presented in a document or transmitted orally."

1.3 TYPES INFORMATION

Even information can be categorized on the basis of the nature of its use and purposes for which it is used. Shere, J.H (1972) has categorized information under six heads.

i) Conceptual information
ii) Empirical information
iii) Procedural information
iv) Stimulatory information
v) Policy information
vi) Directive information

The conceptual information relates to ideas, theories and hypotheses about the relationship which exists on the basis of the variables in the area of problem. Empirical problem relates to data and experience or research which may be drawn from oneself or through communication by others. Procedural information is the data of investigation which are obtained, manipulated, and tested and it is essentially methodological as it is desired from scientific attitudes. Stimulatory information is the type of information which is motivated by oneself or environmentally derived. In social science, information is generally categorized under the following heads:

i) Statistical information
ii) Descriptive information

iii) Analytical or interpretative information

The population data of a country can be considered statistical information. It someone describes the growth of population that had taken place in different years that will constitute descriptive where as if someone analyses and interprets the above statistical information, it is analytical information or interpretative information.

1.4 NEED FOR INFORMATION

Today information has become the necessity of every one. Everybody needs information for some purpose or the other. Information is defined in most of the dictionaries as knowledge, intelligence, facts or data, which can be used, transferred or communicated. According Garner, J., Horwood, L and Sullivan, S (2001) Information is mankind's most valuable resource, which has played and continues to play a crucial role in building human civilization and society. Education and research activities require more and more information.

Students need it relating to the prescribed syllabuses for pursuing academic studies, more specifically to pass their examinations. In addition to the students, teachers also need information for important education to their students. Besides students and teachers, researchers, who are engaged in doing research in various subjects especially in the field of science, need information on a continuing basis and are considered the biggest users of information[7]. So, most of the information systems and services have been developed in academic institutions and universities to satisfy these requirements of students, teachers and researchers.

1.5 INFORMATION USE PATTERN

Information use pattern is defined here as any activity of an individual that is undertaken to identify a message that satisfies a perceived need. In this context, information is viewed as any stimulus that reduces uncertainty; need is defined as a recognition of the existence of this uncertainty in the personal, or work-related, life of an individual and the information need is defined as a function of extrinsic uncertainty produced by a perceived discrepancy between the individuals current level of certainty about important environmental objects and a criterion state he seeks to achieve.

1.6 USERS

In a library information centre the users are the last link or the recipients of the information in the communication cycle. There are a number of items used on a synonym to user as patron, client, member, and customer. Of these, user is a preferred term, which may be defined as a person who uses one or more libraries' services at least once a year. Users are individuals who can be divided into different categories on the basis of tasks assigned to them in a library organization.

Wysoki,A. (1989) the term "user" denotes all persons who may use a library or information centre. The term also includes those who generates information and uses information as the basis upon which to build their own contribution. Every user has a sovereign power to select any place of information from the universe of information. It is believed that the ultimate judge of the relevance of information on information service is the user. Hence, it is said that

user is the centrifugal some influencing a large number of factors related to library and its environment.

1.7 TYPES OF USERS

Three important groups of users of a scientific and technical information system are distinguishable according to the kind of activity in which they are engaged such as:

a) researchers, in the basic and applied sciences
b) Practitioners and technicians engaged in developmental and/or operational activities in the various fields of technology and industry, agriculture, medicine, industrial production, communication and so on.
c) Managers, planners and other decision makers who are engaged in coordinating development activities in science and technology at the local, national or international levels of private and public sectors.

The three user groups identified above are broadly identified and they do not include teachers and students as practitioners vary widely according to their need with which they are concerned in designing and operating on the frame work. Information services in any field of science and practical activity, particularly in social sciences, Medicine and Agriculture, have certain specific features. A system designer would do well to try to cope with this whole spectrum of potential user groups.

1.8 INFORMATION AND LIBRARIES

Information access has always played a significant role in history. The statement ‘knowledge is power’ is becoming ever more significant as it is backed with Information and Communication Technology tools and this increases the efficiency of the productive transformation process of inputs to goods and services as outputs. Information access is the raw material for the process of communication, and that (information) should be treated as a marketable commodity regulated by economic forces alone. People require information to enable themselves live as reasonable members of the society. The volume of information is increasing rapidly. The availability and access to modern information services using advanced technologies in data processing and communications are of crucial importance for the efficiency of Research, Development and Demonstration (RD and D) activities, technology transfer and for the socio-economic development of the community.

Globally, in contemporary the New Information Age which is characterized by globalization of the world economy, information travels very fast one pole to another. Today the quality of a person is adjudged how ‘informed’ he or she really is. Though, the scholarly information access is an essential need for every individual. Information means many things to many people. Though information means many things to many people it has its own characteristics which differ from those of natural and anthropogenic resources.

The outputs of information have been on the increase much faster now as compared to the previous five decades but their retrieval is comparatively less as compared to user needs. There is a need to bring out drastic changes in their

conventional print media into digital form irrespective of time, space and cost factors. The vision 2020 world would be marked as blocks of digital information, concept of virtual library, global information access through internet, giant sharing of three professional bodies, i.e., library entrepreneurs, publishers, and technocrats. Library entrepreneurship would be used for better management of information handling as a resource utilization which would help in initiating, promoting and maintaining economic activities of information handling.

In global scenario, the outputs of information are measured by both quality and quantity of information being used by respective scientists, researchers and so on. However, print media has still not solved the problems of accurately and faster delivery of information, irrespective of time, space and cost factors. The future of the library would be marked culmination of techniques/technologies which would act as a new library state of the art. It is our moral duty to note down the wordings of our former President of India Hon'ble Dr. A.P.J. Abdul Kalam in his visit to JNU University in Jodhpur. He asked all publishers of India to get ready to bring out their publications/books in CD formats or Digital books before 2020 to make India succeed in the gamut of world digital knowledge. There is a need to reshape library systems and services keeping in view of the present library budgetary and delivery of information problems of the users and scientists.

1.9 INFORMATION AND COMMUNICATION TECHNOLOGY

With the advent of Information and Communication Technology (ICT), the uses of information from various sources and various formats have become extremely easy. The present day libraries are facing at least three major paradigm

shifts, which are the result of global competition, new computing and communications technologies, and the perceived need to measure the productivity of knowledge and service workers. They are:

1. The first shift is the transition from paper to electronic media as the dominant form of information storage and retrieval. Linked to this transition is the convergence of text, graphics, and sound, into multimedia resources.
2. The second shift relates to the shrinking financial resources and increasing demand for accountability, including a focus on customers, performance measurement, bench marking and continuous improvement.
3. The third shift comes from new forms of work organization such as end-user, work teams, job sharing, tale-work, outsourcing, staff downsizing and re-engineering.

Libraries acquire process, organize, preserve, disseminate and provide access to works, including those that have lost market viability or are out of print. But due to several reasons, the present day libraries are passing through several constraints resulting into the non-compliance of the role for which they have been established as the integral part of the institutions. Some of the reasons for such a hurdle are: information explosion, hike in the cost of publications, devaluation of rupees on account of increase in the conversion rates of foreign currency, shrinking of library budgets due to the financial cuts on the allocation of funds especially to the higher education institutions, etc.

According Moyo Lesley, M (1995) the academic libraries in our country are on the threshold of facing big challenges on account of globalization and

liberalization trends in higher education. Under this situation the quality and standards are likely to get affected and there is a need to put forth the cases which will motivate the individual involved with the hope that the quality and the standards will only help in reviving the situation and the work culture. The new situation with the strong influence of ICT calls for reassessing the professional practices followed in academic libraries specially college libraries are forced to adopt technology in all the operations and activities of the library. In this context the best practices with ICT oriented library and information services is found to be the need of the hour.

The Information and communication technologies (ICT) have made a tremendous impact on the functions of the academic libraries specially the college libraries. The developments and changes in the ICT have changed the user's expectations from the academic libraries in different ways. The ways to build a college library collection and services to the end users vary from the recent to past exercises. Thus to effectively meet the demands of the end users, the college libraries need to identify and adopt good and best practices and benchmarks which will ultimately enhance the value based services of the college libraries in an academic environment.

1.10 EFFECT OF COMMUNICATION TECHNOLOGY ON LIBRARIES AND INFORMATION SERVICES

The word communication comes from the Latin word 'communicare', means "to share" and it consists of four types based on the levels. Four levels of communications as Intra-personal, inter-personal, Mass and cultural communications[13]. Models of communication represent the process of

communication consisting of three basic elements the source, the message and the destination. During the ancient period, knowledge was stored in the form of clay tablets, palm leaves and copper plates.

Martin Sustan, K (1986) the information technological innovations are now associated with the shift from the oral presentation of knowledge to computerized web page. However, in the nineteenth century a revolution in communication began with the development of telegraphy and the telephone and continued with the invention of the radio and related technologies near the turn of the century. Here we deal with the introduction of and advancement in the electronic media of communication have brought a revolution the media that brought in the cultural revolution are: Telegraph, Telephone, radio, cinema, motion picture, television, computers, communication satellite, online technology, internet, e-mail, FAX, tele text, and videotext, data systems and networks, teleconferencing, fibber optics and microwave. Recent innovations, including those listed above bring work place to the home and office by making it 'virtual office', virtual class room and virtual library'. Access to library services outside the library building is possible because of such high-class technologies.

1.11. DIGITAL LIBRARIES

Digital Libraries is a heterogeneous phenomenon. It is a system in which information is available in hard copy on various magnetic discs and also from online systems. It provides coherent access to large, organized, nascent and repository information and knowledge, according to the interest and need for the

users. It operates on digital materials such as e-journals, web pages, database multi-medias, programs, bulletin board notices, sites and searches.

1.12. E-RESOURCES

Internet has the biggest source of information with widest coverage and the fastest access. It is the most powerful tool for global communication and exchange of information. The amount of publicly available information on the web is increasing consistently at an unbelievable rate. It has revolutionized the way that people access information, and has opened up new possibilities in areas such as digital libraries, information dissemination and retrieval, education, commerce, entertainment, government and health care. The internet is also a great place to accomplish research on many topics. E-resource is an electronic information resource that can be accessed on the web, on or off campus. Material (data and/or program(s) are encoded for manipulation by a computerized device. This material may require the use of a peripheral directly connected to a computerized device (e.g. CD-ROM drive) or a connection to a computer network (e.g. Internet).

1.12.1 Types of E-Resources

The e-resources are basically divided in two major types:

1. Online e-resources, which may include
   - E-journal (Full Text & Bibliographic Databases)
   - E-books
   - On-line Databases
   - Web sites

2. Other Electronic resource may include

   - CD ROM
   - Diskettes
   - Other portable computer databases

These components are explained in the following sections.

1.12.2 e-journals

Electronic issues of journals and articles of periodicals to which the library subscribes in. It consists of Full-text and Bibliographic Databases. Full-text databases contain the whole content of an article such as citation information, text, illustrations, diagrams and tables. Bibliographic databases only contain citation information of an article, such as author name, journal title, publication date and page numbers. Therefore, e-database is extremely useful to find articles on particular topics, e.g. peer assessment in classroom. A particular journal article can be retrieved from e-databases, which could not find the same information via the Library Catalogue.

1.12.3 e-book

E-book is an electronic version of a printed book covering its full contents (text, tables, diagrams, illustrations, etc.). An e-book collection is usually set up in an e-database, which supports full-text searching within and across titles, advanced search and bookmark functions. Users can view full text of e-books in HTML or PDF format online. E-book has been described as a text analogous to a book that is in digital form to be displayed on a computer screen. E-books can be read just like a printed book, using dedicated e-Book reader such

as *GemStar eBook* or on a computer screen after downloading it. There are also some newer technologies developing such as electronic paper, which is much like paper, except that the text can be changed, and talking books in MP3 format. E-books offer advantages like portability, 24 hours access, text search, annotation, linking, and multimedia and self-publishing possibilities. Development of e-book is still in the infancy stage and issues like compatibility, e-book readers, availability and intellectual property rights are to be addressed before it can be implemented on a large scale.

1.12.4 On-line Databases

On-line Databases are a collection of information categorized by specific fields. Databases are usually searchable by keywords topics. An e-database is an organized collection of information of a particular subject or multi-disciplinary subject areas. The information of an e-database can be searched and retrieved electronically.

1.12.5 Websites

A library web page or Universal Resource Locator (URL) facilitates single window access to various web enabled library services. A URL could be as simple as a library web page listing the services with some links to catalogue and external free and subscribed resources or may include advance features like interactive helps and value added services such as subject gateways, self-help tools and frequently asked questions, and information about the library such as timings, calendar, rules etc can be hosted on the library web site.

1.12.6 The merits of website are

- Fast and easy access to website content.
- No spam, a few ads (about to change), and only content and photographs.
- User chooses the sites and content they want.
- User controls what they see and don't see.
- User sees the most recently updated content without having to prowl around the site.
- Less time searching and hunting for commonly needed information and resources.
- Information is presented in excerpts or full articles, free of styling and heavy-handed site designs and layouts - content and information is the priority.
- Replaces email and newsletters to alert users of updates, new content, and other topical information like press releases and events.
- Provides another form of content delivery in addition to the website itself.

1.12.7 Objectives of Library Websites

- Promote library use
- Provide information about the library and its activities
- Provide online access to local information sources
- Act as a gateway to networked information resources (CD-ROM, intranet/Internet)

- Integrate Push-based services

1.12.8 Advantages of E-Resources

The reasons for actually embarking on the purchasing of electronic resources are generally accepted because of the ease of usability, readability, affordability and accessibility.

1.12.9 Disadvantages of E-Resources

Now, more and more people prefer e-resources to traditional ones, because it can save their time and money. However, with various e-resources flooding in, more and more people are aware of the disadvantages of e-resources.

- The fact that, e-resources require special devices or personal computers can be looked as a disadvantage. Many e-resources are typically produced to be compatible for certain software which in turn may not be easily available.
- e-resource reading devices are surely more expensive than printed books. All devices of e-resources require power. There is a growing concern that the e-resources at present may not be accessible or compatible to the future e-resources software or devices.
- Screen glare and eyestrain are a serious concern for many potential users of e-resource technology. A major worry of reading from an e-resource reader could hurt the eyes. The display resolution of computer screens and electronic devices is considerably less than the print quality produced by a printing press.

- Reading from a computer lacks the familiarity and comfort of reading from a book. A paper book can be opened and flipped through, while an electronic text is more difficult to navigate.
- E-resources have unreliable life span. Paper has a much longer life span than most digital forms of storage.
- Many titles that are available in traditional print books are not yet available in an electronic book format.
- New technologies always require time, experience, and money in order to take full advantage of its capabilities

1.13. INDIAN SCENARIO FOR E-RESOURCES

Libraries function as an essential integral component in higher education system. Academic libraries in India are facing a lot of problems due to static budget and exponential price hike of library collections. 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 made in the past few years to overcome this problem of financial crunch by resource sharing through consortia for university libraries. According to Amba, S and K.S, Raghavan (1985) UGC-INFONET and INDEST-AICTE consortium are two major initiatives for university library users. These revolutionary steps are providing scholarly resources including peer reviewed journals, databases, abstracts proceeding etc. These efforts must be boon to university library users which will definitely boost the level of higher education system in our country.

Library Consortium is a group of two or more libraries which have agreed to co-operate with one another in order to fulfil certain similar needs, usually resource sharing. It usually, refers to co-operation, co-ordination and collaboration between, and amongst libraries for the purpose of sharing information. Consortia are basically, evolving a form of cooperation among the libraries which come together to share resources electronically. It has gained momentum even in developing countries like India.

1.14. MOTIVATION FOR THE EFFECTIVE UTILITY OF E-RESOURCES

Today availability of e-resources in an academic library is very common. But their proper and maximum use is a matter for discussion. Advances in computer applications during the past few decades have brought radical changes in the way information is gathered, stored, organized, accessed, retrieved and consumed. The application of computers in information processing has brought several products and services to the scene. The Internet and the Web are constantly influencing the development of new modes of scholarly communication Jonhson, R (2002); their potential for delivering goods is quite vast, as they overcome successfully the geographical limitations associated with the print media. This important fact is convincing many libraries to move towards digital e-resources, which are found to be less expensive and more useful for easy access. This is especially helpful to distant learners who have limited time to access the libraries from outside by dial-up access to commonly available electronic resources, mainly CD-ROM, OPACs and Internet, which are replacing the print media.

1.15. INTERNET

The internet is the name of vast worldwide system consisting of people, information, and computers. The internet is as large and complex as to be well beyond the comprehension of a single human being. Besides there is no one who understands most of the internet.

The roots of the internet lie in a project called the ARPANET which was sponsored by the united states department of defence advanced research projects agency AFI ("ARPA") The department of defence research was interested in building network that could maintain itself under adverse conditions (a network is a simply two or more computers connected together). The original idea was to build a network capable of carrying military and government information during a "Nuclear Event".

1.16. INTERNET RESOURCE

At first the goal of the Arpanet researcher was to develop one network to connect computers are large distance. However by the end of 1970s, it becomes clear that no single network was going to be able to serve every one's needs. The researchers saw it could be more useful to develop a technology that could connect various types of networks with a single large system. This led to the concept of an "Internet work".

It is actually a collection of tens of thousands of networks spanning the global. Perhaps the best ways to understand the organization and importance of internet is to compare it to the other connect worldwide communication system.

The postal system and the telephone system, so that these consist of many smaller parts, connected together, in to a large international organization. The great advantage of the internet is it is much more flexible and lot faster.

1.17. WEB AND SEARCH ENGINES

Nobody really knows how many web servers there are in the world. Suffice it to say here are great many, all of which have their own series of pages offering information and services. Many of these pages are constructed by individuals. These are tools that keep track of many web sites around the world and let you search for particular items whenever you want. The result of search is custom the search engine founds that meet your Criteria. To check out a team all you need t do is select link and your client will connect you to the appropriate web server wherever it may happen to be a fact unless you specifically ask you will net even known what computer you are using (or) what country it is in amazing.

1.18. THE WEB

The web is a large system of servers which offer all kind of information for anyone on the net. The information can be in the form of regular leaf as well as Pictures, sounds and other types of data yourself to access this information you use a click the programme called a browser. There are two reasons why the web is so popular. First it is easy to use, second it is easy to create your own web information to share with people all over the net. Indeed, you will find many of the web resources are maintained by individuals for their own pleasure.

1.19. ISSUES RELATED TO E-PUBLISHING

E-publishing has allowed many publishers to increase page and frequency. Some publishers, including the reputed one such as john Wiley and Springer introduced "Online first", in which articles appear online before they are issued in print. Garner, J., Horwood, L and Sullivan, S (2001) this differs from a preprint service as reprints are traditionally issued before peer review. Online first articles are peer reviewed and include final edits rather described the variety of questions and problems that have emerged in launching this new product. One question should cite articles since volume issue and page numbers are not assigned. Springer answers way to put a visible Digital Object Identifier (DOI) which is retained even after print publication on every article. The published content of journals publisher baths electronically and imprint can. Links cited by links and perhaps links to other supplementary materials. This raises the questions of what the boundaries of an article are for archiving purpose.

Some Springer print Journals have "online only" sections. Rather described a Springer journal thus features research articles and case reports with the case reports published only in the online version. A1 services did not index the online case tenors in the print version. Rather noticed then "Online only" section of print journal may also include editorials review discussions and product listing, must thus non-research content be archived? How will users knows which content is include in which version.

1.20 WEB SITE AND DISSEMINATION COMMUNICATION INFORMATION

The present plan stated that the big blue website would include progress report of bibliographies'. Contact detail of the project team links to others sites and a time table of project milestones will this initial brief provided a frame work to get the site up and running it has science exceeded this initial expectation. The sites want live in July 2001at http;// www.leads.acuk/bigblue and his developed by the present team and the construction and maintenance has been the responsibility of one of the project research officers.

Tepper, T.H. and Beth, K (2002) the focus at website evolved thoroughly the project. Initially the site simple gave basic information about the win and plans of the project once the results of the audit were complete the focus switched to providing access the project the focus has been promoting the projects achievement publishing of the project deliverables at dissemination events.

1.21 RESOURCE SHARING

Not all libraries can afford all the resources like journals, books, reports, etc., due to spiralling costs of information. The way out to disseminate the required information to the needy is to consider in the best way the concepts like distributed databases, library cooperation, interlibrary loan, resource sharing. Since, computers and telecommunication have entered into libraries; it is

possible to achieve maximum result in information dissemination through computer networks.

1.22 WOMEN'S EDUCATION IN INDIA

Women's education in India plays a very important role in the overall development of the country. It not only helps in the development of half of the human resources, but in improving the quality of life at home and outside. Educated women not only tend to promote education of their girl children, but also can provide better guidance to all their children. Moreover educated women can also help in the reduction of infant mortality rate and growth of the population.Although in the Vedic period women had access to education in India, they had gradually lost this right. However, in the British period there was revival of interest in women's education in India. During this period, various socio religious movements led by eminent persons like Raja Ram Mohan Roy, Iswar Chandra Vidyasagar emphasized on women's education in India.

Mahatma Jyotiba Phule, Periyar and Baba Saheb Ambedkar were leaders of the lower castes in India who took various initiatives to make education available to the women of India. However women's education got a fillip after the country got independence in 1947 and the government has taken various measures to provide education to all Indian women. As a result women's literacy rate has grown over the three decades and the growth of female literacy has in fact been higher than that of male literacy rate. While in 1971 only 22% of Indian women were literate, by the end of 2001 54.16% female were literate. The growth of female literacy rate is 14.87% as compared to 11.72 % of that of male literacy rate.

1.23 STATEMENTS REGARDING TO WOMEN EDUCATION

Women are the backbone of society. Mahatma Jyotirao Phule (1827, Pune) was a real philanthropist. He was the one to open first girl school in India and credited with opening first home for widows of the upper caste and a home for newborn girl children so that they can be saved from female infanticide. Some important thoughts are:

James Kwegyir Aggrey - 'If you educate a man you educate an individual but if you educate a woman you educate a family (nation)'

Mahatma Gandhi – 'To call woman the weaker sex is a libel; it is man's injustice to woman. If by strength is meant moral power, then woman is immeasurably man's superior'.

Ban Ki Moon – 'There is no more valuable investment than in a girls' education'.

Pranab Mukherjee – 'Real empowerment of women would be possible only through education, encouragement of economic self-dependence and procisional of opportunities enabling the unfolding of one's full potential'.

Malala Yousufzai – 'I don't mind if I have to sit on the floor at school. All I want is education and I am afraid of no one'.

1.24 STEPS TO IMPROVE WOMAN EDUCATION

It is obvious that the above objectives can only be achieved by, first and foremost, ensuring that women acquire quality education. When this is done, the knowledge, skills, attitudes and other potentials that are required by women for full participation in national development will be developed.

Following are the objectives to improve women education:

- ✓ Educate women in all round development that is mentally, socially, physically, psychologically, religiously and economically etc.
- ✓ Enable women discharge their responsibilities more effectively.
- ✓ Enable women to improve their family health and diet.
- ✓ Give women access to appropriate technologies and management of cooperatives
- ✓ Help women to fight their own fears and feelings of inadequacy or inferiority
- ✓ Improve women's societal and cultural status.
- ✓ Increase women's productive ability, thus raising their family's standard of living.

1.25 ADVANTAGE OF WOMEN EDUCATION

- ✓ Educating the women will empower them to seek gender equality in the society.
- ✓ Women will be able to earn that would raise their economic condition and their status in the society.
- ✓ They will be aware about the advantages of small and planned family and this will be a big step towards achieving stabilized population goals.
- ✓ It has been reported that the single most important factor affecting high total fertility rates (TFR) is the low status of women in many societies. Women education will help increase the age of marriage of women and they would tend to have fewer, healthier children who would live longer.

- ✓ Women on being educated would be able to rear their children in a better way, leading to their good health and provide them with better facilities.
- ✓ Women are also the victim of capitalism and development. Due to some development activity like dam building or mining, they get rehabilitated. The men folk get some compensation and migrate to towns in search of some job while women are left behind to look after the family with little resources. They are compelled to take up some marginalized work, which is highly unorganized and often socially humiliating. Women education can greatly help restore their settlement and dignity.
- ✓ Education of women would mean narrowing down of social disparities and inequities. This would automatically lead to sustainable development.

1.26 WOMEN EDUCATION IN TAMIL NADU

According to 2011 Census, Literacy rate in Tamil Nadu has been upward trend and is 80.09 percent as per 2011 population census. Of that, male literacy stands at 86.77 percent while female literacy is at 73.14 percent. The five states with the largest proportion of literate women, Tamil Nadu, Kerala, Andhra Pradesh, West Bengal and Maharashtra — according to analysis of data released by the Economic Census 2012. With 73.4 per cent of its women literate, Tamil Nadu — third among larger states after Kerala and Maharashtra — has India's largest number of establishments run by women, one million (13.5 per cent of all businesses), according to the Economic Census 2012. Tamil Nadu is followed by Kerala — with 90 per cent female literacy, India's highest rate — where 11 per cent of all businesses are run by women.

1.27 GROWTH OF WOMEN'S COLLEGES

The Progress of Female Education at the Higher Level was also appreciable. In 1946-1947, there were five Colleges for Women in the State and in these colleges, 1,236 Women were receiving instruction. To study the problems of Higher Education, the Government of India appointed the University Education Commission in 1948, under the Chairmanship of S. Radhakrishnan. The Report is a valuable document which deals with all the major problems in Higher Education including the Female Education. Since 1950, all Women's Colleges got improved. The Government improved their libraries, laboratories, hostels and play grounds. In 1956, the Collegiate Education was re-organised and the new pattern consisted of a one year P.U.C., followed by a Degree Course of three years and Post-Graduate Course of two years after the first degree. To raise the Standard of Collegiate Education Refresher Courses in English, Science and World History were conducted at Madras, Coimbatore, Madurai and Tirunelveli.
As a result of the above measures, in 1948, Ethiraj College for Women of Madras, Lady Doak College of Madurai and Nirmala College of Coimbatore were affiliated to the Madras University. The Queen Mary's College, Madras, started Intermediate Courses in household Arts. For the benefit of employed women who wished to continue their studies, an evening College was started at Queen Mary's College, Madras. The strength in Women's Colleges grew enormously.

1.28 OBJECTIVES OF THE STUDY

- ✓ To awareness and use of ICT based Electronic Databases among the students in the women colleges affiliated to Madurai Kamaraj University.

- ✓ To awareness and use of Electronic Information Services among the students in the women colleges affiliated to Madurai Kamaraj University.
- ✓ To awareness and use of Web Based Information Services among the students in the women colleges affiliated to Madurai Kamaraj University.
- ✓ To identify the frequency of using ICT tools among the students in the women colleges affiliated to Madurai Kamaraj University.
- ✓ To measure in the Ranking of Information Technology based using E-Resources and Services among the students in the women colleges affiliated to Madurai Kamaraj University.
- ✓ The purpose of Using ICT Sources and Services among the students in the women colleges affiliated to Madurai Kamaraj University.
- ✓ To the knowledge about ICT Sources and Services among the students in the women colleges affiliated to Madurai Kamaraj University.
- ✓ To identify the Attitudes facilities of Library ICT among the students in the women colleges affiliated to Madurai Kamaraj University.
- ✓ To identify the satisfaction level of using ICT Sources and Services among the students in the women colleges affiliated to Madurai Kamaraj University.

1.29. CHAPTARIZATION

The Thesis Consists of Six Chapters

Chapter – I - in this Chapter provides an introduction highlighting the features of the study including the use of Information and Communication Technology resources in womens colleges affiliated to Madurai Kamaraj University in Tamilnadu, objectives of the study and the basic concepts Introduction.

Chapter – II - in this Chapter provides review of literature related to this study. Literature reviews of foreign and Indian studies, drawn from books, journals, conference proceedings, and Information and Communication Technology resources in college libraries related to the methods and quantitative techniques and their applications in the context of the problem under study are included.

Chapter – III – in this Chapter deals with profile of the womens colleges affiliated to Madurai Kamaraj University in Tamilnadu.

Chapter – IV - in this Chapter describes the methodology adopted for this study. This chapter includes area of study, research methods, data collection and analysis and limitations of the study.

Chapter – V - in this Chapter presents the analysis and interpretation of the collected data on the use of Information and Communication Technology resources in womens colleges affiliated to Madurai Kamaraj University in Tamilnadu.

Chapter – VI - Contains the major findings, suggestions for further study and the conclusion.

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CHAPTER II

REVIEW OF LITERATURE

CHAPTER – II

REVIEW OF LITERATURE

2.1 INTRODUCTION

Many factors are bringing strong forces to bear on the adoption of Information and Communication Technologies in education and contemporary trends suggest that sea change would be seen soon in the way education is planned and delivered as a consequence of the opportunities and affordability of Information and Communication Technology. Conventional teaching has emphasized content. For many years courses have been written around textbooks. Teachers have taught through lectures and presentations interspersed with tutorials and learning activities designed to consolidate and rehearse the content. Contemporary settings are now favouringprogrammes that promote ability and presentation. Programmes are starting to emphasize capabilities and to be concerned more with how the information will be used than with what the information is. The literature has been collected from various sources such as journals, books, articles, newspapers, and websites. The literature explores the changes took place and the likely changes will be seen in education as Information and Communication Technology acts as a powerful agent to change many of the educational practices.

The review has been categorized into six subthemes such as:

- INFORMATION AND COMMUNICATION TECHNOLOGIES

- INFORMATION SERVICES
- INFORMATION TECHNOLOGY
- ELECTRONIC RESOURCES
- DIGITAL LIBRARY
- WOMEN EDUCATION

2.2 INFORMATION AND COMMUNICATION TECHNOLOGY

Faye Mishna, Elizabeth Milne, Marion Bogo and Luana F Pereira (2021) COVID-19 changed the context for Information and Communication Technology (ICT) use globally. With face-to-face practice restricted, almost all communication with clients shifted to ICTs. Approximately 6 weeks after the cessation of face-to-face practice in March 2020 due to COVID-19 measures, we re-interviewed social workers (n = 11) who had participated in our study. The second theme entails the *impact* of this transition which involved (a) greater awareness of clients' degree of access, (b) confidentiality and privacy, and (c) professional boundaries. We discuss these themes and sub-themes and present implications for practice and research in a Post-COVID-19 world.

TimoGnambs (2021) Information and communication technology (ICT) literacy represents an essential skill for adolescents to efficiently participate in a modern society. Previous research reported conflicting findings regarding gender differences in ICT literacy. Therefore, the aim of the present study was the exploration of cross-sectional and longitudinal gender effects on ICT literacy across a period of three years among a sample of German 15-year-olds (N = 13,943). The results showed that ICT literacy increased across the study period. Hypotheses with regard to moderating effects of gender role orientations

were not supported. Overall, the study found only small differences in ICT literacy between boys and girls. The small size of the observed effect does not warrant alarming conclusions regarding increasing disadvantages in ICT literacy for girls.

IpshitaChatterjee, PinakiChakraborty (2021) The COVID-19 pandemic has disrupted life and all forms of education. However, the impact on medical education is unique since the need for continuity of training medical students is urgent and traditionally calls for hands-on training and a physical presence. This is further compounded by the unavailability of teachers who are also serving as frontline health-care providers in the pandemic. This article discusses the role and types of information communication technology (ICT) tools in filling the gaps and ensuring educational continuity in medical education, collaboration, and learning, across the world in the current scenario. The potential and corresponding challenges of revamping the medical education system and incorporating ICT tools in the long run have also been discussed. Our work can serve as the basis of further studies on creating digital educational models in medical education.

Piliang Faisal, ZainulKisman (2020)learning by using online application facilities through the Internet is a new service for all users, however, there are many problems and obstacles faced by users, both by students and by lecturers in utilizing online application services via the Internet. This study used a descriptive–analytic method by presenting a summary of interviews and survey results in the form of a questionnaire to the faculty member. The method used is a qualitative method because it provides an explanation using analysis. This research uses Moodle application as a Distance Education System.

EndangPutriDamaiHia, DediPrestiadi, Maisyaroh, SitiIsnainiMaghfiroh and Vera Mega Oktaviani (2020) the purpose of this study was to determine the use of communication and information technology through websites and social media as public relations information. Public relations are an effort to build and maintain a good reputation, image and communication between the organization and the public. School public relations as a forum for schools in conveying information to the public about everything related to the formation of the school image, programs, profiles and school promotion. The results showed the role of communication and information technology through websites and social media at As-Salam Islamic Elementary School, Malang, Indonesia as a medium for delivering school information and a means of communication between schools and parents and public

Resien, HarunSitompul and JulagaSitumorang (2020) The purpose of this study is to determine the differences in learning outcomes of ICT subjects between groups of students who are taught with blended learning strategies and expository who have the ability to think creatively after being controlled by prior knowledge. This research method uses quasi experiment with 2x2 factorial designs. Based on the results of this study, to improve the learning outcomes of Information and Communication Technology students are done by implementing BL learning strategies with regard to student characteristics.

LyapinaInnara et al. (2019)in this study evaluate the role of smart technologies in the development of the higher education system and the training of real-life skills in the context of students. The aspects of classical education in universities with the remote implementation of smart technologies on IT platforms are examined; specific characteristics of intelligent technology as a means of

intellectual knowledge. Findings indicate that IT is now an inseparable part of society and human life. A new network of people is rising who cannot imagine life without modern technological tools. Nevertheless, modern education does not impact sufficiently the production of human resources under digital environments.

Tandi Lwoga and Sukums (2018) the present study evaluate the usage behaviour of e-resources among faculty of health sciences and the level of information literacy (IL), and whether individual characteristics and information literacy skills could affect the use of electronic resources by faculty members at the Muhimbili University of Health and Allied Sciences (MUHAS). The authors conducted surveys of 135 faculty members at MUHAS between August and October 2016 using a stratified random sampling technique. This is a systematic study that examines the patterns of use of e-resources in various disciplines of health science in a university and the effect of demographic and IL skills on e-resources in Tanzania. The findings of this study are useful for academic libraries to advise and evaluate their policies and procedures with regard to University IL training programs and information services.

Adetomiwa and Okwilagwe (2018) in this study found that there was a modest degree of appreciation for electronic databases among university employees in private universities in South-West Nigeria. There were two significant associations between the appreciation of electronic databases ($r= 0.690$; $p < 0.05$) and their use. According to the results, the paper proposes that ICT facilities at the surveyed universities be expanded in line with changing technology developments in universities around the world to boost academic researchers ' understanding of the use of online databases. That can support policies of

evaluation and development of collections, projects, programs and actions around the adoption of e-books in different types of libraries.

Olagunju, Adenegan and Lawal (2015) expressed that all the nations of the world are embracing technological innovations and integrating them into their educational systems for advancement and development. The use of Information and Communication Technology (ICT) in mathematics teachers' training has been verified to ascertain if it will serve as a catalyst for change in the teaching and learning of mathematics. In this study, relevant and related literatures were reviewed. The study population was sampled mathematics teachers from fifty schools in ondo west and ondo East Local Governments Areas of Ondo State, Nigeria. Also, a significant relationship exists between the school location and respondents' perception of ICT utilization for teaching and learning of mathematics. Necessary and useful recommendations were given to relevant stakeholders to improve performances on the part of the teachers and the students for the teaching-learning process in mathematics.

Puttaswamy and Krishnamurthy (2014) analyzedthe advancement of Information and Communication Technology (ICT) in recent era that has made the information services available to the users on their desktop as well as on their laptop and hand held e-book reader. This trend has made the way for tremendous growth of e-resources which is considered as one of the most powerful tools for the global communication and exchange of information. This has made the users to depend on e-resources for their teaching and research activities. The study aimed at finding the information seeking behavior of users in an electronic environment. This paper summarized the results of thirty six user studies previously conducted in the electronic environment.

Rajender Kumar (2014) found that only e-journals and the e-newspaper were accessible in the surveyed libraries. The CD-ROM, audio-visual materials and e-magazine form of e-resources were available in the two libraries. Only one library had taken the initiative to increase annual budget as well as growth in the subscription of e-resources. Even, there was no satisfactory ICT Infrastructure available in the libraries for e-resources management. However, all the libraries used the modern method to subscribe and promote the e-resources.

Singh, Krishna and Jaiswal (2014) examined the use of Information and Communication Technology (ICT) based resources and services and its impact on users. The study was performed via a questionnaire survey of the library users. They also determined the satisfaction level of users regarding online services, favorite search engine and problems faced by the users in using the ICT in libraries. Users proposed a variety of measures of formal orientation and training in ICT based resources and services to become more effective users.

SeenaPillai S.T, et al. (2014) the study was conducted to investigate 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.

Seena and Sudhier (2014) 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.

Seyed Mohammad GhaemiTalab (2012) in this the study identifies and compares the impact of ICT on training of library human resources in two university libraries each of India and Iran. Descriptive and inferential statistics were used to analyses data. The findings show that though both Indian and Iranian library staff believes that introduction of ICT in libraries has created a need for training. Library staff from Iran has perceived the effect of ICT on their training needs more than their Indian counterparts. The article concludes that university libraries in both countries have to get their library staff trained in ICT.

Thanuskodi (2011) opined that the library environment has currently undergone drastic change in terms of collections and services. The proliferation of e-resources has had a significant impact on the way the academic community

uses, tores, and preserves information. The advantages of e-resources have drawn attention of the library users to a great extent. Accordingly, these resources have occupied a significant place in the collection and budget of almost all libraries. Faculty members' attitudes seem to be very positive towards e-resources for their study and research and the role of libraries as gateway to provide assistance in accessing these resources. Faculty members are heavily dependent on e-resources for their required information and to keep themselves up-to-date in their subject area.

Murugesan and Balasubramani (2011) examined the application of Information and Communication Technologies (ICT) in research and development libraries in Tamil Nadu, India. This study was confined only to the computerized and automated research and development libraries in Tamil Nadu. The analyses revealed that though the libraries had hardware, software, and communication facilities to some extent, ICT-based resources and services were not reaching the users to the expected extent. The library catalogue found to be the most popular area for automation. The study provides recommendations to give priority to digital library initiatives; consortia based subscription to enhance effective and efficient application of ICT.

Dhanavandan S, et al.(2011) in this study analyzed the use and availability of Information Communication Technology infrastructure facilities in self-financing engineering college libraries in Tamilnadu. The role of engineering colleges in the technical manpower development is quite significant. They need rapid Information Communication Technology infrastructure and in this context, there is a need for adequate development of electronic resources. This study traces out the nature of electronic resources, library automation level, computerized library

services, electronic access points, type of digital libraries, network and topology of network, internet and intranet services, and so on with reference to the selected institutions.

Thanuskodi (2011) investigated the use of Information and Communication Technology by the academic community of the government law colleges in Tamil Nadu. For this purpose a survey was carried out using the questionnaire tool. The findings indicated that most of the respondents 37.28 percent use electronic information resources through e-mail. 29.38 percent of respondents use electronic information resources through DVDs and CD-ROMs. The results show that 4-5 hours of access to internet takes the first order reporting among the faculty members and students of the government law colleges, above 5hours of access to internet the second, 3-4 hours of access to internet the third, 2-3 hours of access to internet the fourth and below 2 hours of access to internet the last.

2.3 INFORMATION SERVICES

Katia Medawar and Myrna Tabet (2021) the outbreak of the Covid-19 pandemic made a tragic impact on the entire world throughout the economy, education, businesses, health, jobs and so on. In order to survive this disease, and to minimize the losses, most of the businesses and educational institutions switched to the virtual and offered online services with the help of technology. This article describes how Qatar National Library embraced the situation and what it offered in terms of collections, services and support.

Daniel Azerikatoa Ayoung, Frederic Naazi-Ale Baada and Patrick Baayel (2021) this study sought to ascertain if academic libraries in the Upper East

Region of Ghana have made provisions for persons with disability. The research adopted a qualitative approach. The data used for the analysis is drawn from interviews with respondents, the majority of whom were visually or mobility-impaired, who were purposively selected from 11 tertiary institutions. The study highlights the challenges which hinder persons with disability from accessing quality information from libraries. Also, there should be increased investment and allocation of funds to libraries to provide for the information needs of persons with disability.

Mahyar Ghorbanzadeh, ErenErmanOzguven, Curtis S Tenney, Zoë Leonarczyk, Faye R Jones and Marcia A Mardis (2020) in this study, the researchers used geographical information systems (GIS) approaches to investigate the extent to which public libraries are sited to serve vulnerable, rural populations in Northwest Florida. Public libraries are critical community facilities through which librarians support their communities before, during, and after natural disasters such as hurricanes. In their disaster responses, public librarians work to effectively restore library buildings, provide library materials, and, most critically, provide services that strengthen community resiliency and sense of safety. The study's findings have the potential to inform library and information studies education, multidisciplinary research and policy-making, and to develop a public library disaster preparedness and response.

DadhePooja P and DubeyManju N (2020) the novel corona virus (COVID-19) disease presented unique challenges to all the stakeholders of education system. The sudden and unexpected outbreak of the virus forced the library professionals, to ascertain ways of working in a rapid time frame like shifting to digital platform wherever possible and to provide adequate remote services to the users.

Given the extrinsic challenges in providing services during a public health emergency, the purpose of this paper is to find out how technology became a saviour for the premier technological institutions of India during the COVID -19 pandemic. The study highlights the significant initiatives taken by the libraries which can be followed by others to meet the post lockdown needs.

Alphonce Swiga and Mwantimwa Kelefa (2019)explore the diversity, motives and challenges that students face while using these learning tools at the University of TeofiloKisanji (TEKU) in Tanzania. The researchers have complementarily used elements of quantitative and qualitative research approaches. Findings from the study imply that students prefer internet services substantially over other services such as CD-ROMs, e-books, e-journals, slides, and audio clips. The findings also show that the overwhelming array of these services and convenient access 24/7 are significant motivating factors for their use. At the other hand, the cost of internet access, restricted searching facilities and limited subscribed resources hinder successful and productive use of internet services by the TEKU students.

Sarker Md Fouad Hossain et al. (2019) critically research the suitability and reactivity of both students and teachers in implementing efficient learning by means of a Learning Management System (LMS) at tertiary education institutions in Bangladesh. The survey results were subsequently cross-referred and complemented with non-participatory observations by semi-structured interviews that provided a clearer understanding of the matter at hand. The findings indicate that most students support e-learning, because they often use their time to watch lecture videos, access courses and read postings from fellow students at the Forum. The results suggest that e-learning was quite appropriate.

Preedip Balaji (2017) in this paper discussed the present status of using new generation web technology, social media and Web 2.0 features among the technological university library websites in south India. It seeks to assess the library websites as a primary platform and one-stop portal for information services and to examine how much library websites are effective in providing web-based information services. The library websites of the technological universities in south India were evaluated on the basis of a relative weight checklist. More emphasis to improve upon the current learning, online educational facilities and benchmarking electronic information services for sustainability is highlighted.

Dehpadekani, et al. (2016) conducted by the study is designed to find out the information needs of nomadic students in Iran in order to present a library service model to meet their needs. The results show that the preferred information format of the majority of students was print, especially books. Most of the students stated that they were in need of cultural and medical non-educational books. The study led to improved and expanded library services for respondents who are deprived of such services, including audio-visual services, extending the book collection, loaning books, advertising books and other publications, reference services, technical services and providing needed information to them. Both practitioners and researchers in the nomadic library services domain will benefit from the synthesis offered in this paper, as it puts together convergent views on what nomadic students currently need.

Melo L B (2014) in this paper described the use patterns of electronic and traditional resources in Portuguese academic libraries; to estimate the value of

the Portuguese electronic scientific information consortium b-on by using two alternative valuation methodologies; the benefit-cost ratios computed using the two valuation techniques indicate that the value of the electronic scientific information consortium b-on is well above its costs. Finally, the study shows that the valuation of b-on is higher for the user groups with higher percentage use of digital services.

Manorama, et al. (2010) the study use of Web 2.0 tools in academic libraries: provided a reconnaissance of major academic libraries located in Australia, Canada, the U.K. and U.S.A. that have embraced Web 2.0 tools for enhancing library services. The research is based on a survey of websites of 277 university libraries. The checkpoints used for this evaluative study were given by Nguyen (2008) for evaluating various Web 2.0 tools. Additional checkpoints were arrived at after visiting and browsing the various sites. The findings of the study acknowledge the strength of Web 2.0 tools in improving library services for users. Really Simple Syndication (RSS), Instant Messaging (IM) and blogs are popular in academic libraries. The paper concludes by offering best practices for implementing Web 2.0 tools in academic libraries.

2.4 INFORMATION TECHNOLOGY

Qadri Saima and Shukla Archana (2020) the paper examines the year-wise growth of the library and information science literature, subjects covered during the specified periods, the most used form of literature, authorship pattern, and most cited journals. The growth of the LIS literature of 1985-90 and 2005-2010 as reflected through *Annals of Library and Information Studies* is studied.

Among other things, the study finds that a few areas of research such as ICT applications in LIS are more during the period 2005-2010.

RetnoSayekti and Usiono (2020) this educational field has been around for quite a long time. However, it is so diverse that it differs from one university to the other. The field of library science produces "Librarians." Unfortunately, the profession does not have a high demand compared to others. However, the opening of this educational field at the Universities Islam Negeri Sumatera Utara (UINSU) has sparked the interest of prospective students in the Library Science study program. The results showed that four factors influence students' choice of the Library Science program, which include; parents, relatives, friends, and themselves. Career-wise, most students study Library Science so that they can work as lecturers in the field. Furthermore, the students face certain obstacles which include; facilities and language. Therefore, the study program conducts curriculum updates to adapt to new developments in science. This is achieved by applying information technology and organizing training programs in languages.

MarekNahotko (2020) the paper is based on the idea of OPAC development as a transition to subsequent OPAC generations. Every generation, in the light of genre theory, can be treated as a subgenre with its own communication purpose. the purpose is to present library OPAC as a communication genre in its mutability. As such, it is subject to transformations caused by information technology development. OPAC development is described as an electronic genre transition process, which allows for distinguishing eight OPAC subgenre generations. They were distinguished based on socio-historical development of the genre system and were described according to Shepherd and Watters1genre development model.

Karthikeyan S (2019) in this paper analyzed Information access pattern of the respondents studied is encouraging as the faculty of the surveyed town based Veterinary College and Research Institutes are adopting the range of search methods and approaches to information. Accessing information through library staff and colleagues are the most preferred mechanism used by the respondents to get the information. The respondents also access information by trial and error, training at work place and by participating workshops, Training and seminars. 256 Research is un ending process, within the parameters of the study and within the limitation time and cost this study has been a rewarding one and it is hoped, make small but important contribution to research in this area and to create awareness and understanding of information access pattern of faculty members of veterinary colleges and research institutes in Tamil Nadu.

Garg KC, Suresh Kumar and Rahul Kumar Singh (2018) an analysis of primary documentary sources indexed by Library, Information Science and Technology Abstracts (LISTA) and Library and Information Science Abstracts (LISA) indicates that LISTA indexed 519 and LISA indexed 327 primary documentary sources. These sources mainly are scholarly or academic journals, magazines and trade journals. Of the total 646 scholarly titles indexed by LISTA and LISA, 131 titles were common to both databases. Maximum titles indexed by both the databases were published from USA and UK. Most of these journals were published by commercial publishers. Taylor and Francis Ltd contributed highest number of journals to both the databases.

Michael G Ochogwu (2017) in this paper reported that the ways and extent of the application of modern information technologies to the management of library

operations in Nigeria reveals that very little application of technology has so far been made, as many libraries still utilize conventional tools that have become anachronistic in searching, acquiring, and processing, organizing and disseminating information to their patrons. Recommendations are made to improve the situation, particularly in the context of coming information age of the 21st century.

Rajasekar, S.G (2016) the article reported in the recent past global information technology influenced developments have forced to change the information landscape. Global networking, cloud computing, social networking, collaboration and a few more have enabled to bring the radical change in the information infrastructure. The volume of digital information has been expanded unlimited to meet the users' requirements and provide instant access to a very large number of users.

Meitei L Shanta and Devi ThPurnima (2009) Attempts to find out the information needs of the persons engaged in the agricultural activities particularly farmers community in the rural areas of Manipur. Data on farmers information needs were collected by using pre-tested semi structured questionnaire and data processed and analyzed through Minitab-software. The paper highlights the channels of getting information by rural farmers' community in order to fulfill their information needs. The observations of the present study have also revealed that rural farmers community need a variety of information but the required information for their day to day agricultural activities are unmet. Considerable work and efforts are needed for imparting information support for sustainable agricultural development with the application of emerging

information and communication technologies for information oriented and socio-economic empowerment of the rural farming community.

Rekha Mittal (2011) the study attempts to trace the research trends in library and information science in India during the period Jan 1990 – June 2010 as reflected through scholarly journals. Co-word analysis is used to identify the core research areas by quantifying the frequency of occurrence and the analysis of co-occurrence of 4735 descriptors assigned to 1408 journal articles of Indian authors indexed in Library and Information Science Abstracts (LISA) database. The findings indicate that open access, Web 2.0, World Wide Web, Internet, access to information, etc are some of the new areas of that LIS researchers are interested in.

2.5 ELECTRONIC RESOURCES

Chanda and Anupam (2021) the study adopted a descriptive survey design and a well-designed online questionnaire was used to collect data. The respondents were college students from various colleges in Assam. The questionnaire was administered among college students to collect the necessary primary data, keeping in view the objectives of the study. Findings: The major findings of the study are 52.81% of the respondents are highly aware of the e-resources. E-books are the highly used e-resources. The smart phone is the most used device for accessing e-resources as replied by 87.29% of the respondents. 53.49% of the respondents stated that they are highly satisfied by using e-resources.

Burhansab, Patel Adam and Batcha, MSadik and Ahmad, Muneer (2020)the study investigated the use of electronic resources/information by library users in

selected colleges of Solapur University. Specifically, to investigate the awareness and level of use of electronic resources; perceived reliance, benefits and impact of use of electronic resources on the research activities. The research design for the study was a survey. Questionnaire schedule was used to collect data from 1022 library users from selected colleges of Solapur University. College wise analysis reveals that mainstream of users from Aided Colleges 38%, Self-financing Colleges 28.3%, Engineering Colleges 43%, Education colleges 53.2% and Pharmacy Colleges 23.4% are spending their time 1-2 hrs in libraries and 40.8%visit college libraries to issue and return books and in the device usage (33.9%) of users ranked mobile phone as the second device for accessing the e-resources.

Acheampong, Lawrencia, Mingle, Naa, Smart, Paul, Kofi, Osei, Bekoe and Stephen (2020)the study investigated the use of electronic resources/information by research scientists in Ghana. Specially, to investigate the awareness and level of use of electronic resources; perceived reliance, benefits and impact of use of electronic resources on the research activities. The research design for the study was a survey. Questionnaire schedule was used to collect data from 103 scientists from selected institutes at the Council for Scientific and Industrial Research (CSIR), Ghana. The result revealed that majority of the scientists (92 %) used electronic resources. In Addition, ICT infrastructure should be improved in the various institutes for easy access to the electronic resources**.**

Anju S Nair and Nanda Lal T S (2020) the main purpose of the paper is to examine the awareness and use of the e resources among the research scholars in University of Kerala. For the purpose a Questionnaire based study is conducted. Questionnaires were distributed to 250 respondents out of which 232 were

received. The major objective of the study is to find the awareness of e-resources among research scholars. In general, about 96 percent of the researchers are aware of e-resources and majority of the respondents are using e-resources because of the easiness in searching them.

Emmanuel Eneojo Jacob and Tina (2020) the findings of the study revealed that University of Jos Library uses various modes of creating awareness to their users, which includes: library orientation, library guides, subject librarians, library websites, workshop/seminars, user education, among others. The users of the University of Jos Library are aware of the existence of online database, e-books, e-journals, open access resources, e-mails, online public access catalogue (OPAC) institutional repository (IR) and full-text databases to a large extent excluding indexing and abstracting databases. The study further revealed that they are problems encountered in the provision and use of library electronic resources in University of Jos Library. In accordance with the findings, the researcher made some recommendations that the government should provide adequate and timely funding for addressing the problems encountered in provision and use of library resources in University of Jos Library.

Eiriemiokhale and Kennedy Arebamen (2020) the study adopted the descriptive research design of a correlational type. The population comprised 10,452 lecturers in fifteen public universities in South-west, Nigeria from which a sample size of 836 was drawn using a multi-stage sampling procedure. Questionnaire was used as instrument for data collection. Findings of the study revealed that university lecturers in South-west, Nigeria are aware of the usefulness of most of the electronic databases for teaching and research; university libraries in South-west, Nigeria use different promotional methods to

create awareness of the usefulness of databases; and the frequency at which University lecturers in South-west, Nigeria use electronic databases was very low. It can be concluded from the study that the frequency at which university lecturers in South-west, Nigeria, use electronic databases is very low. It is therefore recommended that university libraries should expand their library orientation programmes.

Bhat (2019) the present study evaluates the effect of electronic information resources on academic activities and in carrier-related core aspects of users. In the researchers 'scenario, seven agricultural universities in northern India were individually investigated by a formal questionnaire to collect data on the questions under examination. It is concluded that the majority of respondents agree that the participation of users in research has risen due to the introduction of e-resources (62.90%), and e-recourses have played an important role in promptly finalizing and delivering their relevant study assignments (74.30%). It is also clear that a large majority of respondents accept that "academic examinations" (50.80 per cent),' competitive examinations' (52.80 per cent) and' interviews'(46.18 per cent) have had a positive influence by the e-resources.

Lwoga Edda Tandi and Sife Alfred Said (2018)in this study aims to determine whether quality antecedents and characteristics will impact on the continuous use of electronic resources (e-resources) by faculty members in selected Tanzanian government universities. A total of 204 teachers from three public universities across Tanzania participated in this research. The thesis used structural equation simulation, ANOVA and t-tests to conduct analysis. Better trained and middle-aged staff members who have a good familiarity with e-resources prefer to continue to use e-resources. Quality of information has a positive relation with

continued usage of e-resources and quality of service has indirect impacts on continuous use of information through content and system consistency.

Padhi and Moharana (2018) explore the effect of electronic information resources among college library users. This research gathered all the necessary information by conducting a structured questionnaire using a survey method. The study included a total of 549 users from 34 engineering colleges. Similarly, 74 per cent of users said that access to the number of information sources, productivity in academic assignment output, and research and publishing activities have improved as a result of the transition from print to electronic services. According to most users, all forms of e-resources, especially e-journals and e-books, have a significant influence on the teaching and learning process. The findings of the research further indicate that 82% favour online services because they are easy to reach, and 64% favour print resources because they are easy to read. Also, more than 80% of users believe that the online tool contains a large amount of information and is easy to navigate by inserting bookmarks and notes.

SujataSantosh (2017) the present study aims to explore the use of Web 2.0 tools and technologies among the library professionals in academic libraries in India. Data was collected through a structured questionnaire mailed to respondents from 46 central university libraries in India. The findings suggest that there exists a fair level of awareness and familiarity with the Web 2.0 tools and technologies among the library professionals. The study provides useful insights to promote the use of Web 2.0 tools among the library professionals in Indian libraries.

Susan Umeozor N, et al. (2017) the study reported the impact of e-resources and the accompanying infrastructural development has not been fully realized in most

developing countries necessitating some interventionist programmes. This study was undertaken to assess the impact of donor agencies in interventionist programmes with regards to the availability and accessibility of e-resources in Nigerian Federal University of Ibadan (UI) and Obafemi Awolowo University (OAU). A structured questionnaire was adopted for data collection. A total of 480 lecturers were involved in the study with 240 per institution, 80 from each of the three Faculties per institution and 20 lecturers from each of the four departments per faculty.

Vinay Kumar D, et al. (2017) the study investigated the accessibility and permanency of citations containing URLs in the articles published in DESIDOC Journal of Library and Information Technology journal during 2006-2015. A total of 2133 URL citations were identified out of which 823 were found to be incorrect or missing. HTTP-404 was the most common error message associated with the missing URLs. The study also tried to recover the incorrect or URL citations using Internet Archive and recovered a total of 484 (58.81%) missing URL citations.

Pradeepa Wijetunge (2017) the study investigates the usage of the e-resources available through CONSAL (Consortium of Sri Lankan Academic Libraries) and other means for the LIS professionals of the Sri Lankan public universities. A structured questionnaire was used to gather data from 99 librarians working in the Sri Lankan public universities. Findings revealed that 65% frequently use open access material for their research, and the majority (33%) uses them for their research, 60% believed that the available e-resources fulfilled their needs. The study recommends improving access from homes, adding more LIS material and increase training to cover as many LIS professionals to increase the usage. The

study is limited to the usage of the e-resources by the Librarians during 2014 and 2015 after the formulation CONSAL.

Kulatunga K.M, et al. (2017) in this paper discussed the survey of eight librarians from four Sri Lankan university libraries revealed that there are variations with regard to the awareness and usage of the e-resources in the four libraries. Off-campus use of the resources was limited owing to lack of internet facilities among other issues.

Gayatri Dwivedi, et al. (2017) the paper dwells upon different forms of misconduct which prevail in higher education and research. It throws light on the draft policy of UGC, India, which aims to ensure integrity and honesty in education and research. It advocates that all the stakeholders like authors, researchers, administrators, funding bodies and editorial boards need to shoulder the responsibility of promoting and maintaining conformity to the norms of scholarly communication.

Perloff, Harvey S E S, et al. (2014) the authors develop a conceptual and methodological framework as a guide to an understanding of the complex interrelationships characterized by the varied rates of economic growth among the different geographical sections of the United States. Following a presentation of the general concepts of regional economic growth, data are presented and discussed which provide the highlights of regional economic growth since 1870. This is succeeded by a more detailed treatment of 1939 to 1954.

Fry A and Rich L (2014) in this study discussed in early 2010, library staff at Bowling Green State University (BGSU) in Ohio designed and conducted a

usability study of key parts of the library web site, focusing on the web pages generated by the library's electronic resources management system (ERM). The work recorded and detailed the library's databases. The usability study conducted at BGSU, presents its conclusions about how students at BGSU find and choose databases and contextualizes these findings with other current research about user behavior, and further it makes recommendations for increasing the students use of library e-resources.

Gupta D K (2013) has analysed the use of electronic journals from the INFONET consortium by faculty and research scholars of physics and chemistry at Kurukshetra University, India. It is based on the results of a questionnaire distributed to all the teachers and research scholars of the two departments. The main findings are that the respondents are more attracted towards e-journals than print journals. However, they depend more on open-source materials than those available via INFONET. Respondents also identified the need for training in using e-resources and retrieving information from them from time-to-time. The use of e-resources, particularly e-journals, is increasing in the developing countries. Studies such as this one are required to understand the problems faced by the users and to increase the use of e-resources.

Amy F(2012)in this study analyzed, the Electronic Resources Coordinators for Bowling Green State University (BGSU) presented a comprehensive analysis of what libraries can and should do to help users access their databases. She discussed an ongoing project to update her library's database Web pages to enhance their utility for library patrons. During her presentation she explained how she identified the best practices in Association of

Research Libraries, member libraries, made recommendations based on these best practices, and discussed the work in implementing her recommendations.

Okello-Obura C (2011) described that the part of the study that was conducted to analyse the LIS postgraduate e-resources seeking behaviour in Makerere University, Uganda. Its purpose is to present and discuss specifically the problems LIS postgraduate students' face in accessing e-resources. Survey research techniques were used in which the data collected using structured questionnaires were carefully handled and analysed using the Excel Computer Program to generate the frequencies, percentages and pie charts. This study has helped the library planners and LIS educators to rethink on how to improve on e-resources access and utilization. It would certainly provoke new thinking to revamp the situation in the University library.

2.6 DIGITAL LIBRARY

RuchiSrivastava (2021) Human beings all over the world are struggling in all fields of life after the emergence of the novel corona virus COVID-19. Librarians are also trying to provide services to their community that includes protocols to be followed for the prevention of COVID-19 transmission. Considering the uncommon and quickly changing conditions identified with COVID-19 flare-ups, a few scholastic course books, digital books, and academic distributers have briefly opened admittance to their copyrighted and limited materials. This article discusses and analyzes the importance of open access (OA) and institutional repositories after the outbreak of COVID-19 where students can educate themselves staying safe at home by using OA resources and repositories.

Mehta D and Wang X (2020) the purpose of this paper is to share the experience of a university library in response to the COVID-19 pandemic since early March 2020. The paper describes the library's position during the crisis and illustrates the uncharted challenges that the pandemic has posed to its digital services. This paper aims to make other university libraries aware of what the library has implemented with providing digital services to its teaching faculty and students during the pandemic. This paper is of great value in providing insights and practical solutions responding to the global health crisis for other libraries that are coping with the similar challenges for digital library services.

Rafi et al. (2019) in this study, sets out a systematic approach for assessing academic research effectiveness using digital databases, resources on the digital library platform have a huge influence on increasing higher education research community. Usage of digital databases enables an understanding of intellectual development, efficiency of research, planning and recognition of user knowledge needs. Secondary data derived from 52 university databases provided by the Commission on Higher Education and literature reported on the Scientific Knowledge Centre, webs of science. Effective use of standard database resources will promote increased academic research to generate new ideas and enhance the cognitive skills of researchers.

Vanan J Manalan, Soundrarajan D and Thangiah R (2019) in this report to figure out how researchers at Christian Medical College and Hospital in Vellore, became informed about e-resources and to identify the usage pattern of electronic resources by the users. The end-users were sent a questionnaire to collect the data. This study aims to raise awareness of e-resources available. The findings show which category of e-resources is the most commonly used search tool, the

question of access to e-resources, description of available e-resources and the proportion of e-resources accessed by the library services.

Bwalya and Ssebbale (2018) explored the accessibility and utilization of the online resources of Nkumba University Library, Uganda, by third year students in the undergraduate program. Understanding the degree of access and use of online infrastructure is important as it provides insight into the degree of access to digital learning and academic skills for students. This analysis offers information and suggestions to be incorporated in order to implement approaches in contextually related contexts to promote the access and utilization of e-resources. The research offers a conceptual context that demonstrates key factors influencing the access and usage of e-resources, especially in countries that are resource-controlled.

Isibika Irene Shubi and Kavishe George Firmin (2018) explore the usage of subscribed e-resources in the main library of Mzumbe University (MU). The research included MU teaching staff, undergraduate students (third-year) and postgraduate students. The thesis employed a mixed-method analysis approach that incorporates cross-sectional and case studies. The MU Library was recommended to provide library users with comprehensive information search training to make better use of e-resources subscribed. In addition, the library was strongly encouraged to promote its subscribed e-resources in order to attract more users.

Kumar and Batra (2018)indicate how management graduates use online services (e-resources). They were asked about the type of e-resources used, their ideal place for surfing, how much they used e-resources, the drawbacks of e-

resources, and the challenges they were dealing with while using e-resources. The study indicates that e-resources are well-known to students and that they are beneficial for their academic success. Interestingly, because of a lack of search skills, students have used unpaid sources rather than paying ones. Disciplinary analysis indicates that students in the areas of information technology, economy and economics use e-services more commonly than students learning subjects such as communications, logistics and human resource management. The faculty and teaching were powerful influencers, who persuaded students to use online services.

Tella A Orim, Ibrahim D M and Memudu S A (2018) stated that e-resource usage is widespread among academics in tertiary educational institutions worldwide. Many researchers, including educators, are using e-resources for educational and research support. This thesis explores how university staff of Ilorin University utilizes electronic resources. Simple random sampling approach was used to pick the respondents who participated in the analysis. Questionnaire used for data collection. Descriptive methods were used to interpret the data, including the percentage and frequency number. The research concluded that online tools typically offer ability to access new and up-to-date data / information, but this university staffs have not made effective use of such important information sources.

Thompson H, Rodney-Wellington K A and James J (2018) the present study explore the use of e-resources by the faculty of the Calvin McKain Library of Jamaica's Technology University (UTech, Ja). The staff from different colleges and departments provided an online questionnaire. The tool was designed to gather information about their knowledge, frequency of use, and the obstacles

faced when accessing e-resources. The findings revealed that staff members were aware of, and some even used, the e-resources of the university. However, a significant percentage revealed that the use of e-resources took too long time and had little competency to use such e-resources. It was also found that contact with a librarian was the most effective means of raising consciousness.

Anunobi C V, et al. (2017) the present study one of the ways in which digital library technology is employed in providing twenty-first century library and information services to a university community in a developing country, together with the challenges and prospects of such an application. This work analysed the documents using content analysis of documents in library archives, interviews with library stakeholders and assessment of the structures, facilities and technologies as deployed in the Digital Library housing the information that is necessary for academic work. It also provides librarians with an insight into how developing countries understand and apply digital technology to library operations and services. It also provides other libraries and related institutions with an opportunity to learn from a concrete experience.

Canuel R, et al. (2017) in this paper discussed to assess how Canadian academic libraries have responded to the rapidly evolving mobile environment and to identify gaps in the services provided, while suggesting areas for future development. It conducted an examination of the mobile content and services provided by the libraries of the member institutions of the Association of Universities and Colleges of Canada (AUCC). Based on this examination, the paper describes the current state of mobile librarianship in Canadian academic libraries. This is the first exploration of this type into how academic libraries in Canada have responded to the mobile environment. The

value of this research is in helping libraries identify and address shortcomings in the mobile content and services they provide, and in highlighting efforts by libraries to address their users' needs in this area.

Panda K C (2011) in this study attempted to make the user community aware of e-news and e-news services offered by different e-news channels all around the world, provides a brief discussion of history and developments of e-news services, newspaper websites and latent advantages of e-news in the electronic era. Employs literature survey method to unfold the latest trends of e-news industry and finds that, though e-news services provide immense opportunity to the readers and simultaneous access at infinite points and reading at ones convenience, still a few key technical challenges like, navigational support, hyper linking, and designing of e-newspapers needs to be properly taken care of and tackled with Concludes with the recommendation that information professionals should take steps to increase the usage of e-newspapers by their intended audience.

Surender HS Chopra (2011) in this paper discusses the various aspects of digitization of resources in University Libraries. It also describes the digitization initiatives that have taken place in University Libraries in India. It discusses the current status and trends of digitization in some University Libraries.

Chen M (2011) in this study analyses the University of Houston Digital Library (UHDL), provides access to collections of digital materials related to the institutional memory of the university and to areas connected to its teaching, research, and cultural missions. Recently, a variety of image archives have been processed and preserved. Demonstrates the development of preservation metadata strategies at UHDL and the preservation of Metadata Encoding Transmission

Standard (METS) records generated from customized "7train" based on Dublin Core (DC) descriptive metadata and NISO Metadata for Images in XML Schema (MIX) technical metadata using two open-source software tools (JHOVE and 7train). We are able to produce complete METS records for digital objects preserved.

2.7 WOMEN EDUCATION

BhaskarMukherjee (2021) in this study investigates the effect of scientific position, service tenure, and age of women scientists of various research laboratories of the Ministry of Science and Technology, Government of India on the research productivity. However, per scientist publication reveals that there is a continuous increase of publication with the increase of service and physical age. Therefore, better funding opportunities for young researchers and retaining experienced women scientists for more years may be important to increase women's participation in science.

Singh NP Singh (2020) in this study Kathmandu is the tiny national capital of Nepal which is situated in new line the southern slopes of Himalaya and India s friendly neighbor with the newline common bonds of culture, history and society. India and Nepal have newline associated traditionally, since time-immoral because of their common newline religions, linguistic and cultural identities.

Ranganathan (2019) in this study focused on the information literacy skills possessed by women undergraduate college students, with the development of a wide variety of technologies, the amount of information available to people at

large is growing rapidly. Colleges as a place and education as a mean to disseminate and transmit information have to keep up with this development. The data on sources of information preferred by the undergraduate women students would reflect the skills possessed upon using those sources. Hence the problem of the study is Information Literacy skills of undergraduate students of women colleges in Trichy city.

Venkatraman (2018) in this study deals with the empowerment means moving from a weak position to execute a power. Education of women in the education of women is the most powerful tool of change of position in society. Education also brings a reduction in inequalities and functions as a means of improving their status within the family. To encourage the education of women at all levels and for dilution of gender bias in providing knowledge and education, established schools, colleges and universities even exclusively for women in the state. To bring more girls, especially from marginalized families in mainstream education, the state government is providing a package of concessions in various forms.

Mohamed Farook and Mohamed Omer Farooque (2018) in this study deals with the Country can advance politically, socially, culturally and economically, only if both men and women have access to education. Education of Women is far more important than men. In the words of Mahatma Gandhi, men's education is the education of an individual but women’s education is the education of the whole family. The writings and speeches of social reformers gave new impetus to fight for their rights. The emergence of Social Reformers created an atmosphere and paved the way for Social Reforms in general and the

Emancipation of Women in particular. This paper traces the growth and development of women's education in Tamil Nadu.

AnjanaJadon and SadhanaShrivastava (2018) in this paper is an effort to capture the emerging picture with respect to women's education in India. Women education is an essential need to change their status in the society. Educated women can play a very important role in the society for socio-economic development. Education eliminates inequalities and disparities as the means of recovering their status within and out of their families. It is the key factor for women empowerment, prosperity, development and welfare. Education provides more strength to women. Such strength comes from the process of empowerment and empowerment will come from the education. Education plays a significant role in women empowerment inequality and vulnerability of women in the society in India.

Anne Moursund and YsteinKravdal (2011)inthis study makes use of the National Family Health Survey of 1998-99 to investigate whether differences in women's autonomy can explain much of the relationship between education and contraceptive use among married Indian women with at least one child. The analyses show that a woman's education does not influence her contraceptive use through a strengthening of her position in relation to that of men, but that the inclusion of a simple indicator of her general knowledge reduces education effects appreciably. This effect cannot be explained by the specific indicators of autonomy, but can to some extent be explained by the son preference of the community. The latter is a more general autonomy indicator that may also pick up other contextual factors.

Williams E Nwagwu and Monday Ajama (2011) in this study addresses the health information needs, sources and information seeking behaviour of women living in a rural palm plantation community in Nigeria, using data collected through focus group discussion (FGD) and a questionnaire. Majority of the women were married, aged about 31 years, mainly Christian traders, and have a mean household size of 5.6.Most of them have secondary level education and are low income earners. There was also low trust and confidence on the services, competence and adherence to ethical standards by the modern health care providers. Just as health workers in the community require reorientation to fit in the setting, the women also require intensive awareness and literacy intervention to increase their person-efficacy and reduce the effect of cultural glass ceiling that disempowers them, and promotes reliance on quack medical services.

2.8 SUMMARY OF THE REVIEWS

The reviewed research literature relevant to the objectives of the present study could enable to identify the following observations and that were used as parameters of the present study.

A selected number of 80 research studies both from national and international publications have been thoroughly studied and matched with the major variables of the present study such as Digital Libraries, e-resources, Information needs, Information services, ICT applications and Arts and Science College Reviews in Library and Information services and so on. Studies experimented how for users could find and choose e-resources and identifying ways that library access through e-resources through websites.

Majority of the studies used survey method including e-mail and online survey among the university libraries and also the faculty members and research scholars with regard to the access to the web based resources such as access journal databases, book databases, the present study the variables were framed and analyses using ANOVA, Chi-Square, percentage analysis and other relevant statistical techniques by the existing studies both at national and international level. Studies carried out on assessing the problems to access e-resources emphasized the trained manpower support in libraries, improve response time, systematic information capture, services expectations and the databases with enhanced functionality, studies also stated that the users, the resources and non-computer related issues are as the sources of problems in accessing e-resources, Studies that are recommended the Information and Communication Technologies of the libraries to enhance the utility of library patrons.

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CHAPTER III

PROFILE OF THE STUDIED WOMENS COLLEGES

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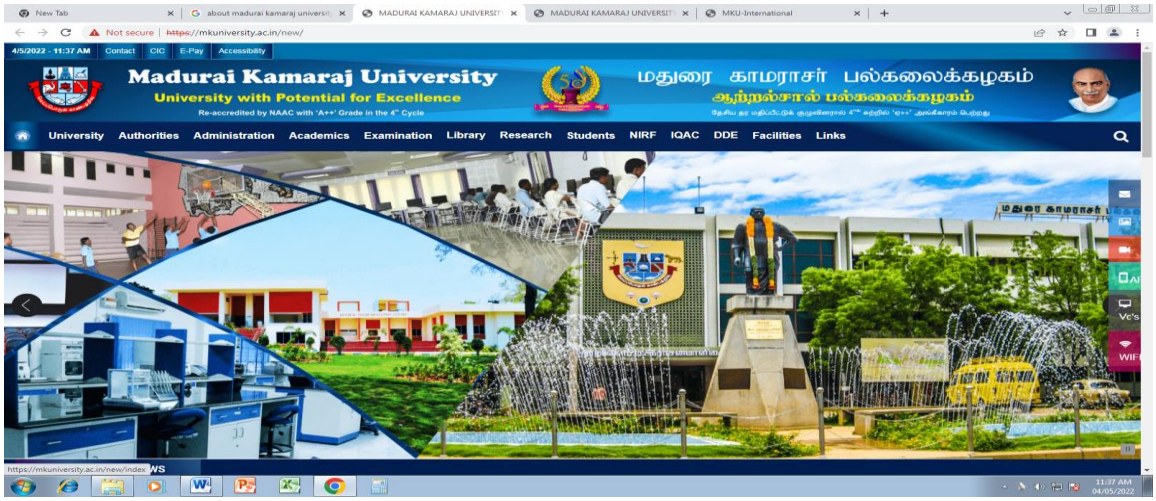
PROFILE OF THE STUDIED WOMENS COLLEGES

ABOUT MADURAI KAMARAJ UNIVERSITY



(Source:mkuniversity.ac.in/new/)

Madurai Kamaraj University is on its relentless journey for the past 53 years surmounting hurdles of indigenous and exotic nature on its way and has passed through the tests of accreditation towards reaching the status of excellence. University is aware that the process of achieving excellence is continuous and therefore, all efforts are in progress to keep up the momentum.

The University came into being through a bill passed in the Legislative Assembly of the State in the year 1965. Thus, it is a statutory university owned and funded by the Government of Tamilnadu and the University Grants Commission. This University is a member of Association of Indian Universities

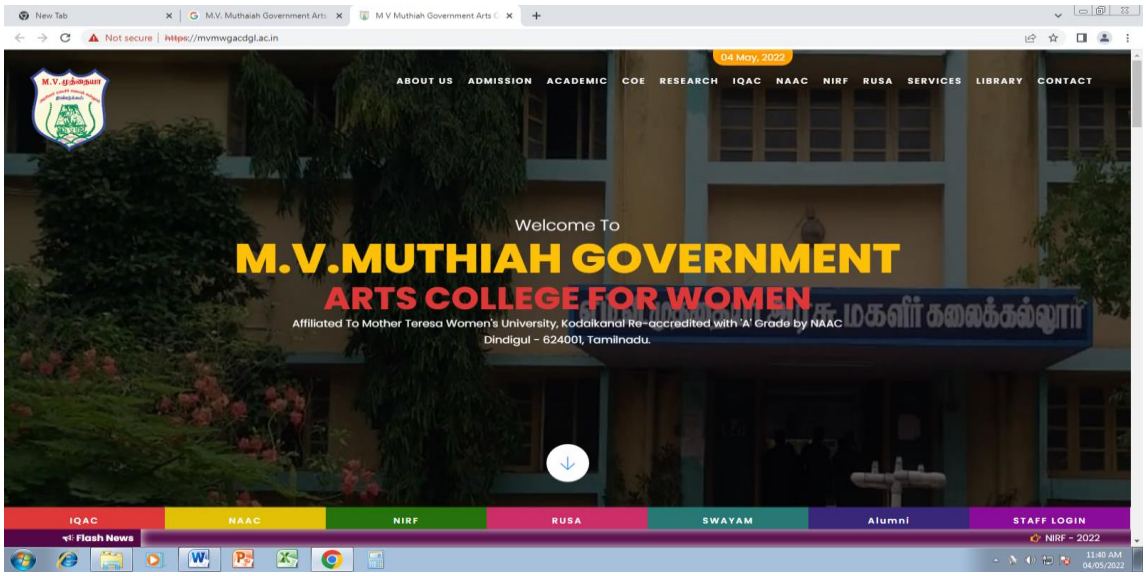
and one of the nine universities in India with a status of University with Potential for Excellence. The present Manonmaniam Sundaranar University, Alagappa University and Mother Theresa University are the off- shoots of Madurai kamaraj University. As on date, it covers four revenue districts of Madurai, Virudhunagar, Dindigul and Theni for its regular academic programme. Currently it holds a total of 77 renowned Departments and 20 Schools. In addition to the Departments and Schools, the University has 21 academic centres and 21 quasi academic supportive units. It has 24 autonomous colleges, 14 aided colleges, 33 self-financing colleges, 18 approved institutions, 4 evening colleges, 6 constituent colleges and one University College catering to the higher education needs of large number of students from rural and urban areas.

The University has a modernized central Library with 3 lakhs books, 15,000 e-journals, 3,000 e-books, 55,000 reference and text books. The one Gbps internet connection, INFONET centre with 50 nodes and smart class rooms have enriched the ICT enabled teaching and learning.

The National and International level connectivity and visibility of this University is a pointer that the University is moving from the status of University with Potential for Excellence to the status of University of Excellence.

PROFILE OF SURVEYED WOMENS COLLEGES

1. M.V. Muthaiah Government Arts College for Women, Dindigul



(Source: mvmwgacdgl.ac.in)

M.V.Muthiah Government Arts College for Women at Dindigul is one of the largest Government Institutions for women in TamilNadu. The College was established in June 1966 with a mission to empower rural women through higher education. Forty acres of land was donated by Thiru. M.V.Muthiah Pillai the then founder of Angu Vilas Groups for the construction of the college. The college was named "M.V.Muthiah Government Arts College for Women" to honour the donator's lion's share in providing land and building construction. Since its inception in 1966, the Institution enjoys a commendable social accreditation and every year we receive thousands of applications for getting admission into each course. As the institution strictly adheres to the mission of "Purity, Unity and Ability", Parents prefer to admit their wards in our college rather than other colleges in the district. In 1972 and in 1974 the then Chief Minister of

TamilNadu Dr.M.Karunanidhi laid the foundation stone for hostel buildings. From 1975 onwards the college started functioning in the new campus. National Service Scheme and the Corporation of Population Education Programme were started in 1975 to render great service to the society. Under the Twenty Points, a Co-operative store for staff and students and a common canteen work successfully in the campus. Within a short span of fourteen years the college spread its roots strongly and added one more feather to its cap by attaining Grade I Status. As the college maintains a good discipline, many families in the villages nearby are able to give higher education to their girls breaking all orthodox social taboos.

Library is the heart of any educational institution. It caters to the information needs of its clientele i.e. students, research scholars, faculty and staff members. It houses variety of information sources like printed books, e-books, periodicals, e-journals, newspapers, question banks, institutional publications etc. The library is located in the main building of the college. It is situated next to Principal Room, Office Room and Bursar Room. The library is placed in such a manner that it is centrally located to enable the students and faculty of all the departments and staff members to have an easy access

2. Sri Meenakshi Government Arts College for Women, Madurai

(Source:https://smgacw.org/)

Sri Meenakshi Government College for Women came into existence in the year 1965 in the city of Madurai. The college is situated on the north bank of the river Vaigai, right in the middle of the city. Approach to the college is easy and therefore, it caters effectively to the needs of the women students in the city.

The college was started by the government of TamilNadu with the exclusive aim of the upliftment of the women of Madurai. In 1965 the college had only pre-university courses with 320 students. There were 13 teaching and 13 non-teaching staff. In the very next academic year, that is, 1966-67, undergraduate courses in Tamil literature, Economics and Mathematics were started.

In 1968, undergraduate courses in Chemistry and Geography were started. In 1969 undergraduate courses in English literature and History were introduced. The year 1970 saw the introduction of B.Sc Physics course. The year 1971 was

marked by the introduction of the first Post Graduate course in the college namely M.A, geography. In the same year B.A. (Special Economics) and B.Sc (Special Zoology) courses were also introduced.

"Reading maketh a full man and writing an exact man." For both reading and writing, our library resources are abundant and very much relevant. The college library is accommodated in a spacious separate floor. It has an air-conditioned reading room with more than 65000 books in stock in addition to books available in the department libraries. The regular subscription of 21 Indian journals adds to the stock of the central and departmental libraries. The library having Textbooks: 43560, Reference books: 21043.

3. Fatima College, Madurai

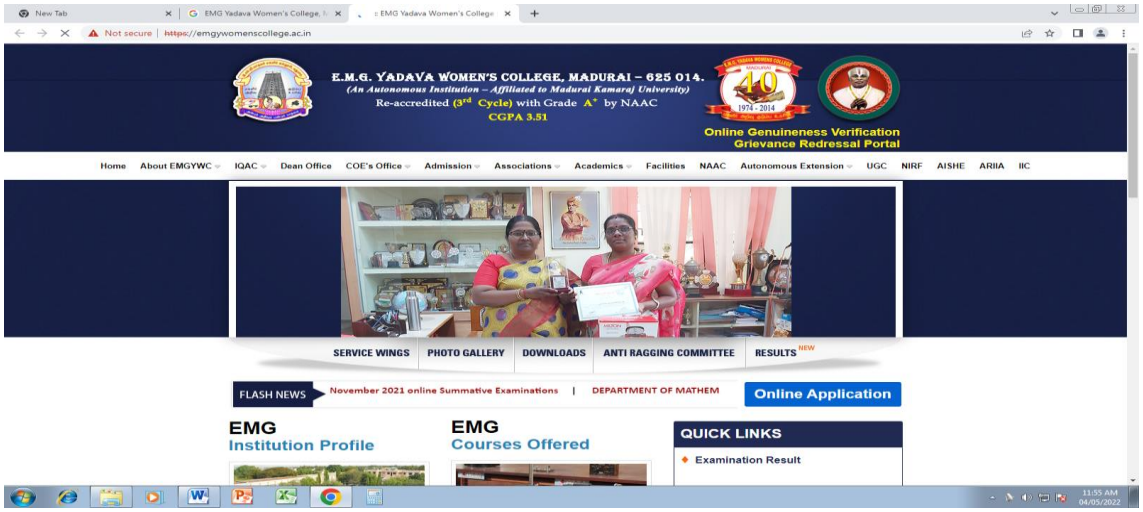
(Source: fatimacollegemdu.org)

Fatima College, Mary Land, Madurai is a Catholic minority Institution, established and run by the Sisters of St. Joseph's Society of Lyons. Today the sisters are present in 48 countries, responding to the signs of the times and the

needs of the people. The Charism of the sisters of St. Joseph of Lyons is unioning Love expressed in greatest charity and Deepest Humility. In India, there is one Province in the South of India and a Region in the North of India. The sisters are involved in Educational, Social Action, Pastoral, Family apostolate ministries empowering the marginalized women and children. Fatima College, affiliated to Madurai Kamaraj University, was the dream of Sr. Rose Benedicte, the founder of the College, realized 68 years ago. With more than half a century of experience in the field of education, Fatima College has established a reputation for excellence in all aspects of higher education.

The College was started in St. Joseph's Campus Madurai as a Second Grade College with 63 students in 1953. It was upgraded into a Post Graduate College in 1964; Autonomous in 1990 and a Research Institute in 2004. The College now offers 21 Undergraduate Programmes, 14 Postgraduate Programmes, 2 Professional Programmes and 6 Departments have become Research Centres. It has strength of 4111 Students, 196 Teaching Staff and 91 Non-Teaching Staff during 2020 – 2021.

4. EMG Yadava Women's College, Madurai

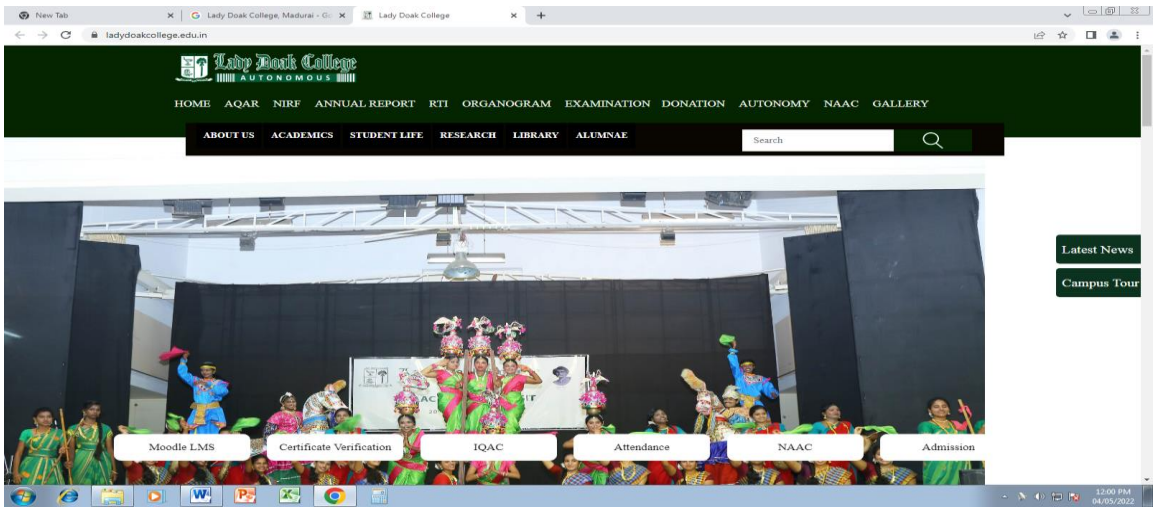


(Source: emgywomenscollege.ac.in)

E.M.G Gopala Krishna Kone Yadava Women's College was established in the year 1974**,** with the vision of building a strong and healthy society by providing Value added Education to socially and economically backward Women. The Institution has been Administered under the Governance of E.M.Gopala Krishna Kone Yadava Mahalir Kalloori (Women's College) Association, Madurai, and affiliated to Madurai Kamaraj University. The College was started only with Pre – University course at E.M.G. Kalyana Mandapam at Tallakulam and the Institution was repositioned at the current location with an area of 15 acres of land contributed by the E.M.G. charitable Trust in 1980. The sincere and adorable service of Thiru, E.M.G. Soundararajan is being continued by Tmt. E.M.G.S. Indirani, lady of determination, Social responsibility and religious Zeal renders her service for the empowerment and enlightenment of women which develops the Institution to reach an unimagined height.

To the existing 42009 books, 95 books were added, 42014 volumes of books from regular Account and 6250 books from SF account were added, totally 48354 books available. The library subscribes five leading daily newspapers, 120 journals and magazines, relating to different subjects. An open access system of reference for easy accessibility is available for both UG & PG students. 546 audio and video cassettes and 714 back volumes of periodicals are available. The whole college community has the benefit of the open access system. The Library is decentralized - General Library and Thirteen Departmental Libraries.

5. Lady Doak College, Madurai



(Source: https://www.ladydoakcollege.edu.in/)

Lady Doak College, a premier Christian institution and the first women's college in Madurai, was founded by Miss Katie Wilcox, an American missionary with dedicatory zeal and vision. Commencing its pioneering service in the cause of women's education in and around the city of Madurai on 14th July 1948 in the Noyes Memorial Gardens, Tallakulam, Madurai, the college has completed 73

years of committed labour of love and learning. As an ecumenical Christian college whose purpose is to impart liberal education of Christian character to students of all creeds, this college strives to develop their intellectual powers, locate, identify and cultivate their interests and talents and train them to be responsible and useful citizens. Lady Doak College is a unit of the Katie Wilcox Education Association, which is a Christian Educational Trust.

In its first year, Lady Doak College had 81 students, a few books in a small library room, one hostel, a portion of the classroom building under construction and a few thatched sheds. Since that time, the college has grown in every way. In the place of temporary sheds, today, we have a well-built beautiful chapel, classrooms, lecture halls, comprehensive library, well-equipped laboratories, multimedia theatres, indoor stadium-cum-auditorium, open-air theatre, hostels, clinic, non-resident students' centre and canteens. Now the college has an enrollment of about 4850 women students served by a committed and skilled team of about 253 teaching and 144 non-teaching staff.

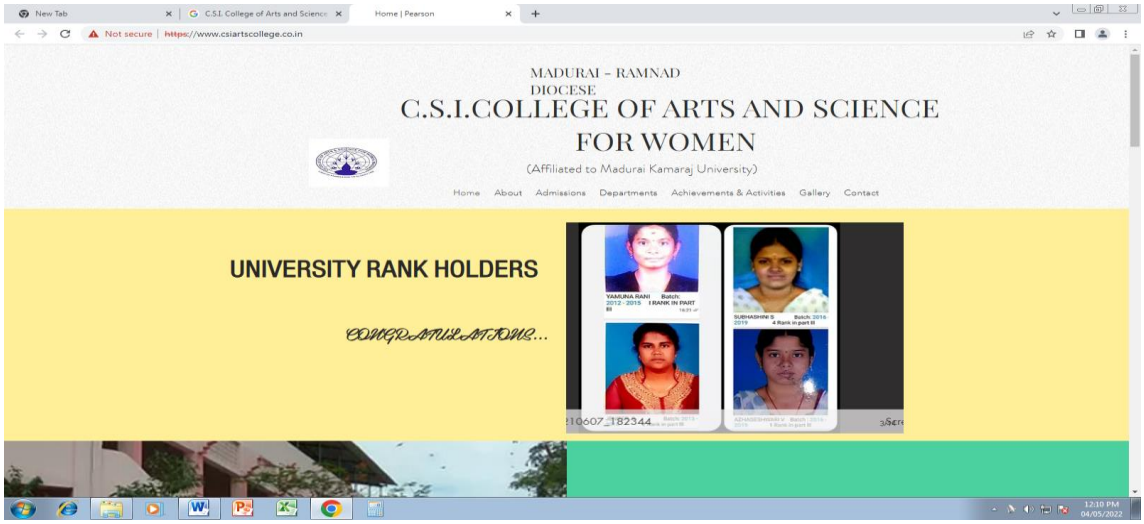
Academic autonomy was granted in 1978, making it one of the earliest autonomous institutions in the country. A challenging curriculum blended with relevant academic programmes, co-curricular activities, exposure programmes and a well-developed student support system has placed the college at the forefront in the field of higher education. The college currently offers 24 undergraduate, 15 postgraduate and 9 M.Phil. programmes and Madurai Kamaraj University has recognized 6 Departments as Research Centres. Besides these, 3 postgraduate diploma, 3 diplomas and 2 certificate courses are also offered.

6. Thiruvalluvar Arts and Science College for Women, Peraiyur, Madurai

(Source: thiruvalluvarinstitutes.com)

Thiruvalluvar College of Arts and Science for Women was a private un-aided affiliated college in periyur taluk, Madurai in the state of Tamil Nadu. Thiruvalluvar College of Arts and Science for Women were established in the year 2013 and got affiliated to Madurai Kamaraj University, Madurai in the year 2013. The college was co-educational by its nature. The college has a sum of 10.17 acres of land and the college premises were built within 32647.3 square meters.

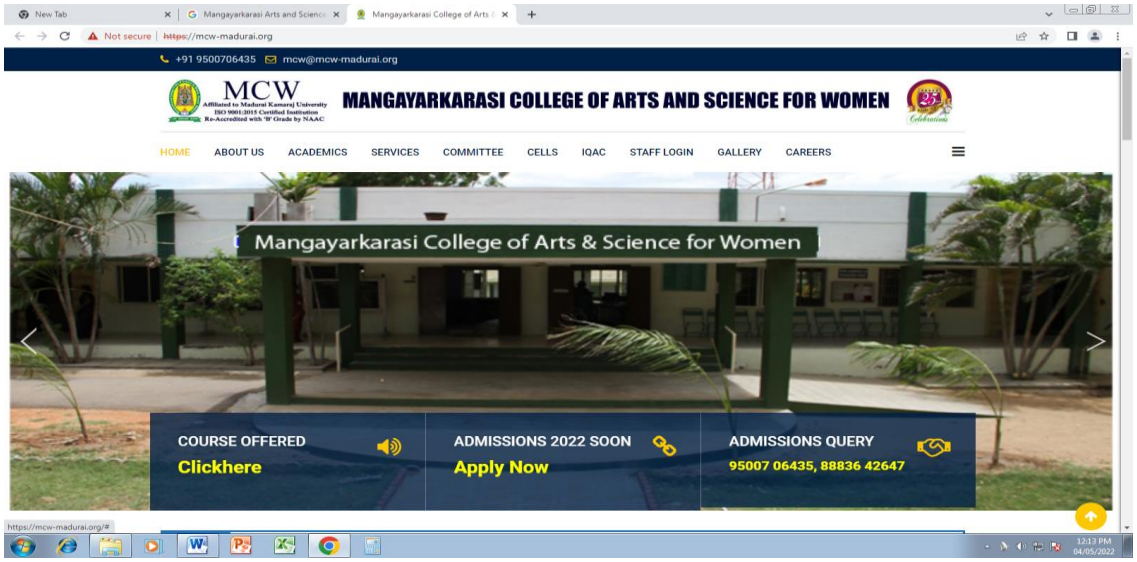
7. C.S.I. College of Arts and Science for Women, Madurai



(Source: www.csiartscollege.co.in)

Our college was established in the academic year 1998-1999 with an objective of uplifting the women in the field of higher education. Empowerment of women is the key factor in all its activities. With the help of Madurai Kamaraj University, Various job oriented courses are offered to suit the needs of the society and employers. To enhance the communicative skills, special courses are conducted to all students. The underprivileged, marginalized and physically handicapped students have the privilege to enroll and learn with comfort. The college is fortunate to have the dynamic Bishop Rt. Rev. Dr. M. Joseph, M.A.,B.GL.,B.D.,M.Th.,Ph.D., as the Chairman.

8. Mangayarkarasi Arts and Science College for Women, Madurai

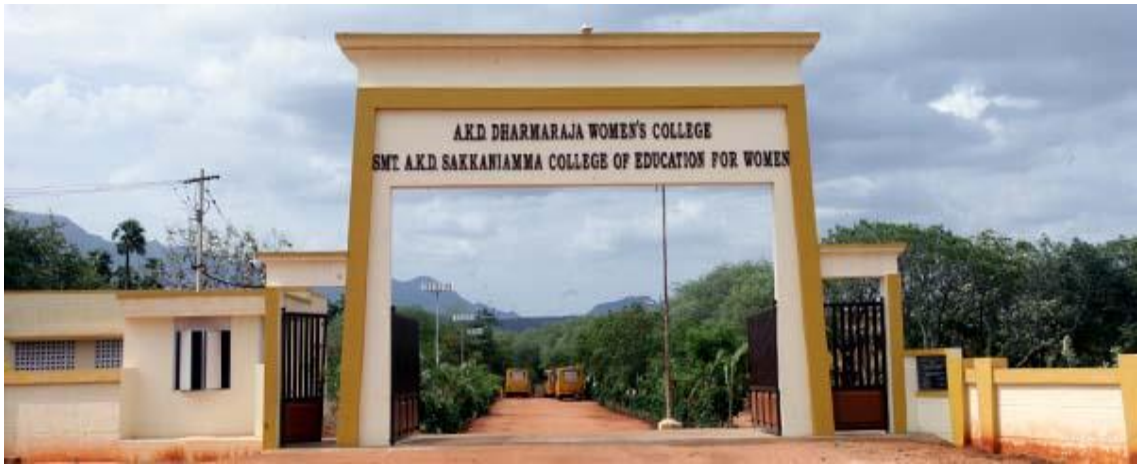


(Source: mcw-madurai.org)

Mangayarkarasi College of Arts and Science for women were established in 1997 by our benevolent founder, Amarar Pitchiah Pillai, a great philanthropist and a visionary of the 20th century. Ours is a fantabulous campus located in a pollution free, pleasant environment conducive for learning. Our college has been Re-Accredited by NAAC with "B" Grade during the academic year 2018-2019.The management is thoroughly dedicated to education. Besides this college, they run a group of institutions that comprises an Aided higher secondary school, a College of Education, a CBSE school and an Engineering college. We hone the skills of young women and prepare them for life. Our college is ISO 9001:2015 Certified. For the past two decades, we have been offering quality education to under-privileged students at affordable fees.

Mangayarkarasi College of Arts & Science Library exists to support undergraduate and postgraduate teaching. Library pursues higher value of Knowledge, Creativity, and Wisdom and empowers its users to be connected with literate published/available in the field through its collection and networks. The library is situated in Block 2 with 3135 sq.fts. It has 150 seating capacity. Library has established conducive atmosphere with provision of tables and chairs for reading with good ventilation for the students. Adequate space if provided for browsing and relaxed reading. Library has stocking over 13,000 books and 80 printed journals in a separate journal section. It has computerized circulation service and provided with OPAC facility to know the availability of the books etc. E-books and E-journals facility is provided to the users including remote access.

9. A.K.D. Dharmaraja College for Women, Madurai

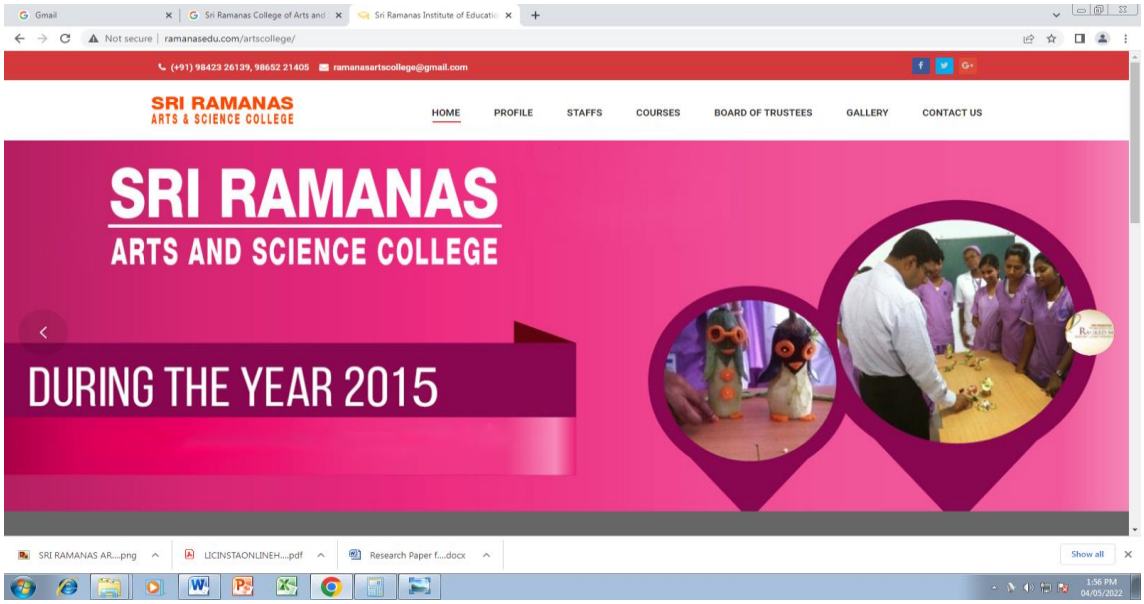


(Source: www.akdcollege.in)

A. K. D. Dharmaraja College is a women's only college established in the year 1990 by A. K. D.Dharma Raja Education Charity Trust. This 50 Acres sized campus is affiliated to Madurai Kamaraj University, Madurai and recognized by UGC.

A. K. D. Dharmaraja College for Women (AKDDCFW) located at THE PRINCIPAL, A.K.D. Dharmaraja Women's College, Rajapalayam, Virudhunagar Tamil Nadu is one of the popular colleges in India. The College has been rated by 2 people on iCBSE. The A.K.D. Dharmaraja College For Women has been viewed 501 times by the visitors on iCBSE. This College is counted among the top-rated Colleges in Tamil Nadu with an excellent academic track record. If you're looking for more details regarding results, admission procedure, syllabus, examinations schedule, application forms, courses offered and placements, kindly get in touch with the relevant department of the college.

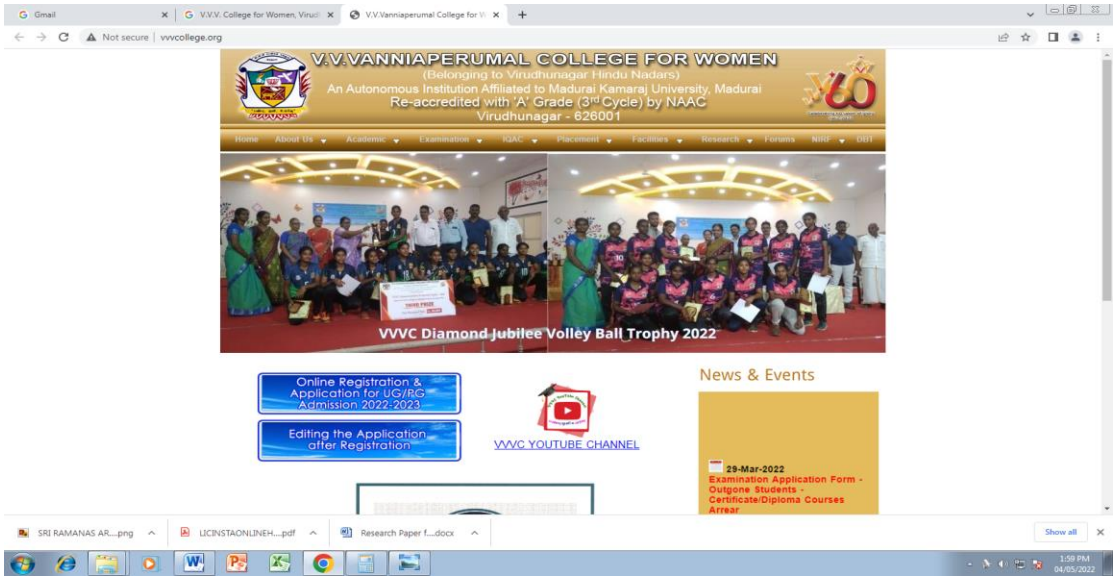
10. Sri Ramanas College of Arts and Science for Women, Aruppukottai



(Source: http://ramanasedu.com/artscollege/)

Sri Ramanas College of Arts and Science for Women is s private un-aided affiliated college in Aruppukottai, Virudhunagar in the state Tamil Nadu. Sri Ramanas College of Arts and Science for Women were established in the year 2015 and got affiliated to Madurai Kamaraj University, Madurai in year 2015. The college is exclusively meant for girls only. The SRCASC-Sri Ramanas College of Arts And Science College is well established and located in Virudhunagar, Tamil Nadu. The SRCASC-Sri Ramanas College of Arts And Science College is a premier college in Virudhunagar for known as excellence educational standards, various educational programs, grand faculty, and various extracurricular activities and modern infrastructure. The SRCASC-Sri Ramanas College of Arts And Science College affiliated by Madurai Kamraj University the college supports the highest superior standards and best practices in higher education.

11. V.V.V. College for Women, Virudhunagar

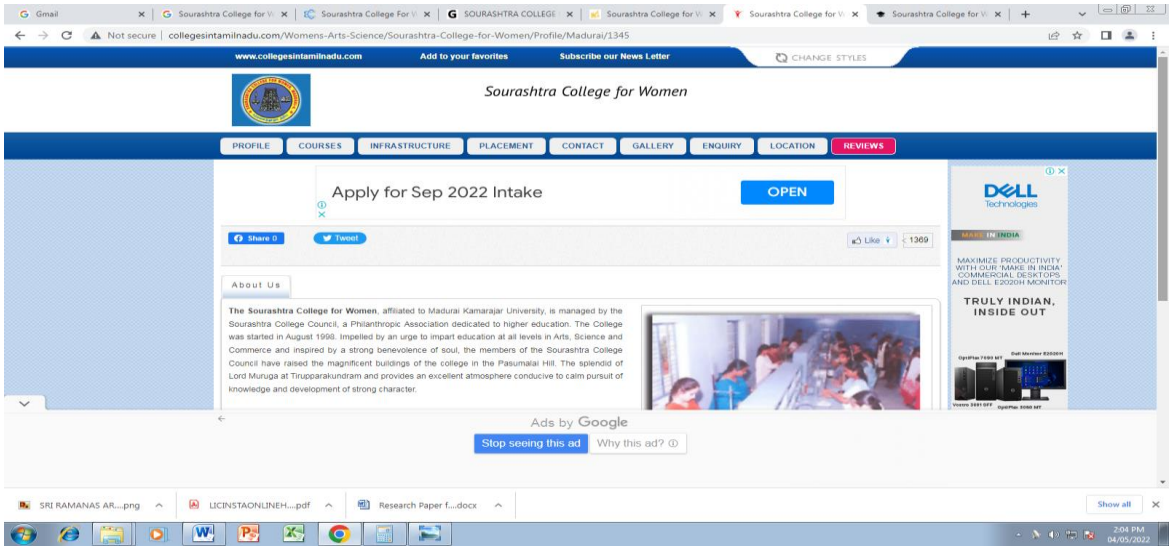


(Source: http://vvvcollege.org/)

The history of V. V. Vanniaperumal College for Women, a temple of learning founded by a great visionary Shri V. V. Vanniaperumal Nadar with a singular objective of empowering rural women through higher education, is a saga of human excellence, endurance and commitment for six decades.

Having started with a meagre strength in 1962, the institution has grown by leaps and bounds into one of the reputed women's colleges in Tamilnadu. The strength has reached 4259 students of which 2052 are admitted in aided programmes and 2207 are admitted in self-finance programmes. The college offers 20 UG programmes, 14 PG programmes, 6 M.Phil. programmes and 5 Ph.D. programmes. At present 98 teaching staff serve in the aided departments and 131 in the self-finance departments. There is earnest and enthusiastic 191 non-teaching staff (44 in aided and 147 in self-finance). The college became an autonomous institution in 2009 and it was reaccredited with 'A' GRADE (3rd cycle) in 2018 by NAAC.

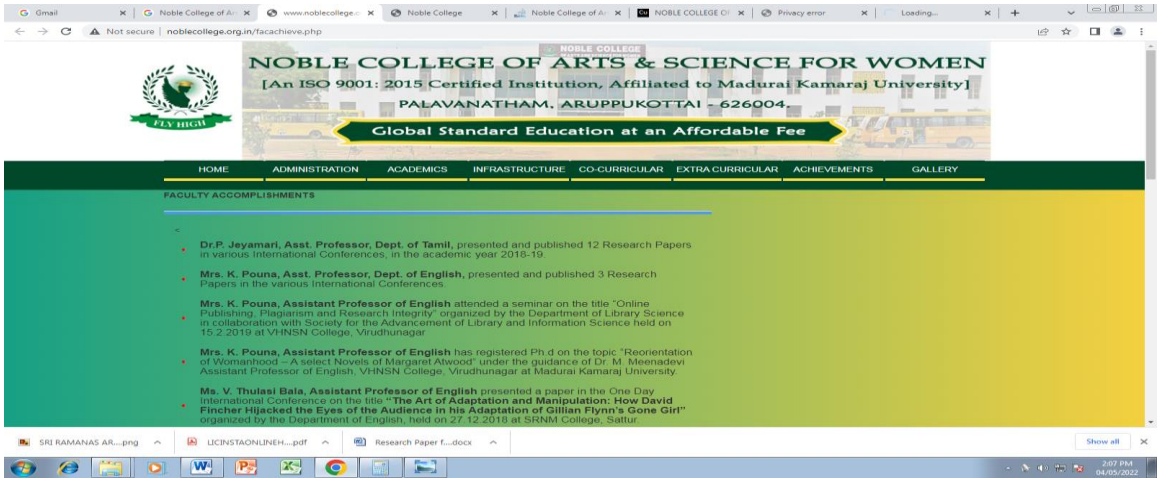
12. Sourashtra College for Women, Madurai



(Source: http://www.collegesintamilnadu.com/)

The Sourashtra College for Women, affiliated to Madurai Kamarajar University, is managed by the Sourashtra College Council, a Philanthropic Association dedicated to higher education. The College was started in August 1998. Impelled by an urge to impart education at all levels in Arts, Science and Commerce and inspired by a strong benevolence of soul, the members of the Sourashtra College Council have raised the magnificent buildings of the college in the Pasumalai Hill. The splendid of Lord Muruga at Tirupparakundram and provides an excellent atmosphere conducive to calm pursuit of knowledge and development of strong character. The College has a decent rest room for girls. The students are expected to be in the Library, if they do not have class for any period. They should always keep with them their identity card, without which no student will be allowed into the College premises.

13. Noble College of Arts and Science for Women, Aruppukottai

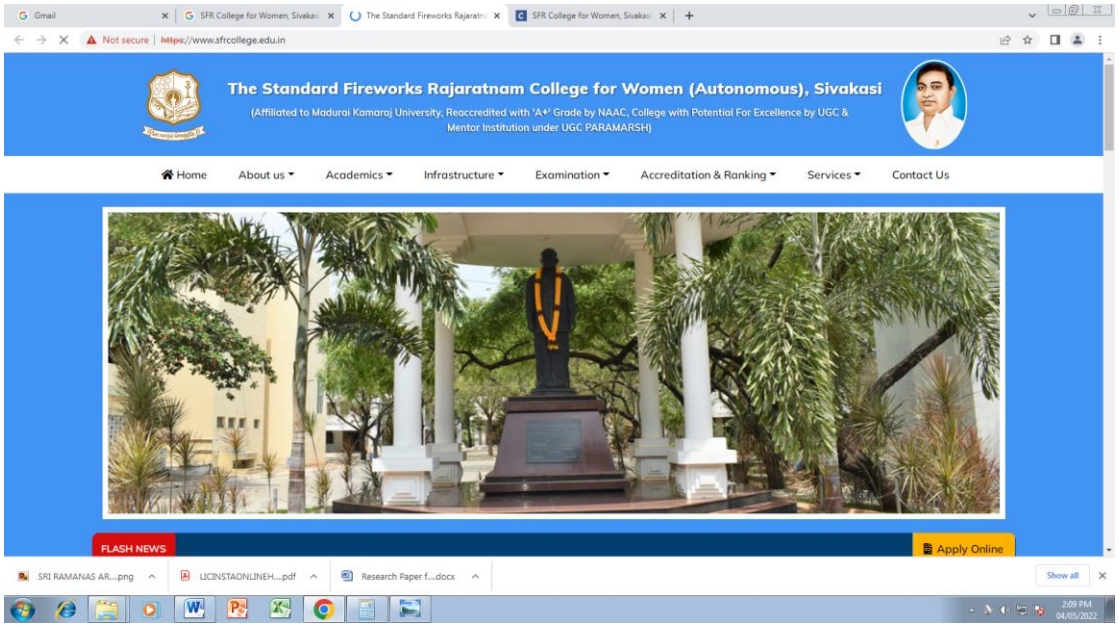


(Source: http://www.noblecollege.org.in/facachieve.php)

Noble College of Arts and Science for Women, Palavanatham, affiliated to Madurai Kamaraj University started its, pursuit of intellectual quest, amelioration and scholarly pursuit with a simple beginning in the year 2018. This Esteemed Institutions are initiated to meet the growing demands of specialization because of the untiring efforts of the noble founders of Noble College Rtn. PHF. Dr. A.S.A. Jerald Gnanarathinam, M.Sc., M.Phil (Chem)., M.Ed., M.Phil (Edu)., MBA.,D.Litt., D.Sc. and Dr. N. R. Virgin Inigo Jerald, M.Sc., M.A., M.Ed., MBA., D.Litt (USA) with the belief that education field is a service to the society. We have nine courses in this academic year which are BA (Tamil)., BA (English)., B.Com., B.Com with CA., B.Sc (Maths)., B.Sc (Maths with CA)., B.Sc (Physics)., B.Sc (Chemistry)., and B.Sc (Computer Science). We have collaboration with 'SAI IAS Academy, Chennai' offers free coaching for competitive exams to our students and also we joined hands with the innovative 'Beehive Communication Club (BCC), Virudhunagar' to train the students in

communication skills. Our college is dedicated towards such innovative and daring venture.

14. SFR College for Women, Sivakasi



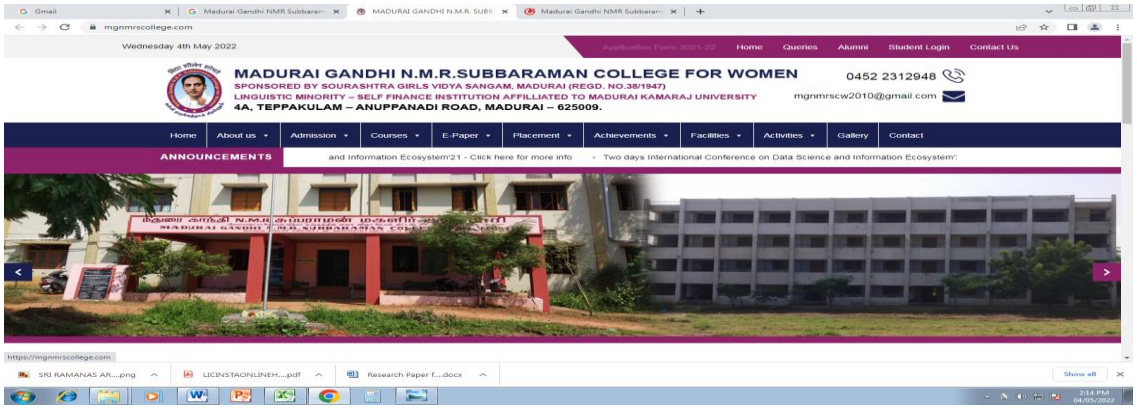
(Source:www.sfrcollege.edu.in)

"The Standard Fireworks Rajaratnam College for Women" was established in 1968, in memory of the late philanthropist Thiru N.R.K.Rajaratnam, whose pioneering spirit in business and industry has earned for himself an indelible niche in the annals of Sivakasi. Thiru Rajaratnam's matchless genius and tireless energy gave rise to the "The Standard Group of Industries". The late Thiru K.A.A.Sankaralingam Nadar and Thiru K.A.A.Arunachalam Nadar and Thiru C. Chelladurai Nadar were the founder architects and stalwarts of this edifice of learning. They chalked out a programme for the dawn of higher education and intellectual upliftment of rural women in and around Sivakasi by generating the "The Standard Fireworks

Educational Charities Trust". It was their vision to liberate the rural women from their socio, economic and cultural constraints by intellectually equipping them to confront the challenges of everyday life. Under the headship of the esteemed President Thiru Yennarkay R. Ravindran, the present Management Committee continues to liberally finance, monitor and endorse every step forward, initiated by this prestigious institution.

"The Standard Fireworks Rajaratnam College for Women" was inaugurated by the Vice-Chancellor, Sri Meenakshi Sundaram, on 27th January.1968. The Trust has been renamed "The Standard Fireworks Charities" since Dec.1984. The College is nestled & amidst a vast area of 25 acres, on the Sivakasi-Thiruthangal Road, since 1977. It is affiliated to the Madurai Kamaraj University.

15. Madurai Gandhi NMR Subbaraman College for Women, Madurai



(Source: https://mgnmrscollege.com/)

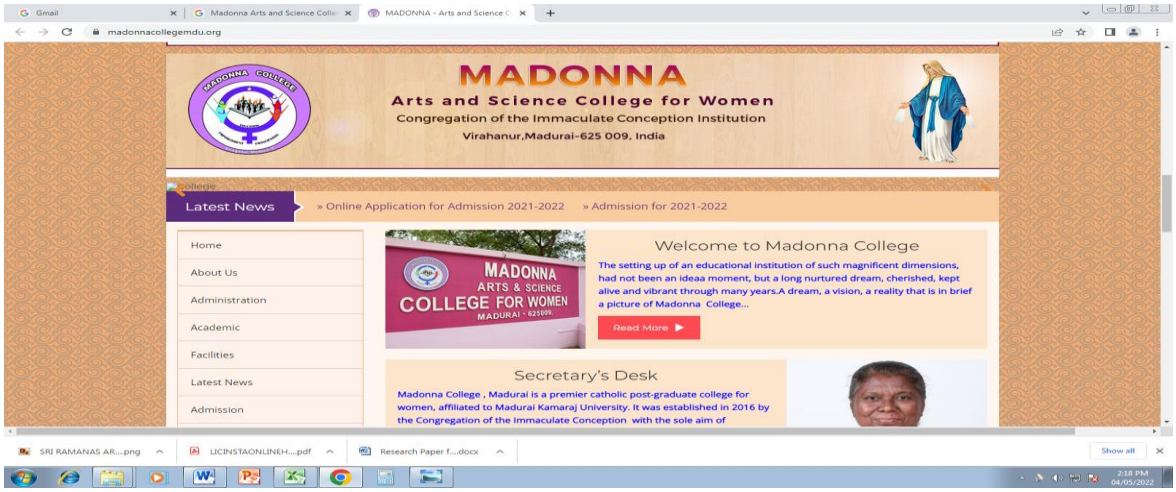
Madurai Gandhi N.M.R.Subbaraman College for Women, affiliated to Madurai Kamaraj University was inaugurated by the then Vice-Chancellor Thiru. Karpaga Kumaravel of Madurai Kamaraj University and it was started on 19th

August 2010. Impelled by an urge to impart Education at all levels in Arts, Science and commerce and inspired by a strong benevolence.

A major objective of this Institution is to plan and implement a programme of education in arts, in order to promote research, to disseminate knowledge and to foster cooperation and exchange of ideas between the academic community and industrial organizations and to develop entrepreneurship skills among students. It strives to achieve academic excellence along with the harmonious development of personality of students.

N.M.R.SUBBARAMAN College has a well-established – fully computerized library with 3907 titles covering all major fields of Science and Engineering. The library spanning the ground floor has an ample study space. A book bank for deserving candidates is also being maintained. The college subscribes to most of the major technical journals. A library committee headed by the Principal, comprising of all the Heads of Departments, and Student Representatives, meets every semester to discuss the functioning of the library.

16. Madonna Arts and Science College for Women, Madurai



(Source: https://www.madonnacollegemdu.org/)

This college is run by the sisters of the congregation of the Immaculate Conception Society (A Catholic Women Religious order) which had its beginning at end of the 19th century in Panjampatti, Dindigul district. On July 02, 1911, the Headquarters of the Congregation was shifted to Madurai with 7 young sisters. Like a mustard seed that fell on the fertile soil, the Congregation grew steadily into a big tree and now is spread throughout India and other Countries like Italy, Zambia, South Africa, Sri Lanka and Germany.

At present the Congregation has a total membership of 800 women Religious. The Society has many Educational Institutions from Primary to Higher Secondary Schools. In today's context, human beings are discriminated on the basis of caste, culture and religion. In this situation the congregation of the Immaculate conception society had started the institution "MADONNA ARTS AND SCIENCE COLLEGE FOR WOMEN" (MASC) at Virahanur to humanize

and form the youth of this country namely our young girls as integrated and cultured individuals and thereby bring a social change.

Geographically, total area of the college is 5 acres and 47 cents owned by the Superior General of the congregation of the Immaculate Conception Society. Earlier, there were infrastructures in the campus built by Madurai Archdiocese to run St. Peter's Seminary. Since this Seminary was shifted to Karumathur, these infrastructures and buildings were renovated completely after proper compensation made with Archdiocese in 2014. Then a clear focus was given to start this new college exclusively for women as wished by Superior General and the Society. From this day onwards hectic formalities were carried out to get clearance certificate from Government and the final order was received on 08.07.2016 and affiliation order from Madurai Kamaraj University was received on 01.08.2016.

The management is thankful to God for the numerous blessings and divine insights obtained constantly. We implore God to bless us all through the intercession of our Blessed Mother and founders of the congregation that this campus be a place of quality education towards divine wisdom and character formation.

17. V.P. Muthiah Pillai Meenakshi Ammal College for Women, Krishnankoil

(Source: http://www.vpmmecw.in)

V.P. Muthaiah Pillai Meenakshi Ammal Arts and Science College for Women was founded by VPMM Trust in the year 1994. The chairman of the Trust is Shri. V.P.M. Shankar. He is the Proprietor of the widely known VPM Jewellery Hall, Srivilliputtur. Mrs. Selvi Shanker is the correspondent of the college. The college was established with the Social objectives of upliftment of village women in remote areas. At the same time, it gives great emphasis on quality education. It has already established a reputation for its standards, results, infrastructure facilities and care of students. Situated on a campus of 11.52 acres in a rural area, the College is located in the Vizhupanur village, near Krishnankoil, about 75 kms. From the city of Madurai, it intends to apply for autonomy in due course.

There are eight UG courses (Tamil B.A., B.Com., Bachelor of Corporate Sectraryship (B.C.S), B.Sc. Computer Science, Bachelor of Computer Application (B.C.A.), B.Sc. Physics, B.Sc. Biochemistry and B.Sc. Microbiology). There are also 4 PG courses (M.Com., Master of Finance Control (MFC), M.Sc. IT and M.Sc. Biochemistry). Besides, there is a PGDCA course.

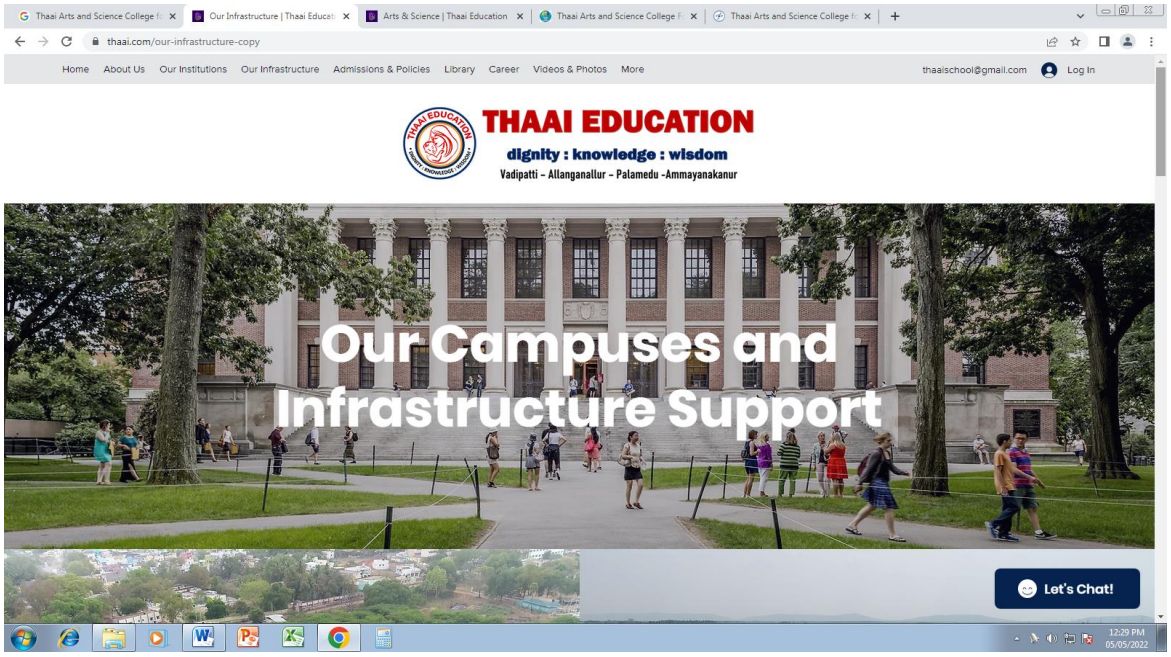
The Central Library has 7,163 books and 37 journals/periodicals, most of which are periodicals locally published. The library also has a computer, and audio-video cassettes. It has a qualified librarian very recently appointed, but it needs an advisory committee. Book bank facility needs to be extended to the students of the College. The library is interconnected with the library of VPMM Engineering College for Women. It has to be interconnected with other libraries for interlibrary borrowing. The library should also be equipped with internet facility which will help the students and the teachers to update their knowledge, particularly of the postgraduate students and the teachers. The library needs to be fully computerized at the earliest. The expenditure incurred on textbooks and reference books as well as journals was less in 2003-2004 as compared to that in 2002-2003. More reading room facilities need to be provided for the students. The books in the library need to be classified and also to be catalogued. Reprographic facilities need to be made available in the library. The students need to be encouraged to use the library, especially by teachers giving them assignments based on library use.

18. Arumugham Palaniguru Arts and Science College for Women, Chatrapatti

(Source: https://apcollege.co.in/)

Arumuga group of industries have come a long way since 1971 when it started as a small family business and over the years, the size of the group has drastically grown as a multifaceted business organization with a stellar presence in the field of Textile, food, and education. Arumugham Palaniguru Arts and Science College for Women is formed by Arumugham Palaniguru Charities to provide quality education for women with top priority on women safety protecting the cultural values with a highlight on discipline. The college is affiliated to Madurai Kamaraj University. The college seeks to nourish the spiritual, intellectual, physical, and aesthetic values of the students. Nearly 3500 books are available in all disciplines, Comfortable and well-furnished seating facilities, Reprographic facility to enable the students to take copies of reference books.

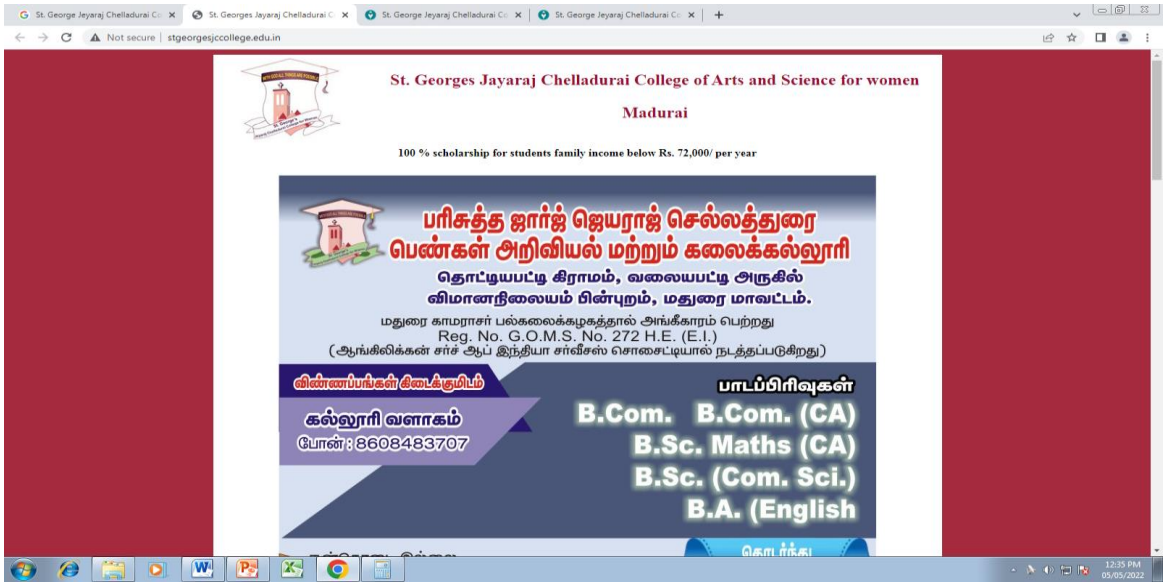
19. Thaai Arts and Science College for Women, Vadipatti, Madurai



(Source: https://www.thaai.com/our-infrastructure-copy)

The management team is an energetic team with a fine blend of professional expertise and experience in varied fields, required to run a successful institution. Apart from the management team, there is a panel of academic advisors consisting of retired academicians, who have vast experience in teaching, who keep contributing to the academic excellence and growth of the institution. Ever since 1998, Thaai has been providing students with a rich and diverse learning environment. Knowledge, creativity and hands-on experience have always been at our core, and we're proud of the generations of students who have completed their respective courses from our Schools and Colleges. We always encourage both staff and students to grow, learn and create each passing day. Approved by Union Grant Commission, New Delhi and affiliated to Madurai Kamaraj University, Madurai operating at our Vadipatti Campus, Madurai in South Tamilnadu.

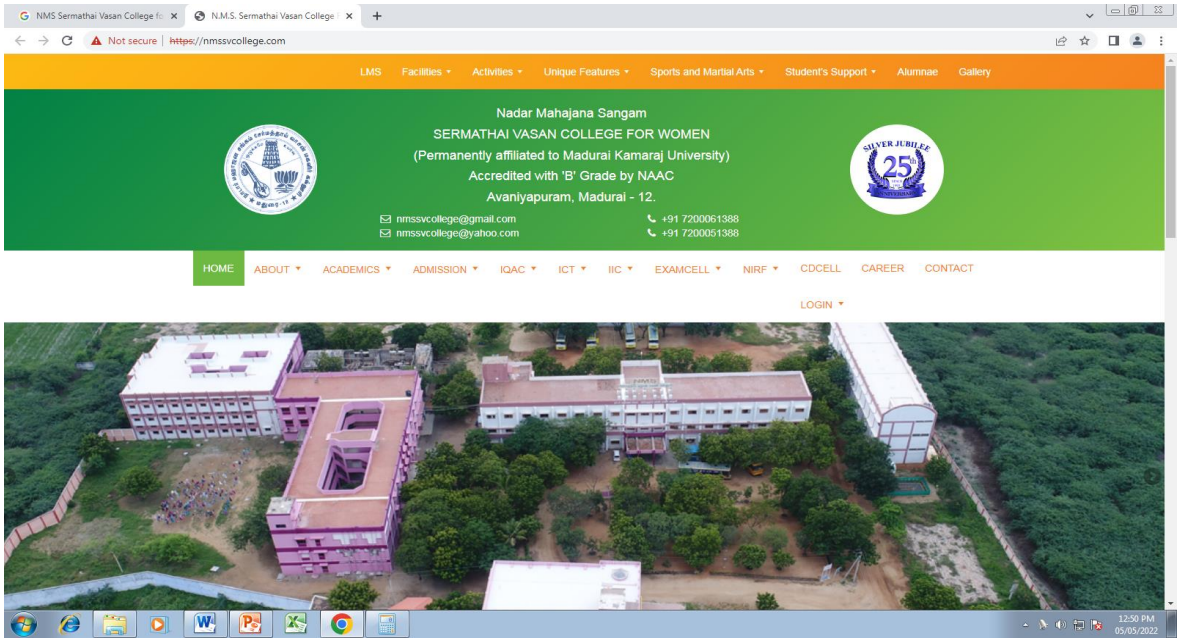
20. St. George Jeyaraj Chelladurai College for Women, Valayankulam, Madurai



(Source: http://stgeorgesjccollege.edu.in/)

St. George Jeyaraj Chelladurai College of Arts and Science for Women is situated in Madurai in Tamil Nadu state of India. Established in 1998, St. George Jeyaraj Chelladurai College of Arts and Science for Women offer 7 courses across 3 streams namely commerce and banking, arts and science. Popular degrees of offered at St. George Jeyaraj Chelladurai College of Arts and Science for Women include B.Sc., B.Com. BA. Besides a robust teaching pedagogy, St. George Jeyaraj Chelladurai College of Arts and Science for Women is also a leader in research and innovation. Focus is given to activities beyond academics at St. George Jeyaraj Chelladurai College of Arts and Science for Women, which is evident from its infrastructure, extracurricular activities and national and international collaborations. The placement at St. George Jeyaraj Chelladurai College of Arts and Science for Womenis varied with recruitment options both corporate and public section as well as entrepreneurship.

21. NMS Sermathai Vasan College for Women, Avaniyapuram, Madurai



(Source: nmssvcollege.com)

The golden pages of history witnessed an educational revolution in the year 1993 with the inception of N.M.S.Sermathai Vasan College for women, by Nadar Mahajana Sangam with a mission to uplift the educational status of women in and around madurai. The college was named after the benevolent philanthropist Thiru. V.G.Vasan, and Thirumathi Sermathai Vasan, who believed the empowerment of women is through knowledge and economic independence. The hand that rocks the cradle can rock the world is the vision of V.P.R. Gangaram Durairaj, the founder of the college. The college is presently run by Nadar mahajana sangam, and hails its preeminent status among several educational institutions run by the Nadar Mahajana Sangam by providing quality and task based learning environment. The college is housed at the outskirts of madurai in a serene and spacious environment and permanently affiliated to Madurai Kamaraj University.

A thousand mile journey starts with a single step; the college takes its first step with an intake of 100 students, 3 departments and 7 members of the faculty. At present the college has 1660 students offering wide array of 12 UG academic courses and 6 PG courses. This Himalayan development is due to the strength of the diligent and compendious faculty of the college which rises to 86 teaching and 25 non-teaching staff. Apart from the regular academic courses, the college also offers university diploma certificate courses and institutional certificate courses to mould the students competent enough to succeed in the survival of the fittest global work culture. The college acts as a catalyst to limelight the hidden talents of the students by having 18 clubs apart from the regular NCC, NSS, YRC and RRC. The college trains the students professionally by offering vocational courses like fashion designing, quilling and typewriting, physically by offering martial arts like karate (Taekwondo). In addition to the teaching of university curriculum, the college strives to promote culture, discipline, punctuality, honesty and patriotism.

The Library is the heart of the institution. It is to promote sharing of resources by collecting, storing and disseminating information and by offering computerized services to the users. A well-equipped library is enabled to the staff and the students to enrich and enhance their knowledge. Further each department maintains a library pertaining to their subject. Our students make an optimum use of the facilities available in the learning resource centre within the campus. Total collection of Books (in the central library and department libraries) – 26,500, Internet facility is available in the Library and the staff and students can access.

CHAPTER IV
METHODOLOGY

CHAPTER – IV

METHODOLOGY

INTRODUCTION

This study was descriptive in nature. The researcher has used survey type method for collecting the data from the women student respondents. To collect data, the researcher has used census methods for collecting the data from the women student respondents and convenient sampling used to collect the data from the users. In order to collect the data, the researcher has used structured questionnaire as data collection tool. The questionnaire has been designed in consultation with the experts in library and Information discipline.

In this study an attempt has been being made to highlight the Growth and Development of Information and Communication Technologies enabled Information services among students of women colleges affiliated to Madurai Kamaraj University: A Study. Academic Libraries, particularly in recent past are providing some of notable web based information services that can be accessed via the arts and science College Libraries websites such as web OPAC, latest addition display, data search, federated search, access to full text bibliographic databases, online document delivery and remote access.

METHODOLOGY

The present study is descriptive in nature and it is an analytical study on the "Growth and Development of Information and Communication Technologies enabled Information services among students of womens colleges affiliated to Madurai Kamaraj University: A Study". The researcher has chosen descriptive research design and the method is normative survey. The survey is also analytical in terms of collecting the details on the use of information services in selected women College Libraries in affiliated to Madurai Kamaraj, University. The data have been collected using structured Questionnaire.

SCOPE OF THE STUDY

The scope of the study was to understand the Collection and Services; women user's perception about the library; the quality enhancement steps in the library after grading the women's college; steps taken to improve the condition of library because of accreditation in Library and Information Services etc.

OBJECTIVES OF THE STUDY

- ✓ To awareness and use of ICT based Electronic Databases among the students in the women colleges affiliated to Madurai Kamaraj University.
- ✓ To awareness and use of Electronic Information Services among the students in the women colleges affiliated to Madurai Kamaraj University.
- ✓ To awareness and use of Web Based Information Services among the students in the women colleges affiliated to Madurai Kamaraj University.
- ✓ To identify the frequency of using ICT tools among the students in the women colleges affiliated to Madurai Kamaraj University.

- ✓ To measure in the Ranking of Information Technology based using E-Resources and Services among the students in the women colleges affiliated to Madurai Kamaraj University.
- ✓ The purpose of Using ICT Sources and Services among the students in the women colleges affiliated to Madurai Kamaraj University.
- ✓ To the knowledge about ICT Sources and Services among the students in the women colleges affiliated to Madurai Kamaraj University.
- ✓ To identify the Attitudes facilities of Library ICT among the students in the women colleges affiliated to Madurai Kamaraj University.
- ✓ To identify the satisfaction level of using ICT Sources and Services among the students in the women colleges affiliated to Madurai Kamaraj University.

SOURCE OF DATA

The following women colleges affiliated to Madurai Kamaraj University, that were selected in the primary data through survey have been collected.

Selected Women Colleges affiliated to Madurai Kamaraj University

S.No	Name of the College	College Status	Issue of Questioners	Received Questioners	Not Finished or Rejected Questioners	Finally selected Questioners	Percentage
1.	M.V. Muthaiah Government Arts College for Women, Dindigul	Government	200	192	6	186	93.00
2.	Sri Meenakshi Government Arts College for Women, Madurai		200	195	15	180	90.00
3.	Fatima College, Madurai	Aided Autonomous	200	191	6	185	92.50
4.	EMG Yadava Women's College, Madurai		200	194	10	184	92.00
5.	Lady Doak College, Madurai		200	189	9	180	90.00

S.No	Name of the College	College Status	Issue of Questioners	Received Questioners	Not Finished or Rejected Questioners	Finally selected Questioners	Percentage
6.	Thiruvalluvar Arts and Science College for Women, Peraiyur, Madurai	Self-Financing	200	193	6	187	93.50
7.	C.S.I. College of Arts and Science for Women, Madurai		200	190	7	183	91.50
8.	Mangayarkarasi Arts and Science College for Women, Madurai		200	191	9	182	91.00
9.	A.K.D. Dharmaraja College for Women, Madurai		200	189	7	182	91.00
10.	Sri Ramanas College of Arts and Science for Women, Aruppukottai		200	195	14	181	90.50
11.	V.V.V. College for Women, Virudhunagar		200	187	7	180	90.00

S.No	Name of the College	College Status	Issue of Questioners	Received Questioners	Not Finished or Rejected Questioners	Finally selected Questioners	Percentage
12.	Sourashtra College for Women, Madurai	Self-Financing	200	189	9	180	90.00
13.	Noble College of Arts and Science for Women, Aruppukottai		200	189	9	180	90.00
14.	SFR College for Women, Sivakasi.		200	188	9	179	89.50
15.	Madurai Gandhi NMR Subbaraman College for Women, Madurai		200	190	11	179	89.50
16.	Madonna Arts and Science College for Women, Madurai		200	190	11	179	89.50
17.	V.P. Muthiah Pillai Meenakshi Ammal College for Women, Krishnankoil		200	189	10	179	89.50

S.No	Name of the College	College Status	Issue of Questioners	Received Questioners	Not Finished or Rejected Questioners	Finally selected Questioners	Percentage
18.	Arumugham Palaniguru Arts and Science College for Women, Chatrapatti	Self-Financing	200	189	10	179	89.50
19.	Thaai Arts and Science College for Women, Vadipatti, Madurai		200	188	9	179	89.50
20.	St. George Jeyaraj Chelladurai College for Women, Valayankulam, Madurai		200	187	9	178	89.00
21.	NMS Sermathai Vasan College for Women, Avaniyapuram, Madurai		200	186	9	177	88.50
		Total	**4200**	**3991**	**192**	**3799**	**90.45**

SAMPLE SIZE

The researcher has chosen stratified random sampling technique printed questionnaire has been distributed in person to the women student respondents of Twenty One Selected women colleges affiliated to Madurai Kamaraj University. The researcher has distributed 4200 (each college 200 questionnaires) questionnaires among these selected women college library users on randomly. Out of these, 3991 questionnaire were collected and 192 questionnaires were rejected, so, the researcher convenient 3799 respondent questionnaires have been selected for analysis purpose. The response rate is 90.45 percent with 3799 filled questionnaires received among the women colleges surveyed.

STATEMENT OF THE PROBLEM

The selected women colleges are enhancing the research and qualities of digital presence through dynamic websites and online systems, including e-learning portals. The women college libraries are also gradually and aptly using ICT based web technologies to enable access to their user community not only within the women college but also across the campuses like, the assessment of conventional and physical library services. However the use and relevance of library websites, the e-content and web enabled information services need to be examined, for its impact among the women user community. Hence, the present study “Growth and Development of Information and Communication Technologies enabled Information services among students of women colleges affiliated to Madurai Kamaraj University” is chosen in order to estimate the advantages and limitations of utilizing ICT based resources and services particularly in women college libraries.

HYPOTHESES

The following hypotheses are formulated based on the framed objectives and they are tested by employing appropriate statistical tools.

1) There is no significant difference in Awareness and use of ICT based Electronic Databases Services available in the women colleges affiliated to Madurai Kamaraj University.
2) There is no significant difference in Awareness and use of conventional library and information Services available in the women colleges affiliated to Madurai Kamaraj University.
3) There is no significant difference in the Frequency of using ICT tools of women colleges affiliated to Madurai Kamaraj University.
4) There is no significant difference in the Purpose of Using ICT Sources and Services among the respondents of women colleges affiliated to Madurai Kamaraj University.
5) There is no significant difference in the Attitudes facilities of Library ICT among the respondents of women colleges affiliated to Madurai Kamaraj University.
6) There is no significant difference in the Satisfaction level of using ICT Sources and Services among the respondents of women colleges affiliated to Madurai Kamaraj University.

STATISTICAL TOOLS

The SPSS 19 version package is used for tabulations, correlation analysis and other relevant analysis of the data and simple percentile analysis has been used for analyzing the data besides other selective, appropriate statistical tools

such as Chi-square and ANOVA test are applied to test the hypotheses. There are relevant graphic representations of the data using info graph.

STYLE OF RENDERING OF LITERATURE

The style of rendering of citation and references of the literature used and incorporated is according to 'American Psychological Association (APA)'. The formats suggested for Books, Journal Articles, Conference Presentations, e-Journals, e-Books, Theses and Dissertations, and Websites are adopted with slight changes without making structural change of the style manual.

LIMITATIONS OF THE STUDY

The study was confined to the selected women colleges affiliated to Madurai Kamaraj University and the respective libraries. The result arrived at from the study may or may not be applicable to other women Colleges library environment. There may be response bias. Time and other resource constraints have restricted the selection of women Colleges Libraries. The survey method which adopted for collecting the data in this study has its own limitations. Hence, the generalization of the findings of the study is subject to the above condition. The study is confined between the data collection period of June 2020 to May 2021.

CHAPTER V

ANALYSIS AND INTERPRETATIONS

CHAPTER – V
ANALYSIS AND INTERPRETATIONS

These chapters analyze the primary data collected through survey using questionnaire on selected parameters that enable to tabulate the data and thus interpretations are inferred. In order to give authenticity to the findings, statistical analysis was carried out. This chapter does editing, classifying the data and facilitating in order to have systematic and organized work. In this chapter an attempt has been made to analyze the role of Information and Communication Technologies services in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu. To achieve this, the investigator has used the survey method to collect data from the selected women colleges Library users separately. They are processed scientifically and tabulated as to the variables of the study. The results of the study are shown in the following tables.

PART – I: PERSONAL INFORMATION

Table – 5.1: Age wise Distribution of the Women Respondents

S. No	Age (in year)	Respondents	Percentage
1.	Bellow 18 years	913	24.03
2.	19 to 21 years	2235	58.83
3.	Above 21 years	651	17.14
Total		**3799**	**100.00**

(Source: Primary data)

It is evident from the above table, out of 3799 respondents, there are more than fifty percent (58.83) of the women student respondents are belong to the age group of 19 to 21 years, followed by above twenty four percent (24.03) of the women student respondents are belong to the age group of bellow 18 years and above seventeen percent (17.14) of the women student respondents are belong to the age group of above 21 years.

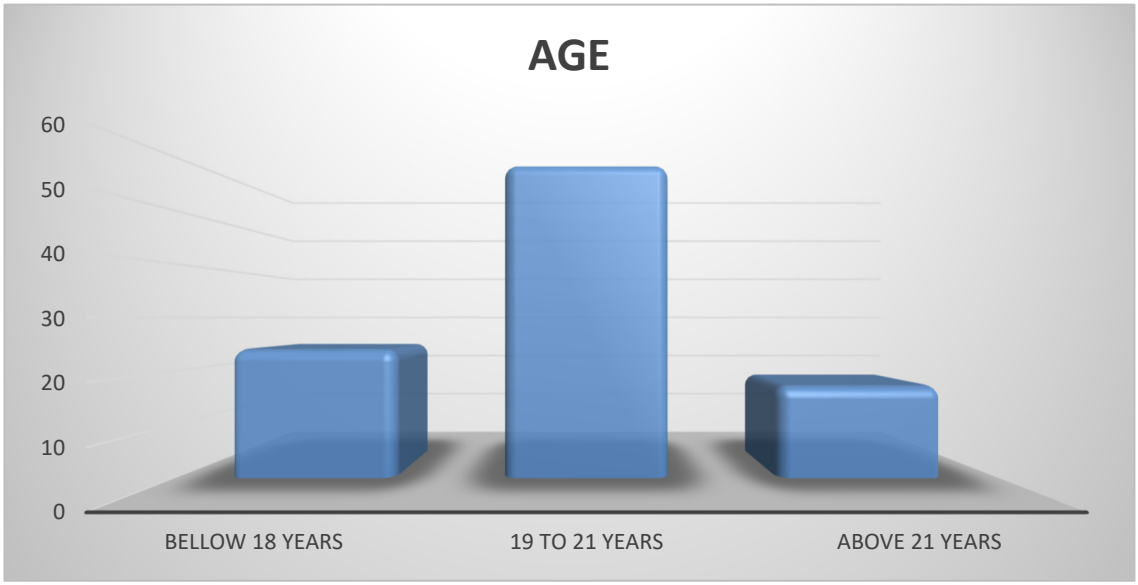


Figure -5.1

Table – 5.2: Distribution of Category of Study by the Women Student Respondents from Surveyed Institutions

S.No	Category of Study	Respondents	Percent
1.	Under Graduate	2881	75.84
2.	Post Graduate	918	24.16
	Total	**3799**	**100.00**

(Source: Primary data)

Hence the researcher has organized the data according to the under graduate and post graduate programs offered in the surveyed institutions. It is found from the data that, more than seventy five percent (75.84) of the women respondents were from under graduate and the remaining twenty four percent (24.16) of the women respondents were from post graduate.

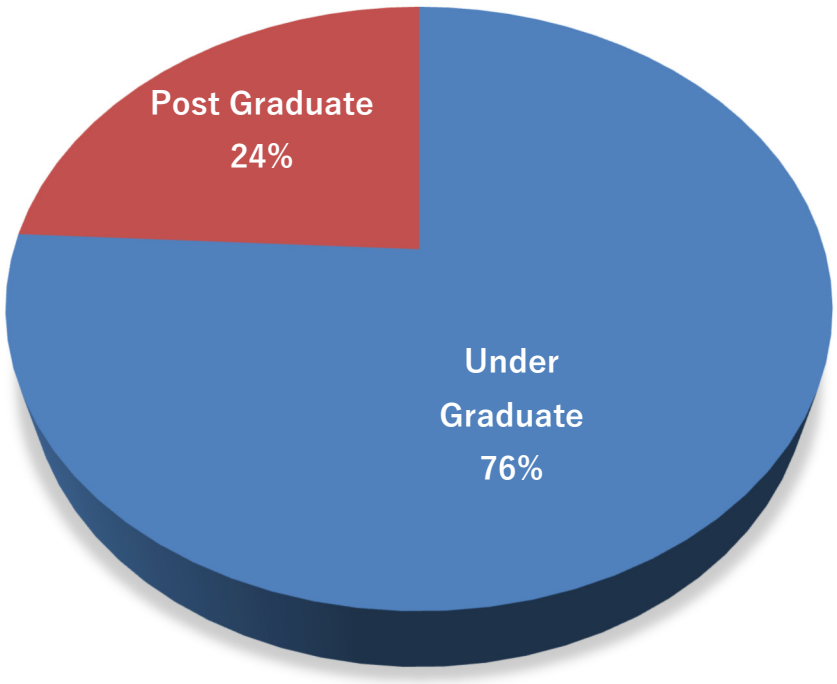


Figure -5.2

Category of Study by the Women Student Respondents

Table – 5.3: Place of Living to the Surveyed Women Student Respondents

S.No	Place of living	Respondents	Percentage
1.	Rural	1649	43.41
2.	Urban	931	24.50
3.	Semi-Urban	1219	32.09
	Total	**3799**	**100.00**

(Source: Primary data)

The above table revealed that place of living to the surveyed women student respondents, among the total respondents, there are more than forty three percent (43.41) of the women student respondents are lived in rural area, followed by above thirty two percent (32.09) of the women student respondents are lived in semi-urban area and above twenty four percent (24.50) of the women student respondents are lived in urban area. It is inferred that there are 1649 women respondents are lived in the rural area.

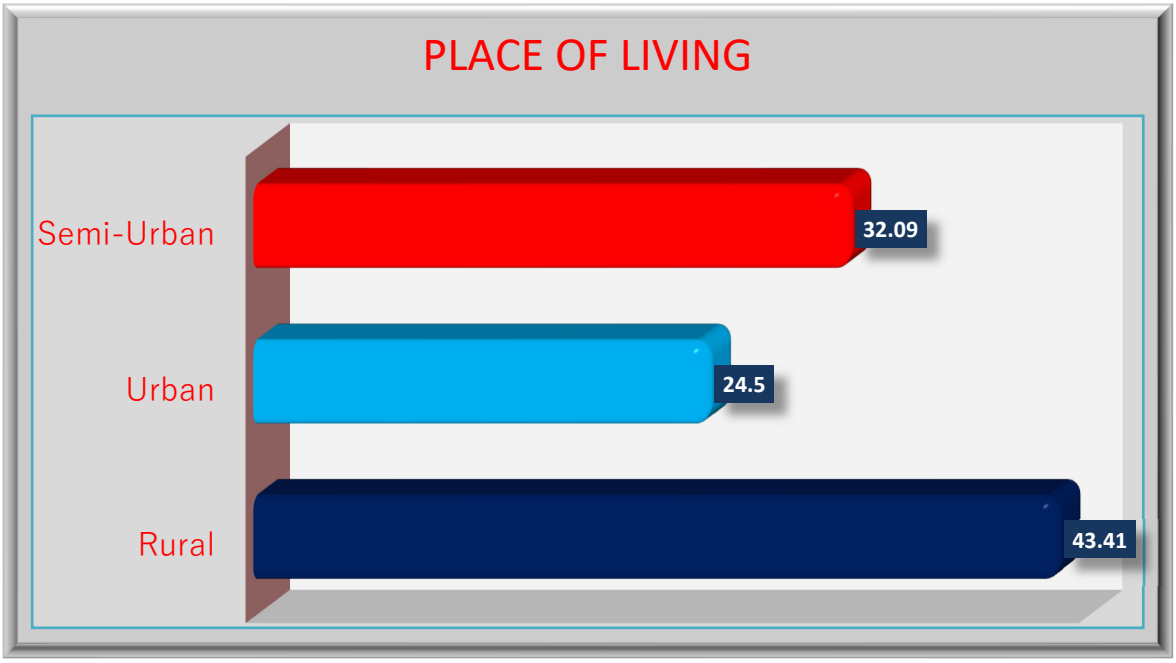


Figure -5.3

Table – 5.4: Distribution of Marital Status for surveyed Women Student Respondents

S.No	Marital Status	Respondents	Percentage
1.	Unmarried	3495	92.00
2.	Married	304	8.00
	Total	**3799**	**100.00**

(Source: Primary data)

The above table deals with the distribution of marital status of women student respondents, among the total respondents, there are ninety two percent (92.00) of the women student respondents are unmarried and the remaining eight percent (8.00) of the women student respondents are married in the surveyed institutions.

Figure -5.4

PART – II: AWARENESS OF ELECTRONIC RESOURCES AND SERVICES AVAILABLE IN THE WOMEN COLLEGES AFFILIATED TO MADURAI KAMARAJ UNIVERSITY

Awareness and use are different context many times, but which are inter dependent many times to ensure the use based on necessity. There are large number of e-databases belong to the educational institutions, which are being subscribed by majority of the educational institutions. The surveyed women colleges affiliated to Madurai Kamaraj University also made aware and possibilities to access data bases among its academic community as listed below:

Table – 5.5: Awareness and use of ICT based Electronic Databases

S.No	Electronic Databases	Aware	Percentage	Use	Percentage
1.	DELNET	3799	100.00	3012	79.28
2.	Sage online	3611	95.05	2500	65.81
3.	Taylor & Francis	3545	93.31	2401	63.20
4.	Elsevier Science Direct	3412	89.81	2314	60.91
5.	Emerald	3110	81.86	2010	52.91
6.	Springer link	3002	79.02	2651	69.78
7.	Ebsco	2985	78.57	2412	63.49
8.	Pro Quest	2920	76.86	2321	61.10
9.	JSTOR	2610	68.70	1990	52.38
10.	Science Direct	2351	61.88	1841	48.46
11.	IOP on line	2154	56.70	1521	40.04
12.	ABI inform Complete	1456	38.33	923	24.30
13.	CINHAL-EBSCO Full text journals	1245	32.77	821	21.61

(Note: Respondents may have selected more than one option)

(Source: Primary data)

The above table revealed that the surveyed women students much aware the electronic databases namely, there are hundred percent of the women respondents stated that they aware DELNET (100.00 percent), it is followed by majority of the respondents stated that they aware the data bases sage online (95.05 percent), Tailor & Francis (93.31 percent), Elsevier Science Direct (89.81 percent), Emerald (81.86 percent), Springer link (79.02 percent), Ebsco (78.57 percent) and Pro Quest (76.86 percent).

Among the usage the databases such as DELNET (79.28 percent), Sage Online (65.81), Taylor & Francis (63.20 percent), Elsevier Science Direct(60.91percent), Emerald (52.91 percent), Springer link (69.78 percent), Ebsco (63.49 percent) and Pro Quest (61.10 percent) used by the majority of the respondents surveyed.

Hypotheses – 1: There is no significant difference in Awareness and use of ICT based Electronic Databases Services available in the women colleges affiliated to Madurai Kamaraj University.

Table – 5.6: Awareness and use of ICT based Electronic Databases – Chi-Square

S.No	Electronic Databases	Aware	Use	Calculated value	Table value	df	Inference
1.	DELNET	3799	3012	9.102	21.026	12	Significant
2.	Sage online	3611	2500				
3.	Taylor & Francis	3545	2401				
4.	Elsevier Science Direct	3412	2314				
5.	Emerald	3110	2010				
6.	Springer link	3002	2651				
7.	Ebsco	2985	2412				
8.	Pro Quest	2920	2321				
9.	JSTOR	2610	1990				
10.	Science Direct	2351	1841				
11.	IOP on line	2154	1521				
12.	ABI inform Complete	1456	923				
13.	CINHAL-EBSCO Full text journals	1245	821				
The Chi-Square Result:The calculated value is less than tabulated value. Therefore, hypothesis is accepted.							

(Source: Primary data)

Table – 5.7: Aware and Use of conventional Library and Information Services by the surveyed Libraries

S.No	Types of Library and Information Services	Aware	Percentage	Use	Percentage
1.	Reference Service	3612	95.08	3021	79.52
2.	Document Delivery Service(EDD)	3515	92.52	2899	76.31
3.	New Arrivals Alert Services	3421	90.05	2652	69.81
4.	Audio Visual Services (Video conference)	3421	90.05	2351	61.88
5.	Cloud Service and Mobile Service	3321	87.42	2100	55.28
6.	Competitive Exam Section	3125	82.26	1989	52.36
7.	Referral Service	3021	79.52	1865	49.09
8.	Physically Challenged and disabled Services	2951	77.68	1456	38.33
9.	Current Awareness (CAS) Service	2852	75.07	1352	35.59
10.	Reprography Service	2850	75.02	1325	34.88
11.	Project Work/ Internship	2056	54.12	1120	29.48
12.	Selective Dissemination Information (SDI) Service	1952	51.38	1245	32.77
13.	Newspaper Clipping Service	1652	43.49	1254	33.01
14.	User Education/user orientation	1592	41.91	1002	26.38
15.	Indexing and Abstracting Service	1569	41.30	985	25.93
16.	Bibliographical Services	1256	33.06	946	24.90
17.	Bulletin Board Service	1254	33.01	899	23.66

(Source: Primary data)

The data revealed that almost all the surveyed women respondents were aware of majority of the library information services listed in the above table. There are more than ninety five percent (95.08) of the women respondents aware of reference service, followed by above ninety two percent (92.52) of the women respondents aware of document delivery service, above ninety percent (90.05) each of the women respondents aware of New Arrivals Alert Services and Audio Visual Services (Video conference).

In terms of usage a vast majority availed services namely Reference Service (79.52 percent), Document Delivery Service (EDD) (76.31 percent), New Arrivals Alert Services (69.81 percent), Audio Visual Services (Video conference) (61.88 percent) and Cloud Service and Mobile Service (55.28 percent).

Hypotheses – 2: There is no significant difference in Awareness and use of conventional library and information Services available in the women colleges affiliated to Madurai Kamaraj University.

Table – 5.8: Aware and Use of conventional Library and Information Services - Chi-Square

S.No	Types of Library and Information Services	Aware	Use	Calculated value	Table value	df	Inference
1.	Reference Service	3612	3021	31.350	26.296	16	Insignificant
2.	Document Delivery Service(EDD)	3515	2899				
3.	New Arrivals Alert Services	3421	2652				
4.	Audio Visual Services (Video conference)	3421	2351				
5.	Cloud Service and Mobile Service	3321	2100				
6.	Competitive Exam Section	3125	1989				
7.	Referral Service	3021	1865				
8.	Physically Challenged and disabled Services	2951	1456				
9.	Current Awareness (CAS) Service	2852	1352				
10.	Reprography Service	2850	1325				
11.	Project Work/ Internship	2056	1120				
12.	Selective Dissemination Information Service	1952	1245				
13.	Newspaper Clipping Service	1652	1254				
14.	User Education/user orientation	1592	1002				
15.	Indexing and Abstracting Service	1569	985				
16.	Bibliographical Services	1256	946				
17.	Bulletin Board Service	1254	899				
The Chi-Square Result:The calculated value is more than tabulated value. Therefore, hypothesis is not accepted.							

(Source: Primary data)

Table – 5.9: Aware and Use of the Electronic Information Services by the surveyed Institutions

S.No	Types of Electronic Information Services	Aware	Percentage	Use	Percentage
1.	Electronic Document Delivery (EDD) service	3235	85.15	3001	78.99
2.	Online Reference Service	3210	84.50	2862	75.34
3.	New arrivals alert services through e-mail	3199	84.21	2584	68.02
4.	Online Public Access Catalogue (OPAC) and Web enabled OPAC	3165	83.31	2499	65.78
5.	Electronic Current Awareness (CAS) service	2541	66.89	2238	58.91
6.	Electronic Selective Dissemination Information (SDI) service	2511	66.10	1985	52.25
7.	Electronic Newspaper Clipping Service	2310	60.81	1786	47.01
8.	Reference Management	1258	33.11	985	25.93

(Source: Primary data)

The above table revealed that the various type Electronic Information Services awareness and use by women respondents of selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu. From the study revealed that more than eighty five percent (85.15) of the women respondent aware of Electronic Document Delivery (EDD) service, followed

by more than eighty four percent (84.50) of the women respondent aware of Online Reference Service and above eighty four percent (84.21) of the women respondents aware of new arrivals alert services through e-mail.

The use of Electronic Information Services by the women respondents was Electronic Document Delivery (EDD) service (78.99 percent), online reference service (75.34 percent). It is inferred that one third of women respondents and below are use of Electronic Library Services offered by selected women college libraries.

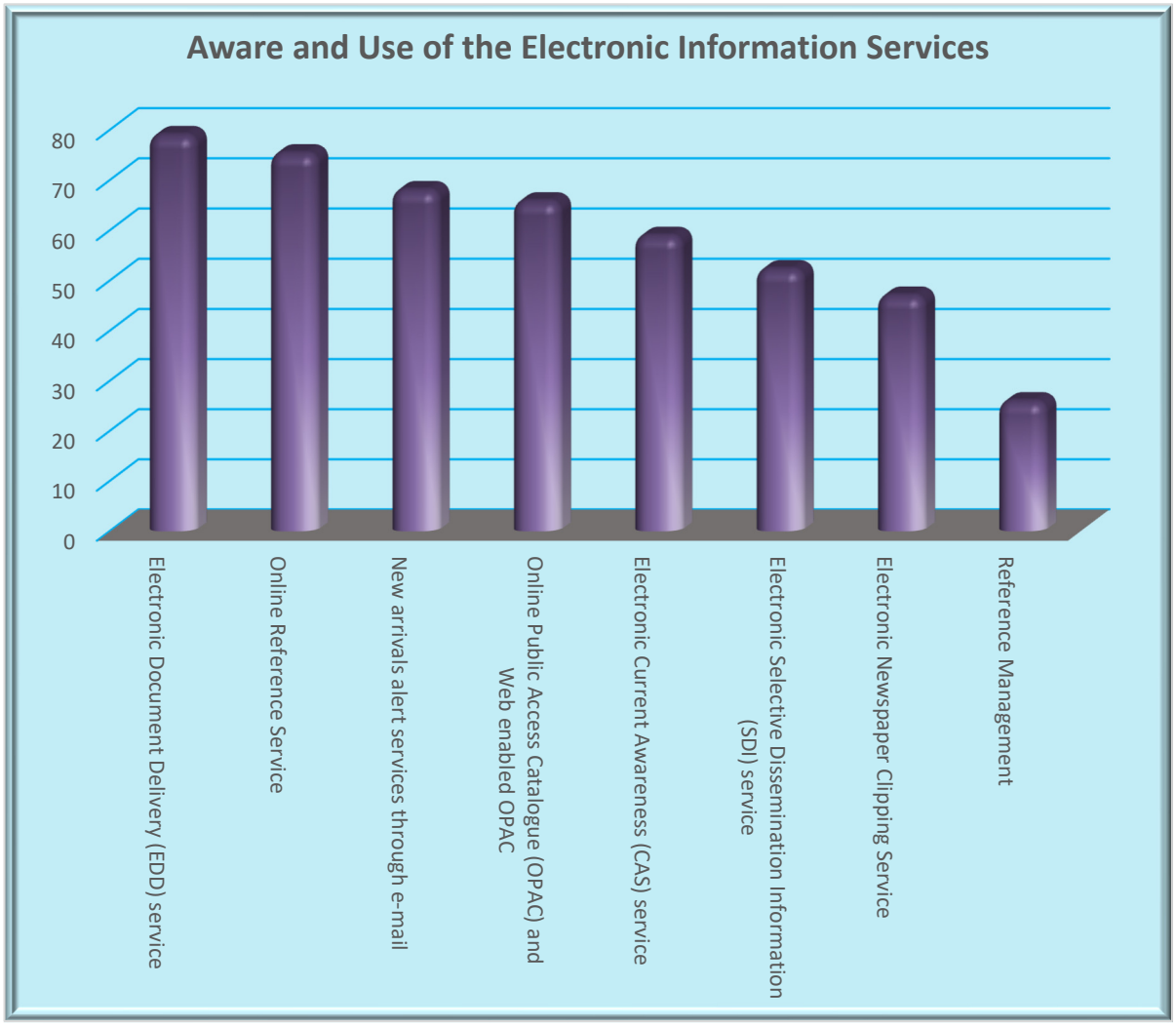


Figure -5.5

Table – 5.10: Aware and Use of the Web Based Information Services by the surveyed Institutions

S.No	Web Based Information Services	Aware	Percentage	Use	Percentage
1.	Social Networking	3495	92.00	3125	82.26
2.	Apps for library and information services	2980	78.44	2014	53.01
3.	Ask Librarian	2851	75.05	1985	52.25
4.	Table of Content Journal service	2541	66.89	1789	47.09
5.	Discussion forum for users	2489	65.52	1628	42.85
6.	Frequently Asked Questions	1985	52.25	1421	37.40
7.	Text and virtual chats	1654	43.54	1121	29.51
8.	Library blog and subject gateways	1533	40.35	1021	26.88
9.	Library wiki	1212	31.90	924	24.32
10.	Virtual tour	1102	29.01	712	18.74

(Source: Primary data)

The responses as shown in the above table, shows that the awareness and use of Web Based Information Services offered by selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the study revealed that ninety two percent (92.00) of respondents were aware of Social Networking, followed by above seventy eight percent (78.44)of respondents were aware of Apps for library and information services and above seventy five percent (75.05) of respondents were aware of Ask Librarian.

The use of Web Based Information Services was only of Social Networking (82.26percent), Apps for library and information services (53.01 percent), Ask Librarian (52.25 percent) and Table of Content Journal service (47.09 percent) among the women student respondents.

It is inferred that some of the popular web based services such as Library blog and subject gateways, Library wiki and Virtual tour were less used by the women student respondents.

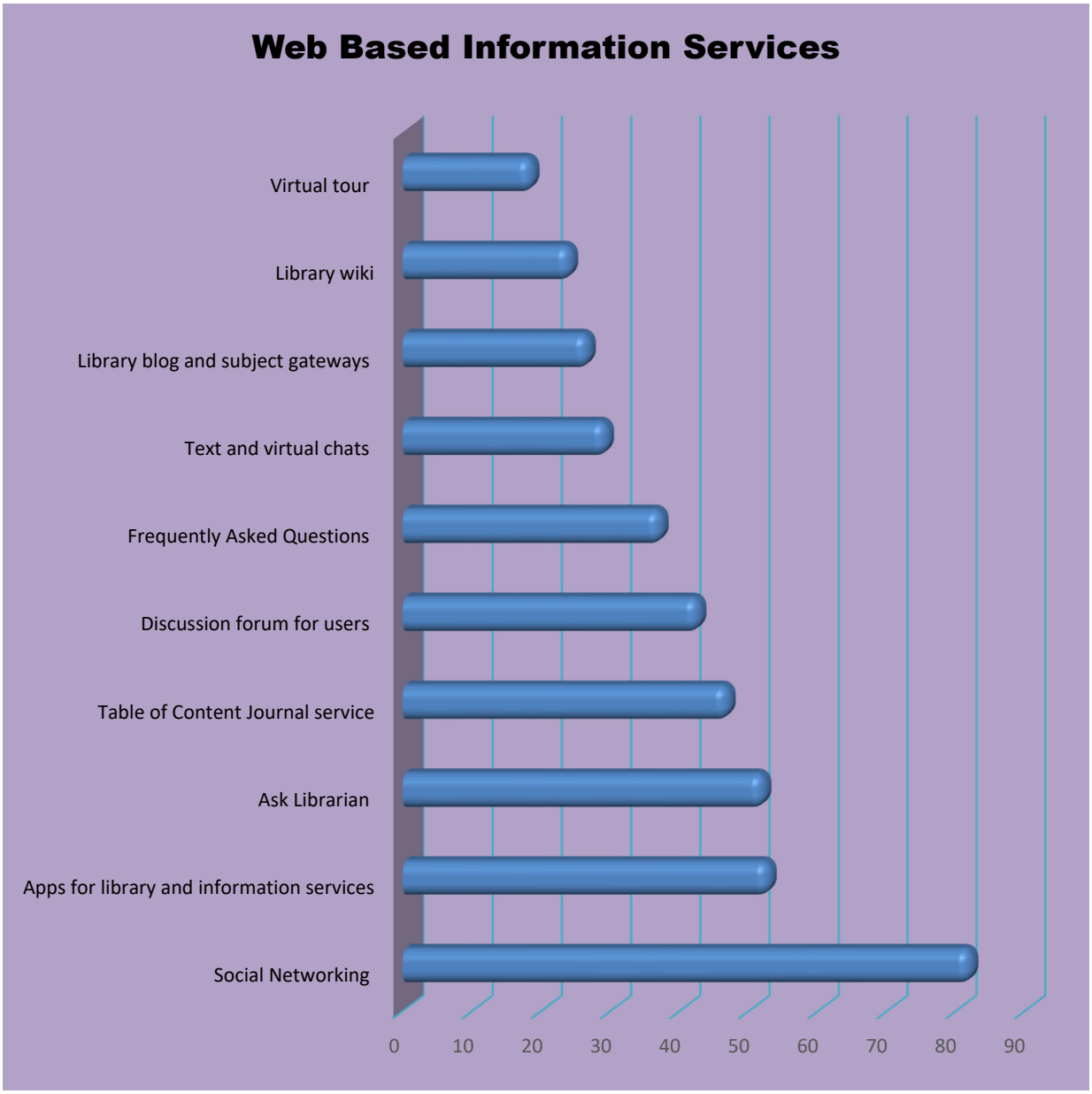


Figure -5.6

PART – III: FREQUENCY READING HABIT

Table – 5.11: Frequency of Using Information Technology based E-Resources and Services by the Women Student Respondents

S.No	Frequency	Respondents	Percentage	Mean	SD	Average	Skewness
1.	Always	1598	42.06	1177	297.2446	1266.333	1.230267
2.	Sometime	1177	30.98				
3.	Occasionally	1024	26.96				
Total		**3799**	**100.00**				

(Source: Primary data)

The above table revealed that the Frequency of using information technology based E-Resources and Services by the women student respondents, among the total respondents, there are more than forty two percent (42.06)of the women student respondents are an always use information technology based E-Resources and Services. Followed by above thirty percent (30.98) of the women student respondents are sometime use information technology based E-Resources and above twenty six percent (26.96) of the women student respondents are an occasionally use information technology based E-Resources. It is observed from the above table majority of the women student respondents to use information technology based E-Resources and Services in an always.

The Frequency of using information technology based E-Resources and Services by the women student respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 1177 with the standard deviation 297.2446, average of 1266.333and the skewness 1.230267seems to lie within the normal distribution.

Table – 5.12: Years for Using Information Technology based for E-Resources and Services by the Women Student Respondents

S.No	Years	Respondents	Percentage	Mean	SD	Average	Skewness
1.	Less than 1 Year	790	20.79	905.5	221.9615	949.75	0.700916
2.	2 to 3 Years	1232	32.43				
3.	3 to 5 Years	1021	26.88				
4.	More than 5 Years	756	19.90				
	Total	**3799**	**100.00**				

(Source: Primary data)

The above table revealed that Years for Using Information Technology based for E-Resources and Services by the Women Student Respondents, among the total respondents, there are more than thirty two percent (32.43) of the women student respondents are using Information Technology based for E-Resources and Services three to five year. Followed by above twenty six percent (26.88) of the women student respondents are using Information Technology based for E-Resources and Services for two to three years, above twenty percent (20.79) of the women student respondents are using Information Technology based for E-Resources and Services for less than one year and less percent (19.90) of the women student respondents are using Information Technology based for E-Resources and Services for more than five years. The Years for Using Information Technology based for E-Resources and Services by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 905.5 with the standard deviation 221.9615, average of 949.75and the skewness 0.700916seems to lie within the low distribution.

Table – 5.13: Hours Spend for Searching or Accessing Information Technology based for E-Resources and Services by the Women Student Respondents

S.No	Hours Spend Per Day	Respondents	Percentage	Mean	SD	Average	Skewness
1.	Less than one hour	685	18.03	960	544.6047	949.75	-0.07448
2.	2 to 3 hours	1235	32.51				
3.	3 to 5 hours	1547	40.72				
4.	More than 5 hours	332	8.74				
Total		**3799**	**100.00**				

(Source: Primary data)

The above table revealed that Hours Spend for Searching or Accessing Information Technology based for E-Resources and Services by the Women Student Respondents, among the total respondents, there are more than forty percent (40.72) of the women student respondents are hours spent three to five hours for Searching or Accessing Information Technology based for E-Resources and Services. Above thirty two percent (32.51) of the women student respondents are hours spent two to three hours for Searching or Accessing Information Technology based for E-Resources and Services, above eighteen percent (18.03) of the women student respondents are hours

spent less than one hour for Searching or Accessing Information Technology based for E-Resources and Services and very less percent (8.74) of the women student respondents are hours spent more than five hours for Searching or Accessing Information Technology based for E-Resources and Services.

The Hours Spend for Searching or Accessing Information Technology based for E-Resources and Services by the Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 960 with the standard deviation 544.6047, average of 949.75and the skewness (-0.07448)seems to lie within the low distribution.

Table – 5.14:Place of Accessing Information and Communication Technology Sources and Services by the Women Student Respondents

S.No	Place of Accessing	Respondents	Percentage	Mean	SD	Average	Skewness
1.	Library	1248	32.85	931.5	291.7606	949.75	0.087531
2.	Department	1152	30.32				
3.	Home	688	18.11				
4.	Browsing Center	711	18.72				
Total		**3799**	**100.00**				

(Source: Primary data)

The above table analyzed that the Place of Accessing Information and Communication Technology Sources and Services by the Women Student Respondents, more than thirty two percent (32.85) of the respondents to access Information and Communication Technology Sources and Services in library area only, followed by above thirty percent (30.32) of the respondents to access Information and Communication Technology Sources and Services of their own studying department and above seventeen percent of the respondents to access Information and Communication Technology Sources and Services of home and browsing centers.

The Place of Accessing Information and Communication Technology Sources and Services by the Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 931.5 with the standard deviation 291.7606, average of 949.75and the skewness 0.087531seems to lie within the low distribution.

Table – 5.15: Search Engine used to Access Information and Communication Technology Sources and Services by the Women Student Respondents

S.No	Search Engine	Respondents	Percentage	Mean	SD	Average	Skewness
1.	Google	2598	68.39	493.5	1110.926	949.75	1.872607
2.	Yahoo	612	16.11				
3.	Alta Vista	375	9.87				
4.	MSN	214	5.63				
Total		**3799**	**100.00**				

(Source: Primary data)

The above table revealed that the Search Engine used to Access Information and Communication Technology Sources and Services by the Women Student Respondents, more than sixty eight percent (68.39) of the respondents to Search Engine used to Access Information and Communication Technology Sources and Services through Google, followed by above sixteen percent (16.11) of the respondents to Search Engine used to Access Information and Communication Technology Sources and Services through yahoo, above nine percent (9.87) of the respondents to Search Engine used to Access Information and Communication Technology Sources and Services through Alta Vista and very less percent (5.63) of the respondents to Search Engine used to Access Information and Communication Technology Sources and Services through MSN.

It is found from the analysis that Google search engine is mostly preferred by the women student respondents for the use of searching documents.

The Search Engine used to Access Information and Communication Technology Sources and Services by the Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 493.5 with the standard deviation 1110.926, average of 949.75and the skewness 1.872607seems to lie within the normal distribution.

Table – 5.16: Use of Web Browser to Access Information and Communication Technology Sources and Services by the Women Student Respondents

S.No	Frequency	Respondents	Percentage	Mean	SD	Average	Skewness
1.	Google Chrome	1897	49.94	1470	753.4363	1266.333	-1.12754
2.	Mozilla Firebox	1470	38.69				
3.	Internet Explorer	432	11.37				
Total		**3799**	**100.00**				

(Source: Primary data)

The above table revealed that Use of Web Browser to Access Information and Communication Technology Sources and Services by the Women Student Respondents, more than forty nine percent (49.94) of the respondents to used Google chrome web browser to Access Information and Communication Technology Sources and Services, followed by above thirty eight percent (38.69) of the respondents to used Mozilla Firebox web browser to Access Information and Communication Technology Sources and Services and above eleven percent (11.37) of the respondents to used Internet Explorer web browser to Access Information and Communication Technology Sources. The Use of Web Browser to Access Information and Communication Technology Sources and Services by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 1470with the standard deviation 753.4363, average of 1266.333and the skewness (-1.12754)seems to lie within the low distribution.

Table – 5.17: Motivational factors to use the Internet by the Women Student Respondents

S.No	Frequency	Respondents	Percentage
1.	Institution	1896	49.91
2.	Friends	758	19.95
3.	Self-Taught	652	17.16
4.	Relatives	493	12.98
	Total	**3799**	**100.00**

(Source: Primary data)

The above table revealed that the Motivational factors to use the Internet by the Women Student Respondents; there are more than forty nine percent (49.91) of the women student respondents to use the internet motivation by the institutions, followed by more than nineteen percent (19.95) of the women student respondents to use the internet motivation by the friends, above seventeen percent (17.16) of the women student respondents to use the internet motivation by self-taught and very less percent (12.98) of the women student respondents to use the internet motivation by the relatives.

It is inferred that most of the women student respondents the use of internet to motivate factor by their studied institutions.

FREQUENCY OF USING ICT TOOLS

Five point likert scales use of source information and communication technology were used to get the perception from surveyed women students of selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu. It included electronic resources. The data depicted in the following tables.

Table – 5.18: Frequency of using e-Databases by the Women Student Respondents

Types of Sources	Frequency	Respondents	Percentage	Mean	SD	Average	Skewness
e-Database	Daily	799	21.03	816	314.0091	759.8	-1.75219
	Weekly	816	21.48				
	Alternate Weekly	935	24.61				
	Monthly	1026	27.01				
	Occasionally	223	5.87				
Total		**3799**	**100.00**				

(Source: Primary data)

The above table revealed that the Frequency of using e-Databases by the Women Student Respondents, among the total 3799 respondents, there are more than twenty seven percent (27.01) of the respondents are use e-databases daily, followed by above twenty four percent (24.61) of the respondents are use e-databases weekly, above twenty one plus percent (21.48) of the respondents are use e-databases alternate weekly, above twenty one percent (21.03) of the respondents are use e-databases monthly and very less percent (5.87) of the respondents are use e-databases occasionally.

The Frequency of using e-Databases by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 816 with the standard deviation 314.0091, average of 759.8 and the skewness (-1.75219) seems to lie within the low distribution.

Hypotheses – 3: There is no significant difference in the Frequency of using ICT tools of women colleges affiliated to Madurai Kamaraj University.

Table – 5.19: Frequency of using e-Databases - Anova Test

Anova Test	
cal F_C < tab F_C F_C = 3.25< F_C (1,5) = 6.61 We accept at 5% level	cal F_R< tab F_R F_R = 3.95< F_R (5,5) = 5.05 We accept at 5% level
Anova Test Result: The anova result is in both cases the calculated value is lower than tabulated value. Therefore, hypothesis is accepted.	

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Table – 5.20: Frequency of using e-Journals by the Women Student Respondents

Types of Sources	Frequency	Respondents	Percentage	Mean	SD	Average	Skewness
e-Journals	Daily	698	18.37	879	303.6687	759.8	-1.4366
	Weekly	879	23.14				
	Alternate Weekly	925	24.35				
	Monthly	1035	27.24				
	Occasionally	262	6.90				
Total		**3799**	**100.00**				

(Source: Primary data)

The above table revealed that the Frequency of using e-Databases by the Women Student Respondents, among the total 3799 respondents, there are more than twenty seven percent (27.24) of the respondents are use e-databases monthly, followed by above twenty four percent (24.35) of the respondents are use e-databases alternate weekly, above twenty three percent (23.14) of the respondents are use e-databases weekly, above eighteen percent (18.37) of the respondents are use e-databases daily and very less percent (6.90) of the respondents are use e-databases occasionally.

The Frequency of using e-Databases by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 879 with the standard deviation 303.6687, average of 759.8 and the skewness (-1.4366) seems to lie within the low distribution.

Table – 5.21: Frequency of using e-Reports by the Women Student Respondents

Types of Sources	Frequency	Respondents	Percentage	Mean	SD	Average	Skewness
e-Reports	Daily	635	16.71	652	253.2542	759.8	1.621731
	Weekly	541	14.24				
	Alternate Weekly	786	20.69				
	Monthly	652	17.17				
	Occasionally	1185	31.19				
Total		**3799**	**100.00**				

(Source: Primary data)

The above table revealed that the Frequency of using e-Reports by the Women Student Respondents, there are more than thirty one percent (31.19) of the respondents are use e-Reports occasionally, followed by above twenty percent (20.69) of the respondents are use e-Reports alternate weekly, above seventeen percent (17.17) of the respondents are use e-Reports monthly, above sixteen percent (16.71) of the respondents are use e-Reports daily and less percent (14.24) of the respondents are use e-databases weekly.

The Frequency of using e-Reports by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 652 with the standard deviation 253.2542, average of 759.8 and the skewness 1.621731seems to lie within the normal distribution.

Table – 5.22: Frequency of using e-Books by the Women Student Respondents

Types of Sources	Frequency	Respondents	Percentage	Mean	SD	Average	Skewness
e-Books	Daily	513	13.50	718.00	245.3145	759.8	0.212171
	Weekly	718	18.90				
	Alternate Weekly	998	26.28				
	Monthly	1030	27.11				
	Occasionally	540	14.21				
Total		**3799**	**100.00**				

(Source: Primary data)

The above table revealed that the Frequency of using e-Books by the Women Student Respondents, there are more than twenty seven percent (27.11) of the respondents are use e-Books monthly, followed by above twenty six percent (26.28) of the respondents are use e-Books alternate weekly, above eighteen percent (18.90) of the respondents are use e-Books weekly, above fourteen percent (14.21) of the respondents are use e-Books occasionally and less percent (13.50) of the respondents are use e-Books occasionally.

The Frequency of using e-Book sby the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 718.00 with the standard deviation 245.3145, average of 759.8 and the skewness 0.212171seems to lie within the less distribution.

Table – 5.23: Frequency of using e-Magazine by the Women Student Respondents

Types of Sources	Frequency	Respondents	Percentage	Mean	SD	Average	Skewness
e-Magazine	Daily	719	18.93	727	233.456	759.8	-0.65437
	Weekly	918	24.16				
	Alternate Weekly	1023	26.93				
	Monthly	412	10.84				
	Occasionally	727	19.14				
Total		**3799**	**100.00**				

(Source: Primary data)

The above table revealed that the Frequency of using e-Magazine by the Women Student Respondents, there are more than twenty six percent (26.93) of the respondents are use e-Magazine alternate weekly, followed by above twenty four percent (24.16) of the respondents are use e-Magazine alternate weekly, above nineteen percent (19.14) of the respondents are use e-Magazine occasionally, above eighteen percent (18.93) of the respondents are use e-Magazine daily and very less percent (10.84) of the respondents are use e-Magazine monthly.

The Frequency of using e-Magazine by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 727 with the standard deviation 233.456, average of 759.8 and the skewness (-0.65437) seems to lie within the less distribution.

Table – 5.24: Frequency of using CD-ROM-Database by the Women Student Respondents

Types of Sources	Frequency	Respondents	Percentage	Mean	SD	Average	Skewness
CD-ROM-Database	Daily	520	13.69	623	442.2649	759.8	1.894936
	Weekly	418	11.00				
	Alternate Weekly	623	16.40				
	Monthly	712	18.74				
	Occasionally	1526	40.17				
Total		**3799**	**100.00**				

(Source: Primary data)

The above table revealed that the Frequency of using CD-ROM-Database by the Women Student Respondents, there are more than forty percent (40.17) of the respondents are use CD-ROM-Database occasionally, followed by above eighteen percent (18.74) of the respondents are use CD-ROM-Database alternate monthly, above sixteen percent (16.40) of the respondents are use CD-ROM-Database alternate weekly, above thirteen percent (13.69) of the respondents are use CD-ROM-Database daily and very less percent (11.00) of the respondents are use CD-ROM-Database weekly.

The Frequency of using CD-ROM-Database by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 623 with the standard deviation 442.2649, average of 759.8 and the skewness1.894936 seems to lie within the normal distribution.

Table – 5.25: Frequency of using e-Lectures by the Women Student Respondents

Types of Sources	Frequency	Respondents	Percentage	Mean	SD	Average	Skewness
e-Lectures	Daily	419	11.03	535	599.0235	759.8	1.938381
	Weekly	535	14.08				
	Alternate Weekly	333	8.77				
	Monthly	711	18.72				
	Occasionally	1801	47.41				
Total		**3799**	**100.00**				

(Source: Primary data)

The above table revealed that the Frequency of using e-Lectures by the Women Student Respondents, there are more than forty seven percent (47.41) of the respondents are use e-Lectures occasionally, followed by above eighteen percent (18.72) of the respondents are use e-Lectures alternate monthly, above fourteen percent (14.08) of the respondents are use e-Lectures alternate weekly, above eleven percent (11.03) of the respondents are use e-Lectures daily and very less percent (8.77) of the respondents are use e-Lectures alternate weekly.

The Frequency of using e-Lectures by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 535 with the standard deviation 599.0235, average of 759.8 and the skewness1.938381 seems to lie within the normal distribution.

Table – 5.26: Ranking of Information Technology based using E-Resources and Services

S.No	Ranking of Information Technology	Ranking Order						
		1	**2**	**3**	**4**	**5**	**6**	**7**
1.	Access full text articles	1215	901	610	428	237	205	203
2.	Browse e-journals	935	1107	712	398	301	199	147
3.	Online reference sources	738	699	1099	428	315	235	285
4.	Search the database	759	728	664	965	319	199	165
5.	Search the online catalogue	816	845	558	556	412	371	241
6.	Use of e-books	714	725	652	718	541	347	102
7.	Visit to library website	523	614	638	712	556	401	355

(Source: Primary data)

It is found from the study that surveyed respondents are familiar and use different types of Information and Communication Technology e-resource and services. The ranking of Information and Communication Technology e-resource and services among the respondents Access full text articles as the first rank by a large group of 1215, while Browse e-journals got second rank preference among the next major group of 1107 respondents, followed by Online reference sources 1099 respondents as third rank and Search the database 965 respondents as fourth rank.

PURPOSE OF USING ICT SOURCES AND SERVICES

Three point likert scales purpose of using information and communication technology source and service were used to get the perception from surveyed women students of selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu. It included electronic resources. The data depicted in the following tables.

Table – 5.27: Used to Collect Subject Related Material by the Women Student Respondents

Purpose of Using	Frequency	When it Need	Never	Total
Respondents	1399	1254	1146	3799
Percentage	36.83	33.01	30.16	100.00
Mean	1254			
Standard Deviation	126.9501			
Skewness	0.433053			

(Source: Primary data)

The above table analyzed that the Used to Collect Subject Related Material by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu. Among the total respondents, there are more than thirty six percent (36.83) of the women student respondents have been frequently used Subject Related Material for study purpose, followed by above thirty three percent (33.01) of the women student respondents have been when it need to used Subject Related Material for study purpose and thirty percent (30.16) of the women student respondents have been never used Subject Related Material for study purpose.

The Used to Collect Subject Related Material by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 1254 with the standard deviation 126.9501and the skewness0.433053seems to lie within the less distribution.

Hypotheses – 4: There is no significant difference in the Purpose of Using ICT Sources and Services among the respondents of women colleges affiliated to Madurai Kamaraj University.

Table – 5.28: Used to Collect Subject Related Material - Anova Test

Anova Test	
cal F_C < tab F_C $F_C = 14.11 < F_C(1,3) = 10.13$ We reject at 5% level	cal F_R< tab F_R $F_R = 11.65 < F_R(3,3) = 9.28$ We reject at 5% level
Anova Test Result: The anova result is in both cases the calculated value is higher lower than tabulated value. Therefore, hypothesis is not accepted.	

Table – 5.29: Used to Collect Research Related Material by the Women Student Respondents

Purpose of Using	Frequency	When it Need	Never	Total
Respondents	1521	1302	976	3799
Percentage	40.04	34.27	25.69	100.00
Mean	1302			
Standard Deviation	274.245			
Skewness	-0.57534			

(Source: Primary data)

The above table analyzed that the Used to Collect Research Related Material by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu. Among the total respondents, there are more than forty percent (40.04) of the women student respondents have been frequently used Research Related Material for study purpose, followed by above thirty four percent (34.27) of the women student respondents have been when it need to used Research Related Material for study purpose and twenty five percent (25.69) of the women student respondents have been never used Research Related Material for study purpose.

The Used to Collect Research Related Material by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 1302 with the standard deviation 274.245and the skewness (-0.57534)seems to lie within the less distribution.

Table – 5.30: Used to Prepare for Seminar/Conferences Related Material by the Women Student Respondents

Purpose of Using	Frequency	When it Need	Never	Total
Respondents	439	1996	1364	3799
Percentage	11.56	52.54	35.90	100.00
Mean	1364			
Standard Deviation	783.0813			
Skewness	-0.55251			

(Source: Primary data)

The above table analyzed that the use to prepare for Seminar/Conferences Related Material by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu. Among the total respondents, there are above eleven percent (11.56) of the women student respondents have been frequently use prepare for Seminar/Conferences related materials for study purpose, followed by more than fifty two percent (52.54) of the women student respondents have been when it need to used use prepare for Seminar/Conferences related materials for study purpose and above thirty five percent (35.90) of the women student respondents have been never use prepare for Seminar/Conferences related materials for study purpose.

The use to prepare for Seminar/Conferences Related Material by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 1364 with the standard deviation 783.0813and the skewness(-0.55251) seems to lie within the less distribution.

Table – 5.31: Used to E-Mail by the Women Student Respondents

Purpose of Using	Frequency	When it Need	Never	Total
Respondents	2125	936	738	3799
Percentage	55.94	24.63	19.43	100.00
Mean	936			
Standard Deviation	750.1882			
Skewness	1.597301			

(Source: Primary data)

The above table analyzed that the use to E-Mail by the Women Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu. Among the total respondents, there are more than fifty five percent (55.94) of the women student respondents have been frequently use E-Mail for study purpose, followed by above twenty four percent (24.63) of the women student respondents have been when it need to used use E-Mail for study purpose and above nineteen percent (19.43) of the women student respondents have been never use E-Mail for study purpose.

The use to E-Mail by the Women Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 936 with the standard deviation 750.1882 and the skewness 1.597301 seems to lie within the normal distribution.

Table – 5.32: Used to Search E-Journals by the Women Student Respondents

Purpose of Using	Frequency	When it Need	Never	Total
Respondents	1028	1412	1359	3799
Percentage	27.06	37.17	35.77	100.00
Mean	1359			
Standard Deviation	208.0969			
Skewness	-1.60651			

(Source: Primary data)

The above table analyzed that the use to Search E-Journals by the Women Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu. Among the total respondents, there are above twenty seven percent (27.06) of the women student respondents have been frequently use to Search E-Journals for study purpose, followed by more than thirty seven percent (37.17) of the women student respondents have been when it need to use search E-Journals for study purpose and above thirty five percent (35.77) of the women student respondents have been never use to search E-Journals for study purpose.

The use to search E-Journals by the Women Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 1359 with the standard deviation 208.0969and the skewness (-1.60651) seems to lie within the less distribution.

Table – 5.33: Used to Search E-Books by the Women Student Respondents

Purpose of Using	Frequency	When it Need	Never	Total
Respondents	1423	1140	1236	3799
Percentage	37.46	30.01	32.53	100.00
Mean	1236			
Standard Deviation	143.9178			
Skewness	0.906324			

(Source: Primary data)

The above table analyzed that the use to Search E-Books by the Women Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu. Among the total respondents, there are more than thirty seven percent (37.46) of the women student respondents have been frequently use to Search E-Books for study purpose, followed by above thirty percent (30.01) of the women student respondents have been when it need to use search E-Books for study purpose and above thirty two percent (32.53) of the women student respondents have been never use to search E-Books for study purpose.

The use to search E-Books by the Women Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 1236 with the standard deviation 143.9178 and the skewness 0.906324 seems to lie within the less distribution.

Table – 5.34: Used for Teleconference by the Women Student Respondents

Purpose of Using	Frequency	When it Need	Never	Total
Respondents	626	729	2444	3799
Percentage	16.48	19.19	64.33	100.00
Mean	729			
Standard Deviation	1021.189			
Skewness	1.712249			

(Source: Primary data)

The above table analyzed that the use for Teleconference by the Women Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu. Among the total respondents, there are above sixteen percent (16.48) of the women student respondents have been frequently use to for Teleconference for study purpose, followed by above nineteen percent (19.19) of the women student respondents have been when it need to use for Teleconference study purpose and more than sixty four percent (64.33) of the women student respondents have been never use to for Teleconference for study purpose.

The use for Teleconference by the Women Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 729 with the standard deviation 1021.189 and the skewness 1.712249 seems to lie within the normal distribution.

Table – 5.35: Used for Entertainment by the Women Student Respondents

Purpose of Using	Frequency	When it Need	Never	Total
Respondents	1230	1105	1464	3799
Percentage	32.38	29.08	38.54	100.00
Mean	1230			
Standard Deviation	182.237			
Skewness	0.86152			

(Source: Primary data)

The above table revealed that the use for Entertainment by the Women Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu. Among the total respondents, there are above thirty two percent (32.38) of the women student respondents have been frequently use to for Entertainment for study purpose, followed by above twenty nine percent (29.08) of the women student respondents have been when it need to use for Entertainment study purpose and more than thirty eight percent (38.54) of the women student respondents have been never use to for Entertainment for study purpose.

The use for Entertainment by the Women Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 1230 with the standard deviation 182.237 and the skewness 0.86152 seems to lie within the less distribution.

Table – 5.36: Used to Watch or listen Current Affairs by the Women Student Respondents

Purpose of Using	Frequency	When it Need	Never	Total
Respondents	918	1201	1680	3799
Percentage	24.16	31.61	44.23	100.00
Mean	1201			
Standard Deviation	385.1783			
Skewness	0.741323			

(Source: Primary data)

The above table revealed that the use to Watch or listen Current Affairs by the Women Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, there are above twenty four percent (24.16) of the women student respondents have been frequently use to Watch or listen Current Affairs for study purpose, followed by above thirty one percent (31.61) of the women student respondents have been when it need to use Watch or listen Current Affairs study purpose and more than forty four percent (44.23) of the women student respondents have been never use to Watch or listen Current Affairs for study purpose.

The use to Watch or listen Current Affairs by the Women Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 1201 with the standard deviation 385.1783 and the skewness 0.741323 seems to lie within the less distribution.

Table – 5.37: Used to Download E-Resources by the Women Student Respondents

Purpose of Using	Frequency	When it Need	Never	Total
Respondents	699	718	2382	3799
Percentage	18.40	18.90	62.70	100.00
Mean	718			
Standard Deviation	966.2424			
Skewness	1.731297			

(Source: Primary data)

The above table revealed that the use to Download E-Resources by the Women Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, there are above eighteen percent (18.40) of the women student respondents have been frequently use to Download E-Resources for study purpose, followed by above eighteen percent (18.90) of the women student respondents have been when it need to use Download E-Resources study purpose and more than sixty two percent (62.70) of the women student respondents have been never use to Download E-Resources for study purpose.

The use to Download E-Resources by the Women Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 718 with the standard deviation 966.2424 and the skewness 1.731297 seems to lie within the normal distribution.

KNOWLEDGE ABOUT ICT SOURCES AND SERVICES

Five point liket scales use of knowledge about information and communication technology sources and services, were used to get the perception from surveyed women students of selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu. It included information and communication technology knowledge resources. The data depicted in the following tables.

Table – 5.38: Knowledge about Internet by the Women Student Respondents

ICT Knowledge	Frequency	Respondents	Percentage	Mean	SD	Skewness
Internet	Proficient	1325	34.88	718	453.6449	-0.30068
	Expert	1024	26.95			
	Fair	718	18.90			
	Beginner	613	16.14			
	Don't Know	119	3.13			
Total		**3799**	**100.00**			

(Source: Primary data)

The above table revealed that the knowledge about Internet by the Women Student Respondents, among the total respondents there are more than thirty four percent (34.88) of the respondents are proficient knowledge in Internet, followed by above twenty six percent (26.95) of the respondents are expert knowledge in Internet, above eighteen percent (18.90) of the respondents are fair knowledge in Internet, above sixteen percent (16.14) of the respondents are beginner knowledge in Internet and very less percent (3.13) of the respondents are don't knowledge in Internet.

The Knowledge about Internet by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 718 with the standard deviation 453.6449 and the skewness (-0.30068) seems to lie within the less distribution.

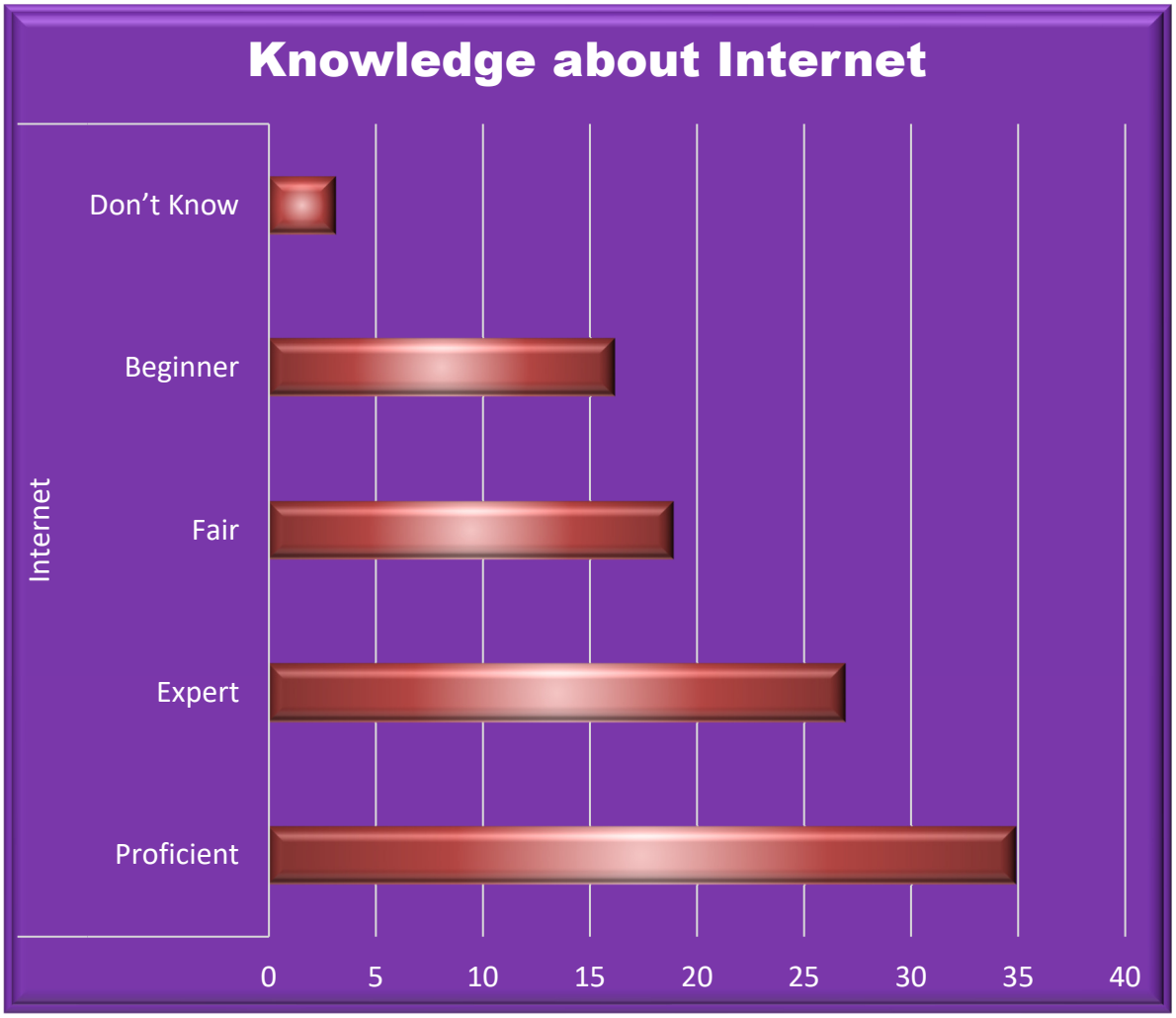

Figure -5.7

Table – 5.39: Knowledge about E-Mail by the Women Student Respondents

ICT Knowledge	Frequency	Respondents	Percentage	Mean	SD	Skewness
Internet	Proficient	1025	26.98	925	393.2832	-1.79333
	Expert	1023	26.93			
	Fair	925	24.34			
	Beginner	738	19.43			
	Don't Know	88	2.32			
Total		**3799**	**100.00**			

(Source: Primary data)

The above table revealed that the knowledge about E-Mail by the Women Student Respondents, among the total respondents, there are more than each twenty six percent (26.98 and 26.93) of the respondents are proficient and expert knowledge in E-Mail, followed by above twenty four percent (24.34) of the respondents are fair knowledge in E-Mail, above nineteen percent (19.43) of the respondents are beginner knowledge in E-Mail and very less percent (2.32) of the respondents are don't knowledge in E-Mail.

The Knowledge about E-Mail by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 925 with the standard deviation 393.2832 and the skewness (-1.79333) seems to lie within the less distribution.

Table – 5.40: Knowledge about Short Message Service (SMS) and Multimedia Messaging Service (MMS) by the Women Student Respondents

ICT Knowledge	Frequency	Respondents	Percentage	Mean	SD	Skewness
SMS/MMS	Proficient	1420	37.38	699	460.5157	0.431673
	Expert	952	25.06			
	Fair	699	18.40			
	Beginner	535	14.08			
	Don't Know	193	5.08			
Total		**3799**	**100.00**			

(Source: Primary data)

The above table revealed that the knowledge about Short Message Service (SMS) and Multimedia Messaging Service (MMS)by the Women Student Respondents, among the total respondents, there are more than thirty seven percent (37.38) of the respondents are proficient knowledge in Short Message Service (SMS) and Multimedia Messaging Service (MMS), followed by above twenty five percent (25.06) of the respondents are expert knowledge in Short Message Service (SMS) and Multimedia Messaging Service (MMS), above eighteen percent (18.40) of the respondents are fair knowledge in Short Message Service (SMS) and Multimedia Messaging Service (MMS), above fourteen percent (14.08) of the respondents are beginner knowledge in Short Message Service (SMS) and Multimedia Messaging Service (MMS)and very less percent (5.08) of the respondents are don't knowledge in Short Message Service (SMS) and Multimedia Messaging Service (MMS).

The Knowledge about Short Message Service (SMS) and Multimedia Messaging Service (MMS)by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 699 with the standard deviation 460.5157 and the skewness 0.431673 seems to lie within the less distribution.

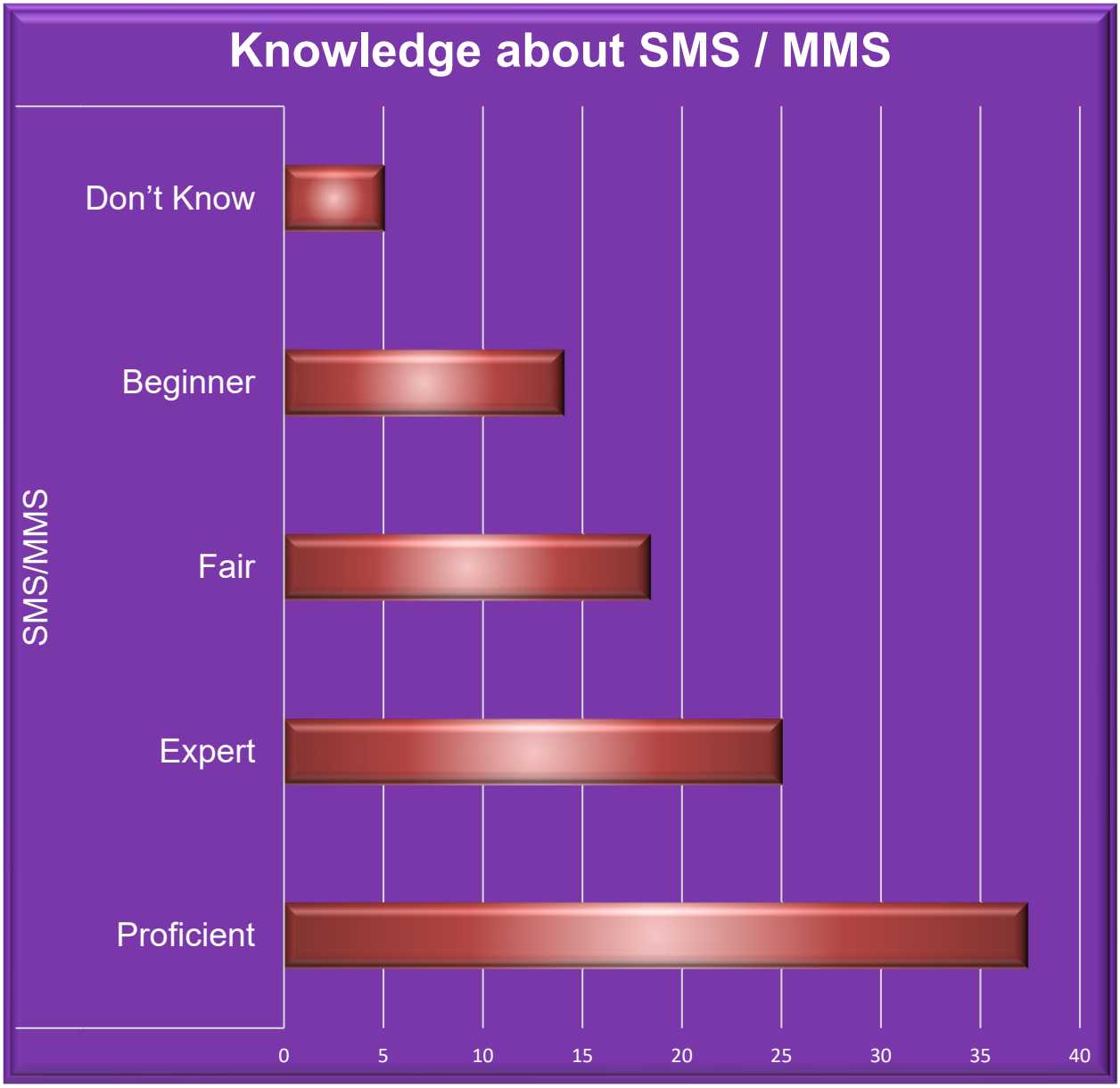

Figure -5.8

Table – 5.41: Knowledge about Telephone by the Women Student Respondents

ICT Knowledge	Frequency	Respondents	Percentage	Mean	SD	Skewness
Telephone	Proficient	951	25.03	824	232.4709	-1.88286
	Expert	868	22.85			
	Fair	824	21.69			
	Beginner	799	21.03			
	Don't Know	357	9.40			
Total		**3799**	**100.00**			

(Source: Primary data)

The above table analysis that the knowledge about Telephone by the Women Student Respondents, among the total respondents, there are more than twenty five percent (25.03) of the respondents are proficient knowledge in Telephone, followed by above twenty two percent (22.85) of the respondents are expert knowledge in Telephone, above twenty one percent (21.69) of the respondents are fair knowledge in Telephone, above twenty one percent (21.03) of the respondents are beginner knowledge in Telephone and less percent (9.40) of the respondents are don't knowledge in Telephone.

The Knowledge about Telephone by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 824 with the standard deviation 232.4709 and the skewness (-1.88286) seems to lie within the less distribution.

Table – 5.42: Knowledge about Mobile Phone by the Women Student Respondents

ICT Knowledge	Frequency	Respondents	Percentage	Mean	SD	Skewness
Mobile Phone	Proficient	1425	37.51	858	601.105	-0.27929
	Expert	1214	31.96			
	Fair	858	22.58			
	Beginner	302	7.95			
	Don't Know	0	0.00			
Total		**3799**	**100.00**			

(Source: Primary data)

The above table analysis that the knowledge about Mobile Phone by the Women Student Respondents, among the total respondents, there are more than thirty seven percent (37.51) of the respondents are proficient knowledge in Mobile Phone, followed by above thirty one percent (31.96) of the respondents are expert knowledge in Mobile Phone, above twenty two percent (22.58) of the respondents are fair knowledge in Mobile Phone, above seven percent (7.95) of the respondents are beginner knowledge in Mobile Phone.

The Knowledge about Mobile Phone by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 858 with the standard deviation 601.105 and the skewness (-0.27929) seems to lie within the less distribution.

Table – 5.43: Knowledge about Fax by the Women Student Respondents

ICT Knowledge	Frequency	Respondents	Percentage	Mean	SD	Skewness
Fax	Proficient	458	12.06	712	246.2401	0.197208
	Expert	622	16.37			
	Fair	712	18.74			
	Beginner	928	24.43			
	Don't Know	1079	28.40			
	Total	**3799**	**100.00**			

(Source: Primary data)

The above table analysis that the knowledge about Fax by the Women Student Respondents, among the total respondents, there are above twelve percent (12.06) of the respondents are proficient knowledge in Fax, followed by above sixteen percent (16.37) of the respondents are expert knowledge in Fax, above eighteen percent (18.74) of the respondents are fair knowledge in Fax, above twenty four percent (24.43) of the respondents are beginner knowledge in Fax and more than twenty eight percent (28.40) of the respondents are don't knowledge in Fax.

The Knowledge about Fax by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 712 with the standard deviation 246.2401 and the skewness 0.197208 seems to lie within the less distribution.

Table – 5.44: Knowledge about Web Camera by the Women Student Respondents

ICT Knowledge	Frequency	Respondents	Percentage	Mean	SD	Skewness
Web Camera	Proficient	1378	36.27	821	490.9702	-0.27319
	Expert	1001	26.35			
	Fair	821	21.61			
	Beginner	519	13.66			
	Don't Know	80	2.11			
Total		**3799**	**100.00**			

(Source: Primary data)

The above table revealed that the knowledge about Web Camera by the Women Student Respondents, among the total respondents, there are more than thirty six percent (36.27) of the respondents are proficient knowledge in Web Camera, followed by above twenty six percent (26.35) of the respondents are expert knowledge in Web Camera, above twenty one percent (21.61) of the respondents are fair knowledge in Web Camera, above thirteen percent (13.66) of the respondents are beginner knowledge in Web Camera and very less percent (2.11) of the respondents are don't knowledge in Web Camera.

The Knowledge about Web Camera by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 821 with the standard deviation 490.9702 and the skewness (-0.27319) seems to lie within the less distribution.

Table – 5.45: Knowledge about Video Conference by the Women Student Respondents

ICT Knowledge	Frequency	Respondents	Percentage	Mean	SD	Skewness
Video Conference	Proficient	1039	27.35	719	223.5815	0.146374
	Expert	928	24.43			
	Fair	719	18.92			
	Beginner	625	16.45			
	Don't Know	488	12.85			
Total		**3799**	**100.00**			

(Source: Primary data)

The above table revealed that the knowledge about Video Conference by the Women Student Respondents, among the total respondents, there are more than twenty seven percent (27.35) of the respondents are proficient knowledge in Video Conference, followed by above twenty four percent (24.43) of the respondents are expert knowledge in Video Conference, above eighteen percent (18.92) of the respondents are fair knowledge in Video Conference, above sixteen percent (16.45) of the respondents are beginner knowledge in Video Conference and less percent (12.85) of the respondents are don't knowledge in Video Conference.

The Knowledge about Video Conference by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 719 with the standard deviation 223.5815 and the skewness 0.146374 seems to lie within the less distribution.

Table – 5.46: Knowledge about Chatting by the Women Student Respondents

ICT Knowledge	Frequency	Respondents	Percentage	Mean	SD	Skewness
Chatting	Proficient	925	24.35	628	294.4498	0.971853
	Expert	628	16.53			
	Fair	536	14.11			
	Beginner	513	13.50			
	Don't Know	1197	31.51			
Total		**3799**	**100.00**			

(Source: Primary data)

The above table revealed that the knowledge about Chatting by the Women Student Respondents, among the total respondents, there are above twenty four percent (24.35) of the respondents are proficient knowledge in Chatting, followed by above sixteen percent (16.53) of the respondents are expert knowledge in Chatting, above fourteen percent (14.11) of the respondents are fair knowledge in Chatting, above thirteen percent (13.50) of the respondents are beginner knowledge in Chatting and more than thirty one percent (31.51) of the respondents are don't knowledge in Chatting.

The Knowledge about Chatting by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 628 with the standard deviation 294.4498 and the skewness 0.971853 seems to lie within the low distribution.

Table – 5.47: Preferred Formats for Reading the ICT based Information Resources

S.No	Description	Respondents	Percent	Cumulative
1.	PDF format	1010	26.59	26.59
2.	Word format	936	24.64	51.23
3.	HTML/XML	799	21.03	72.26
4.	Image format	615	16.18	88.44
5.	Audio-Video	439	11.56	100.00
	Total	**3799**	**100.00**	

(Source: Primary data)

The above table revealed that the Preferred Formats for Reading the ICT based Information Resources, among the total respondents, there are more than twenty six percent (26.59) of the women student respondents preferred to access e-resources View through PDF format, followed by above twenty four percent (24.64) of the women student respondents preferred to access e-resources View through Word format, above twenty one percent (21.03) of the women student respondents preferred to access e-resources View through HTML/XML, above sixteen percent (16.18) of the women student respondents preferred to access e-resources View through image format and above eleven percent (11.56) of the women student respondents preferred to access e-resources View through audio-video format.

It is inferred that highest number of women student respondents preferred access to e-resources and view through PDF format.

ATTITUDES FACILITIES OF LIBRARY ICT

Five point likert scales Attitudes facilities of Library information and communication technology sources and services, were used to get the perception from surveyed women students of selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu. It included information and communication technology knowledge resources. The data depicted in the following tables.

Table – 5.48: Attitudes facilities of Deviation Low band Width/Speed of Internet by the Women Student Respondents

Attitudes Facilities	Opinion	Total	Percentage	Mean	SD	Skewness
Deviation Low band Width/Speed of Internet	Strongly Agree	657	17.29	567	356.98	0.590889
	Agree	457	12.03			
	Neutral	429	11.29			
	Disagree	1012	26.64			
	Strongly Disagree	1244	32.75			
Total		**3799**	**100.00**			

(Source: Primary data)

The above table revealed that Attitudes facilities of Deviation Low band Width/Speed of Internet by the Women Student Respondents, among the total respondents, there are above seventeen percent (17.29) of the women student respondents strongly agree with Deviation Low band Width/Speed of Internet, followed by above twelve percent (12.03) of the women student respondents agree with Deviation Low band Width/Speed of Internet, above

eleven percent (11.29) of the women student respondents natural with Deviation Low band Width/Speed of Internet, above twenty six percent (26.64) of the women student respondents disagree with Deviation Low band Width/Speed of Internet and above thirty two percent (32.75) of the women student respondents strongly disagree with Deviation Low band Width/Speed of Internet.

The Attitudes facilities of Deviation Low band Width/Speed of Internet by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 567 with the standard deviation 356.98 and the skewness 0.590889 seems to lie within the low distribution.

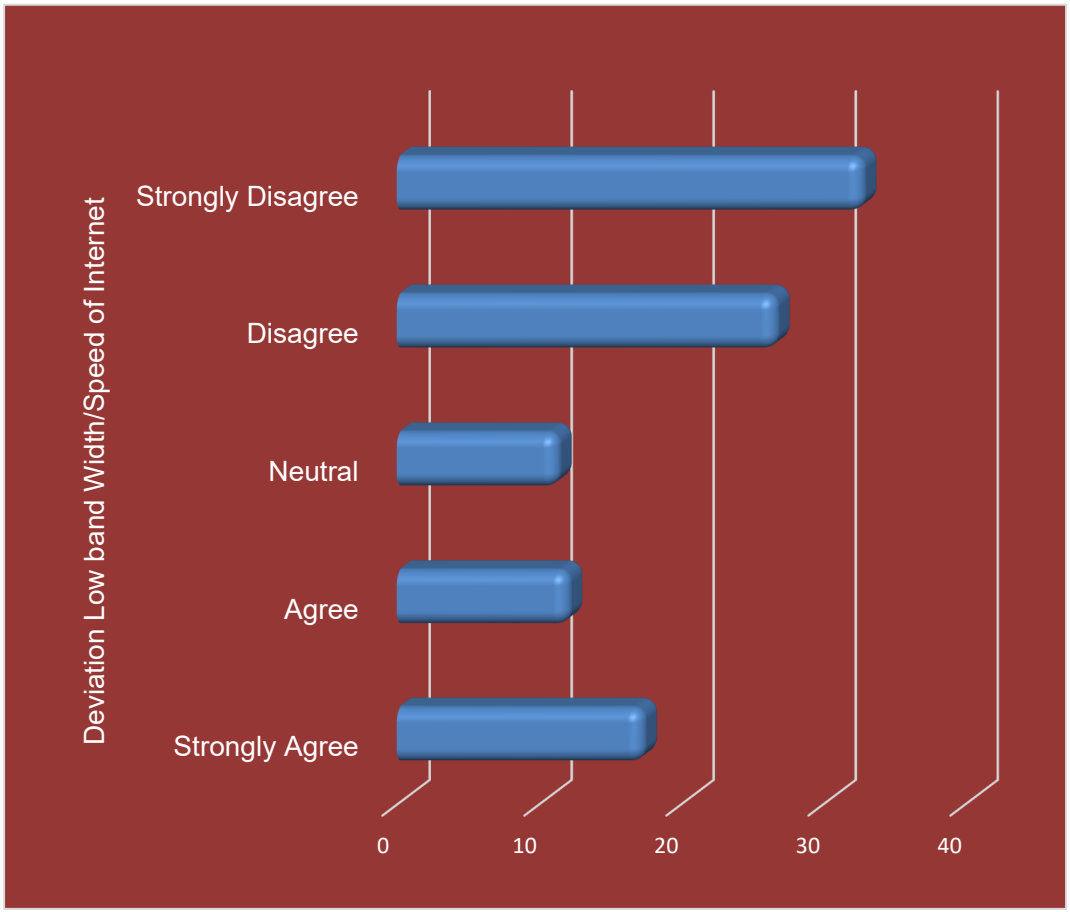

Figure -5.9

Hypotheses – 5: There is no significant difference in the Attitudes facilities of Library ICT among the respondents of women colleges affiliated to Madurai Kamaraj University.

Table – 5.49: Attitudes facilities of Deviation Low band Width/Speed of Internet - Chi-Square

Calculated value	4.06
Table value	9.488
df	4
Inference	Significant
The Chi-Square Result: The calculated value is less than tabulated value. Therefore, hypothesis is accepted.	

Table – 5.50: Attitudes facilities of Browsing Difficulties of Digital Resources by the Women Student Respondents

Attitudes Facilities	Opinion	Total	Percentage	Mean	SD	Skewness
Browsing Difficulties of Digital Resources	Strongly Agree	622	16.37	712	127.3939	0.400697
	Agree	712	18.74			
	Neutral	869	22.87			
	Disagree	918	24.17			
	Strongly Disagree	678	17.85			
	Total	**3799**	**100.00**			

(Source: Primary data)

The above table revealed that Attitudes facilities of Browsing Difficulties of Digital Resources by the Women Student Respondents, among the total respondents, there are above sixteen percent (16.37) of the women student respondents strongly agree with Browsing Difficulties of Digital Resources, followed by above eighteen percent (18.74) of the women student respondents agree with Browsing Difficulties of Digital Resources, above twenty two percent (22.87) of the women student respondents natural with Browsing Difficulties of Digital Resources, above twenty four percent (24.17) of the women student respondents disagree with Browsing Difficulties of Digital Resources and above seventeen percent (17.85) of the women student respondents strongly disagree with Browsing Difficulties of Digital Resources.

The Attitudes facilities of Browsing Difficulties of Digital Resources by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 712 with the standard deviation 127.3939and the skewness 0.400697 seems to lie within the low distribution.

Table – 5.51: Attitudes facilities of Library Staff are not user friendly

Attitudes Facilities	Opinion	Total	Percentage	Mean	SD	Skewness
Library staff are not user friendly	Strongly Agree	312	8.21	825	398.9307	-0.37106
	Agree	358	9.42			
	Neutral	925	24.35			
	Disagree	1021	26.88			
	Strongly Disagree	1183	31.14			
	Total	**3799**	**100.00**			

(Source: Primary data)

The above table revealed that Attitudes facilities of the Library staff are not user friendly by the Women Student Respondents, among the total respondents, there are very less percent (8.21) of the women student respondents strongly agree with Library staff are not user friendly, followed by above nine percent (9.42) of the women student respondents agree with Library staff are not user friendly, above twenty four percent (24.35) of the women student respondents natural with Library staff are not user friendly, above twenty six percent (26.88) of the women student respondents disagree with Library staff are not user friendly and above thirty one percent (31.14) of the women student respondents strongly disagree with Library staff are not user friendly. The Attitudes facilities of Library staff are not user friendly by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 825 with the standard deviation 398.9307 and the skewness (-0.37106) seems to lie within the low distribution.

Table – 5.52: Attitudes facilities of UPS Back up is very low

Attitudes Facilities	Opinion	Total	Percentage	Mean	SD	Skewness
UPS Back up is very low	Strongly Agree	789	20.77	789	229.8819	-0.38225
	Agree	915	24.09			
	Neutral	625	16.45			
	Disagree	1024	26.95			
	Strongly Disagree	446	11.74			
	Total	**3799**	**100.00**			

(Source: Primary data)

The above table analyzed that Attitudes facilities of the UPS Back up is very low by the Women Student Respondents, among the total respondents, there are above twenty percent (20.77) of the women student respondents strongly agree with UPS Back up is very low, followed by above twenty four percent (24.09) of the women student respondents agree with UPS Back up is very low, above sixteen percent (16.45) of the women student respondents natural with UPS Back up is very low, above twenty six percent (26.95) of the women student respondents disagree with UPS Back up is very low and above eleven percent (11.74) of the women student respondents strongly disagree with UPS Back up is very low.

The Attitudes facilities of UPS Back up is very low by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 789 with the standard deviation 229.8819 and the skewness (-0.38225) seems to lie within the low distribution.

Table – 5.53: Attitudes facilities of Limitation of Timing Access

Attitudes Facilities	Opinion	Total	Percentage	Mean	SD	Skewness
Limitation of Timing access	Strongly Agree	915	24.09	815	150.3486	-0.37892
	Agree	869	22.87			
	Neutral	815	21.45			
	Disagree	612	16.11			
	Strongly Disagree	588	15.48			
	Total	**3799**	**100.00**			

(Source: Primary data)

The above table analyzed that Attitudes facilities of the Limitation of Timing access by the Women Student Respondents, among the total respondents, there are above twenty four percent (24.09) of the women student respondents strongly agree with Limitation of Timing access, followed by above twenty two percent (22.87) of the women student respondents agree with Limitation of Timing access, above twenty one percent (21.45) of the women student respondents natural with Limitation of Timing access, above sixteen percent (16.11) of the women student respondents disagree with Limitation of Timing access and above fifteen percent (15.48) of the women student respondents strongly disagree with Limitation of Timing access. The Attitudes facilities of Limitation of Timing access by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 815 with the standard deviation 150.3486 and the skewness (-0.37892) seems to lie within the low distribution.

Table – 5.54: Attitudes facilities of Shortage of Computers by the Women Student Respondents

Attitudes Facilities	Opinion	Total	Percentage	Mean	SD	Skewness
Shortage of Computers	Strongly Agree	864	22.74	864	275.6423	-1.3874
	Agree	915	24.09			
	Neutral	697	18.34			
	Disagree	1012	26.64			
	Strongly Disagree	311	8.19			
	Total	**3799**	**100.00**			

(Source: Primary data)

The above table analyzed that Attitudes facilities of the Shortage of Computersby the Women Student Respondents, among the total respondents, there are above twenty two percent (22.74) of the women student respondents strongly agree with Shortage of Computers, followed by above twenty tour percent (24.09) of the women student respondents agree with Shortage of Computers, above eighteen percent (18.34) of the women student respondents natural with Shortage of Computers, above twenty six percent (26.64) of the women student respondents disagree with Shortage of Computers and above eight percent (8.19) of the women student respondents strongly disagree with Shortage of Computers. The Attitudes facilities of Shortage of Computers by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 864 with the standard deviation 275.6423 and the skewness (-1.3874) seems to lie within the low distribution.

Table – 5.55: Attitudes facilities of Low Configuration of Computers by the Women Student Respondents

Attitudes Facilities	Opinion	Total	Percentage	Mean	SD	Skewness
Low Configuration of Computers	Strongly Agree	910	23.95	718	99.92597	1.010219
	Agree	812	21.37			
	Neutral	682	17.96			
	Disagree	718	18.90			
	Strongly Disagree	677	17.82			
	Total	**3799**	**100.00**			

(Source: Primary data)

The above table revealed that Attitudes facilities of Low Configuration of Computers by the Women Student Respondents, among the total respondents, there are above twenty three percent (23.95) of the women student respondents strongly agree with Low Configuration of Computers, followed by above twenty one percent (21.3) of the women student respondents agree with Low Configuration of Computers, above seventeen percent (17.96) of the women student respondents natural with Low Configuration of Computers, above eighteen percent (18.90) of the women student respondents disagree with Low Configuration of Computers and above seventeen percent (17.82) of the women student respondents strongly disagree with Low Configuration of Computers. The Attitudes facilities of Low Configuration of Computers by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 718 with the standard deviation 99.92597 and the skewness 1.010219 seems to lie within the normal distribution.

Table – 5.56: Attitudes facilities of Network Failure

Attitudes Facilities	Opinion	Total	Percentage	Mean	SD	Skewness
Network Failure	Strongly Agree	589	15.50	716	178.2181	0.87767
	Agree	625	16.45			
	Neutral	716	18.85			
	Disagree	1026	27.01			
	Strongly Disagree	843	22.19			
	Total	**3799**	**100**			

(Source: Primary data)

The above table revealed that Attitudes facilities of Network Failure by the Women Student Respondents, among the total respondents, there are above fifteen percent (15.50) of the women student respondents strongly agree with Network Failure, followed by above sixteen percent (16.45) of the women student respondents agree with Network Failure, above eighteen percent (18.85) of the women student respondents natural with Network Failure, above twenty seven percent (27.01) of the women student respondents disagree with Network Failure and above twenty two percent (22.19) of the women student respondents strongly disagree with Network Failure.

The Attitudes facilities of Network Failure by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 716 with the standard deviation 178.2181 and the skewness 0.87767 seems to lie within the low distribution.

Table – 5.57: Attitudes facilities of Lack of Internet Access

Attitudes Facilities	Opinion	Total	Percentage	Mean	SD	Skewness
Lack of Internet Access	Strongly Agree	568	14.95	718	191.2386	0.474717
	Agree	603	15.87			
	Neutral	718	18.90			
	Disagree	1014	26.69			
	Strongly Disagree	896	23.59			
	Total	**3799**	**100.00**			

(Source: Primary data)

The above table revealed that Attitudes facilities of Lack of Internet Access by the Women Student Respondents, among the total respondents, there are above fourteen percent (14.95) of the women student respondents strongly agree with Lack of Internet Access, followed by above fifteen percent (15.87) of the women student respondents agree with Lack of Internet Access, above eighteen percent (18.90) of the women student respondents natural with Lack of Internet Access, above twenty six percent (26.69) of the women student respondents disagree with Lack of Internet Access and above twenty three percent (23.59) of the women student respondents strongly disagree with Lack of Internet Access.

The Attitudes facilities of Lack of Internet Access by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 718 with the standard deviation 191.2386 and the skewness 0.474717 seems to lie within the low distribution.

Table – 5.58: Attitudes facilities of Lack of Relevant Article

Attitudes Facilities	Opinion	Total	Percentage	Mean	SD	Skewness
Lack of Relevant Article	Strongly Agree	928	24.43	756	123.8031	0.094005
	Agree	816	21.48			
	Neutral	756	19.90			
	Disagree	702	18.48			
	Strongly Disagree	597	15.71			
	Total	**3799**	**100.00**			

(Source: Primary data)

The above table revealed that Attitudes facilities of Lack of Relevant Article by the Women Student Respondents, among the total respondents, there are above twenty four percent (24.43) of the women student respondents strongly agree with Lack of Relevant Article, followed by above twenty one percent (21.48) of the women student respondents agree with Lack of Relevant Article, above nineteen percent (19.90) of the women student respondents natural with Lack of Relevant Article, above eighteen percent (18.48) of the women student respondents disagree with Lack of Relevant Article and above fifteen percent (15.71) of the women student respondents strongly disagree with Lack of Relevant Article.

The Attitudes facilities of Lack of Relevant Article by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 756 with the standard deviation 123.8031 and the skewness 0.094005 seems to lie within the low distribution.

Table – 5.59: Attitudes facilities of Unable to access very old Journals

Attitudes Facilities	Opinion	Total	Percentage	Mean	SD	Skewness
Unable to access very old Journals	Strongly Agree	756	19.90	756	99.32623	-0.43119
	Agree	825	21.72			
	Neutral	618	16.27			
	Disagree	723	19.02			
	Strongly Disagree	877	23.09			
	Total	**3799**	**100.00**			

(Source: Primary data)

The above table revealed that Attitudes facilities of Unable to access very old Journals by the Women Student Respondents, among the total respondents, there are above nineteen percent (19.90) of the women student respondents strongly agree with Unable to access very old Journals, followed by above twenty one percent (21.72) of the women student respondents agree with Unable to access very old Journals, above sixteen percent (16.27) of the women student respondents natural with Unable to access very old Journals, above nineteen percent (19.02) of the women student respondents disagree with Unable to access very old Journals and above twenty three percent (23.09) of the women student respondents strongly disagree with Unable to access very old Journals. The Attitudes facilities of Unable to access very old Journals by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 756 with the standard deviation 99.32623 and the skewness (-0.43119) seems to lie within the low distribution.

Table – 5.60: Attitudes facilities of Poor Library Facilities

Attitudes Facilities	Opinion	Total	Percentage	Mean	SD	Skewness
Poor Library Facilities	Strongly Agree	510	13.42	510	468.6541	0.818758
	Agree	455	11.98			
	Neutral	333	8.77			
	Disagree	1423	37.45			
	Strongly Disagree	1078	28.38			
	Total	**3799**	**100.00**			

(Source: Primary data)

The above table analyzed that Attitudes facilities of Poor Library Facilities by the Women Student Respondents, among the total respondents, there are above thirteen percent (13.42) of the women student respondents strongly agree with Poor Library Facilities, followed by above eleven percent (11.98) of the women student respondents agree with Poor Library Facilities, above eight percent (8.77) of the women student respondents natural with Poor Library Facilities, above thirty seven percent (37.45) of the women student respondents disagree with Poor Library Facilities and above twenty eight percent (28.38) of the women student respondents strongly disagree with Poor Library Facilities.

The Attitudes facilities of Poor Library Facilities by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 510 with the standard deviation 468.6541 and the skewness 0.818758 seems to lie within the low distribution.

Table – 5.61: Attitudes facilities of Lack of Computer Knowledge

Attitudes Facilities	Opinion	Total	Percentage	Mean	SD	Skewness
Lack of Computer Knowledge	Strongly Agree	695	18.29	718	113.3742	0.540924
	Agree	718	18.90			
	Neutral	915	24.09			
	Disagree	635	16.71			
	Strongly Disagree	836	22.01			
	Total	**3799**	**100**			

(Source: Primary data)

The above table analyzed that Attitudes facilities of Lack of Computer Knowledge by the Women Student Respondents, among the total respondents, there are above each eighteen percent (18.29 and 18.90) of the women student respondents strongly agree and agree with Lack of Computer Knowledge, followed by above twenty four percent (24.09) of the women student respondents natural with Lack of Computer Knowledge, above sixteen percent (16.71) of the women student respondents disagree with Lack of Computer Knowledge and above twenty two percent (22.01) of the women student respondents strongly disagree with Lack of Computer Knowledge.

The Attitudes facilities of Lack of Computer Knowledge by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 718 with the standard deviation 113.3742 and the skewness 0.540924 seems to lie within the low distribution.

Table – 5.62: Attitudes facilities of Lack of Proper Orientation Programme

Attitudes Facilities	Opinion	Total	Percentage	Mean	SD	Skewness
Lack of Proper Orientation Programme	Strongly Agree	849	22.35	849	352.95	-1.55006
	Agree	765	20.14			
	Neutral	918	24.16			
	Disagree	1099	28.93			
	Strongly Disagree	168	4.42			
	Total	**3799**	**100.00**			

(Source: Primary data)

The above table revealed that Attitudes facilities of Lack of Proper Orientation Programme by the Women Student Respondents, among the total respondents, there are above twenty two percent (22.35) of the women student respondents strongly agree with Lack of Proper Orientation Programme, followed by above twenty percent (20.14) of the women student respondents agree with Lack of Proper Orientation Programme, above twenty four percent (24.16) of the women student respondents natural with Lack of Proper Orientation Programme, above twenty eight percent (28.93) of the women student respondents disagree with Lack of Proper Orientation Programme and very less percent (4.42) of the women student respondents strongly disagree with Lack of Proper Orientation Programme. The Attitudes facilities of Lack of Proper Orientation Programme by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 849 with the standard deviation 352.95 and the skewness (-1.55006) seems to lie within the low distribution.

Table – 5.63: Attitudes facilities of Lack of Awareness of Available Facilities

Attitudes Facilities	Opinion	Total	Percentage	Mean	SD	Skewness
Lack of Awareness of Available Facilities	Strongly Agree	655	17.24	679	176.4814	1.181023
	Agree	599	15.77			
	Neutral	679	17.87			
	Disagree	1036	27.27			
	Strongly Disagree	830	21.85			
Total		**3799**	**100.00**			

(Source: Primary data)

The above table revealed that Attitudes facilities of Lack of Awareness of Available Facilities by the Women Student Respondents, among the total respondents, there are above seventeen percent (17.24) of the women student respondents strongly agree with Lack of Awareness of Available Facilities, followed by above fifteen percent (15.77) of the women student respondents agree with Lack of Awareness of Available Facilities, above twenty seven percent (17.27) of the women student respondents natural with Lack of Awareness of Available Facilities, above twenty seven percent (27.27) of the women student respondents disagree with Lack of Awareness of Available Facilities and above twenty one percent (21.85) of the women student respondents strongly disagree with Lack of Awareness of Available Facilities.The Attitudes facilities of Lack of Awareness of Available Facilities by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 679 with the standard deviation 176.4814 and the skewness 1.181023 seems to lie within the normal distribution.

Table – 5.64: Attitudes facilities of Lack of Printers/Scanners

Attitudes Facilities	Opinion	Total	Percentage	Mean	SD	Skewness
Lack of Printers/Scanners	Strongly Agree	945	24.87	801	204.3751	-1.4415
	Agree	801	21.08			
	Neutral	739	19.46			
	Disagree	423	11.14			
	Strongly Disagree	891	23.45			
	Total	**3799**	**100.00**			

(Source: Primary data)

The above table revealed that Attitudes facilities of Lack of Printers/Scanners by the Women Student Respondents, among the total respondents, there are above twenty four percent (24.87) of the women student respondents strongly agree with Lack of Printers/Scanners, followed by above twenty one percent (21.08) of the women student respondents agree with Lack of Printers/Scanners, above nineteen percent (19.46) of the women student respondents natural with Lack of Printers/Scanners, above eleven percent (11.14) of the women student respondents disagree with Lack of Printers/Scanners and above twenty three percent (23.45) of the women student respondents strongly disagree with Lack of Printers/Scanners. The Attitudes facilities of Lack of Printers/Scanners by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 801 with the standard deviation 204.3751 and the skewness (-1.4415) seems to lie within the low distribution.

SATISFACTION LEVEL OF USING INFORMATION AND COMMUNICATION TECHNOLOGY SOURCES AND SERVICES

Five point likert scales satisfaction level of Library information and communication technology sources and services, were used to get the perception from surveyed women students of selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu. It included information and communication technology satisfaction level. The data depicted in the following tables.

Table – 5.65: Satisfaction Level of ICT Infrastructural Facilities

Satisfaction Level	Opinion	Total	Percentage	Mean	SD	Skewness
ICT Infrastructural Facilities	Strongly Agree	829	21.82	761	166.3827	0.563315
	Agree	999	26.30			
	Neither Agree	625	16.45			
	Disagree	761	20.03			
	Strongly Disagree	585	15.40			
	Total	**3799**	**100.00**			

(Source: Primary data)

The above table revealed that Satisfaction Level of ICT Infrastructural Facilities by the Women Student Respondents, among the total respondents, there are above twenty one percent (21.82) of the women student respondents strongly agree with Satisfaction Level of ICT Infrastructural Facilities, followed by above twenty six percent (26.30) of the women student respondents agree with Satisfaction Level of ICT Infrastructural Facilities,

above sixteen percent (16.45) of the women student respondents neither agree with Satisfaction Level of ICT Infrastructural Facilities, above twenty percent (20.03) of the women student respondents disagree with Satisfaction Level of ICT Infrastructural Facilities and above fifteen percent (15.40) of the women student respondents strongly disagree with Satisfaction Level of ICT Infrastructural Facilities.

The Satisfaction Level of ICT Infrastructural Facilities by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 761 with the standard deviation 166.3827 and the skewness 0.563315seems to lie within the low distribution.

Hypotheses – 6: There is no significant difference in the Satisfaction level of using ICT Sources and Services among the respondents of women colleges affiliated to Madurai Kamaraj University.

Table – 5.66: Satisfaction Level of ICT Infrastructural Facilities- Chi-Square

Calculated value	2.13
Table value	9.488
df	4
Inference	Significant
The Chi-Square Result: The calculated value is less than tabulated value. Therefore, hypothesis is accepted.	

Table – 5.67: Satisfaction Level of ICT based Service

Satisfaction Level	Opinion	Total	Percentage	Mean	SD	Skewness
ICT based Service	Strongly Agree	1022	26.90	695	181.8618	0.807534
	Agree	869	22.87			
	Neither Agree	695	18.29			
	Disagree	621	16.36			
	Strongly Disagree	592	15.58			
	Total	**3799**	**100.00**			

(Source: Primary data)

The above table analyzed that Satisfaction Level of ICT based Service by the Women Student Respondents, there are above twenty six percent (26.90) of the women student respondents strongly agree with Satisfaction Level of ICT based Service, followed by above twenty two percent (22.87) of the women student respondents agree with Satisfaction Level of ICT based Service, above eighteen percent (18.29) of the women student respondents neither agree with Satisfaction Level of ICT based Service, above sixteen percent (16.36) of the women student respondents disagree with Satisfaction Level of ICT based Service and above fifteen percent (15.58) of the women student respondents strongly disagree with Satisfaction Level of ICT based Service. The Satisfaction Level of ICT based Service by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 695 with the standard deviation 181.8618 and the skewness 0.807534 seems to lie within the low distribution.

Table – 5.68: Satisfaction Level of Availability of E-resources in Library

Satisfaction Level	Opinion	Total	Percentage	Mean	SD	Skewness
Availability of E-resources in Library	Strongly Agree	868	22.85	735	258.6981	0.078115
	Agree	735	19.35			
	Neither Agree	669	17.61			
	Disagree	412	10.84			
	Strongly Disagree	1115	29.35			
Total		**3799**	**100.00**			

(Source: Primary data)

The above table analyzed that Satisfaction Level of Availability of E-resources in Library by the Women Student Respondents, there are above twenty two percent (22.85) of the women student respondents strongly agree with Satisfaction Level of Availability of E-resources in Library, followed by above nineteen percent (19.35) of the women student respondents agree with Satisfaction Level of Availability of E-resources in Library, above seventeen percent (17.61) of the women student respondents neither agree with Satisfaction Level of Availability of E-resources in Library, above ten percent (10.84) of the women student respondents disagree with Satisfaction Level of Availability of E-resources in Library and above twenty nine percent (29.35) of the women student respondents strongly disagree with Satisfaction Level of Availability of E-resources in Library.

The Satisfaction Level of Availability of E-resources in Library by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 735 with the standard deviation 258.6981 and the skewness 0.078115 seems to lie within the low distribution.

Table – 5.69: Satisfaction Level and Attitudes of Library Staff

Satisfaction Level	Opinion	Total	Percentage	Mean	SD	Skewness
Attitudes of Library Staff	Strongly Agree	1019	26.82	908	284.04	-1.05682
	Agree	925	24.35			
	Neither Agree	619	16.29			
	Disagree	328	8.64			
	Strongly Disagree	908	23.90			
	Total	**3799**	**100.00**			

(Source: Primary data)

The above table analyzed that Satisfaction Level and Attitudes of Library Staff by the Women Student Respondents, there are above twenty six percent (26.82) of the women student respondents strongly agree with Satisfaction Level and Attitudes of Library Staff, followed by above twenty four percent (24.35) of the women student respondents agree with Satisfaction Level and Attitudes of Library Staff, above sixteen percent (16.29) of the women student respondents neither agree with Satisfaction Level and Attitudes of Library Staff, above eight percent (8.64) of the women student respondents disagree with Satisfaction Level and Attitudes of Library Staff and above twenty three percent (23.90) of the women student respondents strongly disagree with Satisfaction Level and Attitudes of Library Staff. The Satisfaction Level and Attitudes of Library Staff by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 908 with the standard deviation 284.04 and the skewness (-1.05682) seems to lie within the low distribution.

Table – 5.70: Satisfaction Level of Internet Facilities

Satisfaction Level	Opinion	Total	Percentage	Mean	SD	Skewness
Internet Facilities	Strongly Agree	895	23.56	829	167.8413	-1.24331
	Agree	829	21.82			
	Neither Agree	696	18.32			
	Disagree	495	13.03			
	Strongly Disagree	884	23.27			
	Total	**3799**	**100.00**			

(Source: Primary data)

The above table reveled that Satisfaction Level of Internet Facilities by the Women Student Respondents, there are above twenty three percent (23.56) of the women student respondents strongly agree with Satisfaction Level of Internet Facilities, followed by above twenty one percent (21.82) of the women student respondents agree with Satisfaction Level of Internet Facilities, above eighteen percent (18.32) of the women student respondents neither agree with Satisfaction Level of Internet Facilities, above thirteen percent (13.03) of the women student respondents disagree with Satisfaction Level of Internet Facilities and above twenty three percent (23.27) of the women student respondents strongly disagree with Satisfaction Level of Internet Facilities. The Satisfaction Level of Internet Facilities by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 829 with the standard deviation 167.8413 and the skewness (-1.24331) seems to lie within the low distribution.

Table – 5.71: Satisfaction Level of Photocopy Service

Satisfaction Level	Opinion	Total	Percentage	Mean	SD	Skewness
Photocopy Service	Strongly Agree	618	16.27	618	359.6418	0.98909
	Agree	556	14.64			
	Neither Agree	399	10.50			
	Disagree	918	24.16			
	Strongly Disagree	1308	34.43			
	Total	**3799**	**100.00**			

(Source: Primary data)

The above table reveled that Satisfaction Level of Photocopy Service by the Women Student Respondents, there are above sixteen percent (16.27) of the women student respondents strongly agree with Satisfaction Level of Photocopy Service, followed by above fourteen percent (14.64) of the women student respondents agree with Satisfaction Level of Photocopy Service, above ten percent (10.50) of the women student respondents neither agree with Satisfaction Level of Photocopy Service, above twenty four percent (24.16) of the women student respondents disagree with Satisfaction Level of Photocopy Service and above thirty four percent (34.43) of the women student respondents strongly disagree with Satisfaction Level of Photocopy Service. The Satisfaction Level of Photocopy Service by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 618 with the standard deviation 359.6418 and the skewness 0.98909 seems to lie within the low distribution.

Table – 5.72: Satisfaction Level of Communication Level

Satisfaction Level	Opinion	Total	Percentage	Mean	SD	Skewness
Communication Level	Strongly Agree	856	22.53	798	188.3937	-0.08235
	Agree	798	21.01			
	Neither Agree	624	16.43			
	Disagree	998	26.26			
	Strongly Disagree	523	13.77			
Total		**3799**	**100.00**			

(Source: Primary data)

The above table reveled that Satisfaction Level of Communication Level by the Women Student Respondents, there are above twenty two percent (22.53) of the women student respondents strongly agree with Satisfaction Level of Communication Level, followed by above twenty one percent (21.01) of the women student respondents agree with Satisfaction Level of Communication Level, above sixteen percent (16.43) of the women student respondents neither agree with Satisfaction Level of Communication Level, above twenty six percent (26.26) of the women student respondents disagree with Satisfaction Level of Communication Level and above thirteen percent (13.77) of the women student respondents strongly disagree with Satisfaction Level of Communication Level. The Satisfaction Level of Communication Level by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 798 with the standard deviation 188.3937 and the skewness (-0.08235) seems to lie within the low distribution.

Table – 5.73: Satisfaction Level of CD/DVD Sources

Satisfaction Level	Opinion	Total	Percentage	Mean	SD	Skewness
CD/DVD Sources	Strongly Agree	879	23.14	752	145.0162	-0.46378
	Agree	698	18.37			
	Neither Agree	752	19.79			
	Disagree	915	24.09			
	Strongly Disagree	555	14.61			
	Total	**3799**	**100.00**			

(Source: Primary data)

The above table reveled that Satisfaction Level of CD/DVD Sources by the Women Student Respondents, there are above twenty three percent (23.14) of the women student respondents strongly agree with Satisfaction Level of CD/DVD Sources, followed by above eighteen percent (18.37) of the women student respondents agree with Satisfaction Level of CD/DVD Sources, above nineteen percent (19.79) of the women student respondents neither agree with Satisfaction Level of CD/DVD Sources, above twenty tour percent (24.09) of the women student respondents disagree with Satisfaction Level of CD/DVD Sources and above fourteen percent (14.61) of the women student respondents strongly disagree with Satisfaction Level of CD/DVD Sources. The Satisfaction Level of CD/DVD Sources by the Women Student Respondents in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, the respondents had mean average of 752 with the standard deviation 145.0162 and the skewness (-0.46378) seems to lie within the low distribution.

CHAPTER VI

FINDINGS AND CONCLUSION

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FINDINGS AND CONCLUSION

This chapter summarizes the findings of the study, provides the conclusion and suggests directions for further research. The study set out to examine the Information and Communication Technology based e-resources and services in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu. A summary of findings is provided, in each case highlighting various observations and important variables studied.

OBSERVATIONS FROM THE STUDY

- There are more than fifty percent (58.83) of the women student respondents are belong to the age group of 19 to 21 years, followed by above twenty four percent (24.03) of the women student respondents are belong to the age group of below 18 years and above seventeen percent (17.14) of the women student respondents are belong to the age group of above 21 years.
- More than seventy five percent (75.84) of the women respondents were from under graduate and the remaining twenty four percent (24.16) of the women respondents were from post graduate.
- More than forty three percent (43.41) of the women student respondents are lived in rural area, followed by above thirty two percent (32.09) of the women student respondents are lived in semi-urban area and above twenty four percent (24.50) of the women student respondents are lived in urban area.
- It is inferred that there are 1649 women respondents are lived in the rural area.

- Ninety two percent (92.00) of the women student respondents are unmarried and the remaining eight percent (8.00) of the women student respondents are married in the surveyed institutions.
- There are hundred percent of the women respondents stated that they aware DELNET **(**100.00 percent**), i**t is followed by majority of the respondents stated that they aware the data bases sage online (95.05 percent), Tailor & Francis (93.31 percent), Elsevier Science Direct (89.81 percent), Emerald (81.86 percent), Springer link (79.02 percent), Ebsco (78.57 percent) and Pro Quest (76.86 percent).
- The usage the databases such as DELNET (79.28percent), Sage Online (65.81), Taylor & Francis (63.20percent**),** Elsevier Science Direct (60.91percent), Emerald (52.91 percent), Springer link (69.78 percent), Ebsco (63.49 percent) and Pro Quest (61.10 percent) used by the majority of the respondents surveyed.
- More than ninety five percent (95.08) of the women respondents aware of reference service, followed by above ninety two percent (92.52) of the women respondents aware of document delivery service, above ninety percent (90.05) each of the women respondents aware of New Arrivals Alert Services and Audio Visual Services (Video conference).
- In terms of usage a vast majority availed services namely Reference Service (79.52 percent), Document Delivery Service (DDL) (76.31 percent), New Arrivals Alert Services (69.81 percent), Audio Visual Services (Video conference) (61.88 percent) and Cloud Service and Mobile Service (55.28 percent).
- More than eighty five percent (85.15) of the women respondent aware of Electronic Document Delivery (DDL) service, followed by more than eighty four percent (84.50) of the women respondent aware of Online Reference Service and above eighty four percent (84.21) of the women respondents aware of new arrivals alert services through e-mail.

- More than ninety two percent (92.00) of respondents were aware of Social Networking, followed by above seventy eight percent (78.44)of respondents were aware of Apps for library and information services and above seventy five percent (75.05) of respondents were aware of Ask Librarian.
- The use of Web Based Information Services was only of Social Networking (82.26percent).
- More than forty two percent (42.06) of the women student respondents are analays use information technology based E-Resources and Services. Followed by above thirty percent (30.98) of the women student respondents are sometime use information technology based E-Resources and above twenty six percent (26.96) of the women student respondents are an occasionally use information technology based E-Resources.
- There are more than thirty two percent (32.43) of the women student respondents are using Information Technology based for E-Resources and Services three to five year.
- There are more than forty percent (40.72) of the women student respondents are hours spent three to five hours for Searching or Accessing Information Technology based for E-Resources and Services. Above thirty two percent (32.51) of the women student respondents are hours spent two to three hours for Searching or Accessing Information Technology based for E-Resources and Services, above eighteen percent (18.03) of the women student respondents are hours spent less than one hour for Searching or Accessing Information Technology based for E-Resources.
- More than thirty two percent (32.85) of the respondents to access Information and Communication Technology Sources and Services in library area only, followed by above thirty percent (30.32) of the

respondents to access Information and Communication Technology Sources and Services of their own studying department.

- More than sixty eight percent (68.39) of the respondents to Search Engine used to Access Information and Communication Technology Sources and Services through Google, followed by above sixteen percent (16.11) of the respondents to Search Engine used to Access Information and Communication Technology Sources and Services through yahoo, above nine percent (9.87) of the respondents to Search Engine used to Access Information and Communication Technology Sources and Services through Alta Vista.
- It is found from the analysis that Google search engine is mostly preferred by the women student respondents for the use of searching documents.
- More than forty nine percent (49.94) of the respondents to used Google chrome web browser to Access Information and Communication Technology Sources and Services, followed by above thirty eight percent (38.69) of the respondents to used Mozilla Firebox web browser to Access Information and Communication Technology Sources and Services and above eleven percent (11.37) of the respondents to used Internet Explorer web browser to Access Information and Communication Technology Sources.
- More than forty nine percent (49.91) of the women student respondents to use the internet motivation by the institutions, followed by more than nineteen percent (19.95) of the women student respondents to use the internet motivation by the friends, above seventeen percent (17.16) of the women student respondents to use the internet motivation by self-taught and very less percent (12.98) of the women student respondents to use the internet motivation by the relatives.
- It is inferred that most of the women student respondents the use of internet to motivate factor by their studied institutions.

- There are more than twenty seven percent (27.01) of the respondents are use e-databases daily, followed by above twenty four percent (24.61) of the respondents are use e-databases weekly, above twenty one plus percent (21.48) of the respondents are use e-databases alternate weekly, above twenty one percent (21.03) of the respondents are use e-databases monthly and very less percent (5.87) of the respondents are use e-databases occasionally.
- More than twenty seven percent (27.24) of the respondents are use e-databases monthly, followed by above twenty four percent (24.35) of the respondents are use e-databases alternate weekly, above twenty three percent (23.14) of the respondents are use e-databases weekly, above eighteen percent (18.37) of the respondents are use e-databases daily.
- More than thirty one percent (31.19) of the respondents are use e-Reports occasionally, followed by above twenty percent (20.69) of the respondents are use e-Reports alternate weekly, above seventeen percent (17.17) of the respondents are use e-Reports monthly, above sixteen percent (16.71) of the respondents are use e-Reports daily.
- More than twenty seven percent (27.11) of the respondents are use e-Books monthly, followed by above twenty six percent (26.28) of the respondents are use e-Books alternate weekly, above eighteen percent (18.90) of the respondents are use e-Books weekly, above fourteen percent (14.21) of the respondents are use e-Books occasionally.
- More than twenty six percent (26.93) of the respondents are use e-Magazine alternate weekly, followed by above twenty four percent (24.16) of the respondents are use e-Magazine alternate weekly, above nineteen percent (19.14) of the respondents are use e-Magazine occasionally.

- More than forty percent (40.17) of the respondents are use CD-ROM-Database occasionally, followed by above eighteen percent (18.74) of the respondents are use CD-ROM-Database alternate monthly**.**
- More than forty seven percent (47.41) of the respondents are use e-Lectures occasionally, followed by above eighteen percent (18.72) of the respondents are use e-Lectures alternate monthly, above fourteen percent (14.08) of the respondents are use e-Lectures alternate weekly, above eleven percent (11.03) of the respondents are use e-Lectures daily.
- The ranking of Information and Communication Technology e-resource and services among the respondents Access full text articles as the first rank by a large group of 1215, while Browse e-journals got second rank preference among the next major group of 1107 respondents, followed by Online reference sources 1099 respondents as third rank and Search the database 965 respondents as fourth rank.
- More than thirty six percent (36.83) of the women student respondents have been frequently used Subject Related Material for study purpose, followed by above thirty three percent (33.01) of the women student respondents have been when it need to used Subject Related Material for study purpose.
- More than forty percent (40.04) of the women student respondents have been frequently used Research Related Material for study purpose, followed by above thirty four percent (34.27) of the women student respondents have been when it need to used Research Related Material for study purpose.
- There are above eleven percent (11.56) of the women student respondents have been frequently use prepare for Seminar/Conferences related materials for study purpose, followed by more than fifty two percent (52.54) of the women student respondents have been when it

need to used use prepare for Seminar/Conferences related materials for study purpose.

- More than fifty five percent (55.94) of the women student respondents have been frequently use E-Mail for study purpose, followed by above twenty four percent (24.63) of the women student respondents have been when it need to used use E-Mail for study purpose.
- There are above twenty seven percent (27.06) of the women student respondents have been frequently use to Search E-Journals for study purpose, followed by more than thirty seven percent (37.17) of the women student respondents have been when it need to use search E-Journals for study purpose.
- More than thirty seven percent (37.46) of the women student respondents have been frequently use to Search E-Books for study purpose.
- Above sixteen percent (16.48) of the women student respondents have been frequently use to for Teleconference for study purpose, followed by above nineteen percent (19.19) of the women student respondents have been when it need to use for Teleconference study purpose and more than sixty four percent (64.33) of the women student respondents have been never use to for Teleconference for study purpose.
- Above thirty two percent (32.38) of the women student respondents have been frequently use to for Entertainment for study purpose, followed by above twenty nine percent (29.08) of the women student respondents have been when it need to use for Entertainment study purpose.
- There are above twenty four percent (24.16) of the women student respondents have been frequently use to Watch or listen Current Affairs for study purpose, followed by above thirty one percent (31.61) of the women student respondents have been when it need to use Watch or listen Current Affairs study purpose.

- There are above eighteen percent (18.40) of the women student respondents have been frequently use to Download E-Resources for study purpose, followed by above eighteen percent (18.90) of the women student respondents have been when it need to use Download E-Resources study purpose.
- There are more than thirty four percent (34.88) of the respondents are proficient knowledge in Internet, followed by above twenty six percent (26.95) of the respondents are expert knowledge in Internet, above eighteen percent (18.90) of the respondents are fair knowledge in Internet, above sixteen percent (16.14) of the respondents are beginner knowledge in Internet.
- Among the total respondents, there are more than each twenty six percent (26.98 and 26.93) of the respondents are proficient and expert knowledge in E-Mail, followed by above twenty four percent (24.34) of the respondents are fair knowledge in E-Mail, above nineteen percent (19.43) of the respondents are beginner knowledge in E-Mail.
- More than thirty seven percent (37.38) of the respondents are proficient knowledge in Short Message Service (SMS) and Multimedia Messaging Service (MMS), followed by above twenty five percent (25.06) of the respondents are expert knowledge in Short Message Service (SMS) and Multimedia Messaging Service (MMS), above eighteen percent (18.40) of the respondents are fair knowledge in Short Message Service (SMS) and Multimedia Messaging Service (MMS).
- More than twenty five percent (25.03) of the respondents are proficient knowledge in Telephone, followed by above twenty two percent (22.85) of the respondents are expert knowledge in Telephone and above twenty one percent (21.69) of the respondents are fair knowledge in Telephone.
- More than thirty seven percent (37.51) of the respondents are proficient knowledge in Mobile Phone, followed by above thirty one percent

(31.96) of the respondents are expert knowledge in Mobile Phone and above twenty two percent (22.58) of the respondents are fair knowledge in Mobile Phone.

- Above twelve percent (12.06) of the respondents are proficient knowledge in Fax, followed by above sixteen percent (16.37) of the respondents are expert knowledge in Fax, above eighteen percent (18.74) of the respondents are fair knowledge in Fax, above twenty four percent (24.43) of the respondents are beginner knowledge in Fax.
- There are more than thirty six percent (36.27) of the respondents are proficient knowledge in Web Camera, followed by above twenty six percent (26.35) of the respondents are expert knowledge in Web Camera, above twenty one percent (21.61) of the respondents are fair knowledge in Web Camera, above thirteen percent (13.66) of the respondents are beginner knowledge in Web Camera.
- There are more than twenty seven percent (27.35) of the respondents are proficient knowledge in Video Conference, followed by above twenty four percent (24.43) of the respondents are expert knowledge in Video Conference, above eighteen percent (18.92) of the respondents are fair knowledge in Video Conference, above sixteen percent (16.45) of the respondents are beginner knowledge in Video Conference.
- Above twenty four percent (24.35) of the respondents are proficient knowledge in Chatting, followed by above sixteen percent (16.53) of the respondents are expert knowledge in Chatting, above fourteen percent (14.11) of the respondents are fair knowledge in Chatting, above thirteen percent (13.50) of the respondents are beginner knowledge in Chatting.
- Among the total respondents, there are more than twenty six percent (26.59) of the women student respondents preferred to access e-resources View through PDF format, followed by above twenty four

percent (24.64) of the women student respondents preferred to access e-resources View through Word format.

- It is inferred that highest number of women student respondents preferred access to e-resources and view through PDF format.
- Above seventeen percent (17.29) of the women student respondents strongly agree with Deviation Low band Width/Speed of Internet, followed by above twelve percent (12.03) of the women student respondents agree with Deviation Low band Width/Speed of Internet.
- There are above sixteen percent (16.37) of the women student respondents strongly agree with Browsing Difficulties of Digital Resources, followed by above eighteen percent (18.74) of the women student respondents agree with Browsing Difficulties of Digital Resources.
- Above twenty four percent (24.35) of the women student respondents natural with Library staff are not user friendly, above twenty six percent (26.88) of the women student respondents disagree with Library staff are not user friendly and above thirty one percent (31.14) of the women student respondents strongly disagree with Library staff are not user friendly.
- There are above twenty percent (20.77) of the women student respondents strongly agree with UPS Back up is very low, followed by above twenty four percent (24.09) of the women student respondents agree with UPS Back up is very low, above sixteen percent (16.45) of the women student respondents natural with UPS Back up is very low, above twenty six percent (26.95) of the women student respondents disagree with UPS Back up is very low.
- Above twenty four percent (24.09) of the women student respondents strongly agree with Limitation of Timing access, followed by above twenty two percent (22.87) of the women student respondents agree with Limitation of Timing access, above twenty one percent (21.45) of

the women student respondents natural with Limitation of Timing access, above sixteen percent (16.11) of the women student respondents disagree with Limitation of Timing access.

- Above twenty two percent (22.74) of the women student respondents strongly agree with Shortage of Computers, followed by above twenty tour percent (24.09) of the women student respondents agree with Shortage of Computers, above eighteen percent (18.34) of the women student respondents natural with Shortage of Computers, above twenty six percent (26.64) of the women student respondents disagree with Shortage of Computers.
- There are above twenty three percent (23.95) of the women student respondents strongly agree with Low Configuration of Computers, followed by above twenty one percent (21.3) of the women student respondents agree with Low Configuration of Computers, above seventeen percent (17.96) of the women student respondents natural with Low Configuration of Computers.
- There are above fifteen percent (15.50) of the women student respondents strongly agree with Network Failure, followed by above sixteen percent (16.45) of the women student respondents agree with Network Failure, above eighteen percent (18.85) of the women student respondents natural with Network Failure.
- Above fourteen percent (14.95) of the women student respondents strongly agree with Lack of Internet Access, followed by above fifteen percent (15.87) of the women student respondents agree with Lack of Internet Access, above eighteen percent (18.90) of the women student respondents natural with Lack of Internet Access.
- There are above twenty four percent (24.43) of the women student respondents strongly agree with Lack of Relevant Article, followed by above twenty one percent (21.48) of the women student respondents

agree with Lack of Relevant Article, above nineteen percent (19.90) of the women student respondents natural with Lack of Relevant Article.

- There are above nineteen percent (19.90) of the women student respondents strongly agree with Unable to access very old Journals, followed by above twenty one percent (21.72) of the women student respondents agree with Unable to access very old Journals, above sixteen percent (16.27) of the women student respondents natural with Unable to access very old Journals, above nineteen percent (19.02) of the women student respondents disagree with Unable to access very old Journals.
- Above thirteen percent (13.42) of the women student respondents strongly agree with Poor Library Facilities, followed by above eleven percent (11.98) of the women student respondents agree with Poor Library Facilities, above eight percent (8.77) of the women student respondents natural with Poor Library Facilities.
- Each eighteen percent (18.29 and 18.90) of the women student respondents strongly agree and agree with Lack of Computer Knowledge, followed by above twenty four percent (24.09) of the women student respondents natural with Lack of Computer Knowledge.
- There are above twenty two percent (22.35) of the women student respondents strongly agree with Lack of Proper Orientation Programme, followed by above twenty percent (20.14) of the women student respondents agree with Lack of Proper Orientation Programme, above twenty four percent (24.16) of the women student respondents natural with Lack of Proper Orientation Programme.
- Above seventeen percent (17.24) of the women student respondents strongly agree with Lack of Awareness of Available Facilities, followed by above fifteen percent (15.77) of the women student respondents agree with Lack of Awareness of Available Facilities,

above twenty seven percent (17.27) of the women student respondents natural with Lack of Awareness of Available Facilities.

- Twenty four percent (24.87) of the women student respondents strongly agree with Lack of Printers/Scanners, followed by above twenty one percent (21.08) of the women student respondents agree with Lack of Printers/Scanners, above nineteen percent (19.46) of the women student respondents natural with Lack of Printers/Scanners, above eleven percent (11.14) of the women student respondents disagree with Lack of Printers/Scanners.
- Above twenty one percent (21.82) of the women student respondents strongly agree with Satisfaction Level of ICT Infrastructural Facilities, followed by above twenty six percent (26.30) of the women student respondents agree with Satisfaction Level of ICT Infrastructural Facilities.
- There are above twenty six percent (26.90) of the women student respondents strongly agree with Satisfaction Level of ICT based Service, followed by above twenty two percent (22.87) of the women student respondents agree with Satisfaction Level of ICT based Service, above eighteen percent (18.29) of the women student respondents neither agree with Satisfaction Level of ICT based Service.
- Above twenty two percent (22.85) of the women student respondents strongly agree with Satisfaction Level of Availability of E-resources in Library, followed by above nineteen percent (19.35) of the women student respondents agree with Satisfaction Level of Availability of E-resources in Library.
- There are above twenty six percent (26.82) of the women student respondents strongly agree with Satisfaction Level and Attitudes of Library Staff, followed by above twenty four percent (24.35) of the women student respondents agree with Satisfaction Level and

Attitudes of Library Staff, above sixteen percent (16.29) of the women student respondents neither agree with Satisfaction Level and Attitudes of Library Staff.

- Twenty three percent (23.56) of the women student respondents strongly agree with Satisfaction Level of Internet Facilities, followed by above twenty one percent (21.82) of the women student respondents agree with Satisfaction Level of Internet Facilities, above eighteen percent (18.32) of the women student respondents neither agree with Satisfaction Level of Internet Facilities.
- Above sixteen percent (16.27) of the women student respondents strongly agree with Satisfaction Level of Photocopy Service, followed by above fourteen percent (14.64) of the women student respondents agree with Satisfaction Level of Photocopy Service, above ten percent (10.50) of the women student respondents neither agree with Satisfaction Level of Photocopy Service.
- There are above twenty two percent (22.53) of the women student respondents strongly agree with Satisfaction Level of Communication Level, followed by above twenty one percent (21.01) of the women student respondents agree with Satisfaction Level of Communication Level, above sixteen percent (16.43) of the women student respondents neither agree with Satisfaction Level of Communication Level, above twenty six percent (26.26) of the women student respondents disagree with Satisfaction Level of Communication Level.
- There are above twenty three percent (23.14) of the women student respondents strongly agree with Satisfaction Level of CD/DVD Sources, followed by above eighteen percent (18.37) of the women student respondents agree with Satisfaction Level of CD/DVD Sources, above nineteen percent (19.79) of the women student respondents neither agree with Satisfaction Level of CD/DVD Sources.

SUGGESTIONS OF THE FURTHER STUDY

- ✓ A study on the use of engineering resources among the all engineering colleges of Tamil Nadu.

- ✓ A study on the use of arts and science resources among the all arts and science colleges in Tamil Nadu.

- ✓ Accordingly, service industry, particularly higher education institutions are needed to evaluate the application and use of Information and Communication Technology to enhance the quality and delivery of higher education.

- ✓ Assessment studies particularly in the digital internet environment among the final users are to be consistently carried out in business environment.

- ✓ It is suggested that the surveyed arts and science college libraries, particularly in southern part of Tamil Nadu need to update the library websites for dynamic information display.

- ✓ Use of web based library services in the higher secondary schools of Tamil Nadu

CONCLUSION

It is shown from this study that in the growth and development of information and communication technologies enabled information services, these women student respondents basically possessed the skills to recognize the need for information, to organize information and to present the information. However, the skill for locating and selecting information is quite limited since they do not have the knowledge on basic library skills. The

study also revealed that women students preferred to locate information by accessing the Internet followed by going to the women college resource centers. An electronic source that is information and communication technologies has been proven to be the preferred source of information by the women students

Information and Communication Technology (ICT) is one of the major contributors in the transformation of social, economic and political life throughout the world. The developing countries like India should embrace information technology to avoid further economic and social marginalization as well as to offer opportunities for expansion and diversification of economy.

Women students in the developing countries are in the core of this divide, the poverty aspect but further get excluded by not being given equal access to the knowledge based field of information and communication technology. Lack of access to the information and communication technology becomes a significant factor in the further marginalization of women students from the economic, social and political mainstream of their countries and of the world. Since, women students are one of the marginalized groups and face exclusion because of their gender; hence a study on the women student's aspects of Information and Communication Technology is very important to understand the different strategies in which Information and Communication Technology can empower women students in both rural and urban areas.

Information and Communication Technology is an impartial medium. It is a network for the flow of information and knowledge. This knowledge network needs to be women students friendly. Information and Communication Technology is instrumental in helping women students break-free from the stereotypical structures and narrow outlooks of society and from the hegemony of male dominated structure.

The result of the study shows that the level of the use of Information and Communication Technology by women student in the selected women colleges affiliated to Madurai Kamaraj University in Tamil Nadu, education is same as level of their empowerment through Information and Communication Technologies. The study also shows that most of the women students using Information and Communication Technologies at an average level and have average empowerment through Information and Communication Technologies. They are using various Information and Communication Technologies and it is helping in their personal, social, educational, psychological, economic, political and legal empowerment.

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QUESTIONNAIRE

Growth and Development of Information and Communication Technologies Enabled Information Services among Students of Womens Colleges affiliated to Madurai Kamaraj University: A Study

Questionnaire for the WomensStudents

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Madurai

Dear Sir/Madam,

The topic chosen for the study is **"Growth and Development of Information and Communication Technologies Enabled Information Services among Students of Womens Colleges affiliated to Madurai Kamaraj University: A Study".** In order to collect required data on the said topic, a structured questionnaire is sent herewith. Your valuable response to the questionnaire is highly appreciable. I assure you that the data obtained from you would be kept confidential and used only for academic and research purpose.

I seek your valuable cooperation and help in obtaining necessary information. I request you to kindly fill up the questionnaire with care and accuracy. The data gathered would be used only for academic purpose and all the details will be kept confidential.

Thanking you for your kind cooperation

Yours Sincerely

Dr. M. RAVICHANDRAN
Research Guide
Department of Library and Information Science
Madurai Kamaraj University
Madurai

Annexure – I

QUESTIONNAIRE
(Please Tick (√) the Relevant)

Part – I: Personal Information

1. Name of the Student:

2. Name of the Institution:

3. Age: Bellow 18 □ 19 to 21 □ above 21 □

4. Study: Under Graduate □ Post Graduate □

5. Place of living: Rural □ urban □ Semi-Urban □

6. Marital Status: Married □ Unmarried □

Part – II: Awareness of Electronic Resources and Services available in the women colleges affiliated to Madurai Kamaraj University

1. Awareness and use of ICT based Electronic Databases

S.No	Electronic Databases	Aware	Use
1.	IOP on line		
2.	Ebsco		
3.	Emerald		
4.	Elsevier Science Direct		
5.	Sage online		
6.	Taylor & Francis		
7.	ABI inform Complete		
8.	Springer link		
9.	DELNET		
10.	JSTOR		
11.	CINHAL-EBSCO Full text journals		
12.	Science Direct		
13.	Pro Quest		
14.	If any, please specify:		

2. Aware and use the following conventional library and information services provided by your college library

S.No	Types of Library and Information Services	Aware	Use
1.	Reference service		
2.	Referral service		
3.	Current awareness (CAS) service		
4.	Selective Dissemination Information (SDI)service		
5.	Document Delivery Service(DDL)		
6.	Reprography service		
7.	Indexing and abstracting service		
8.	New arrivals alert services		
9.	Newspaper clipping service		
10.	Bulletin board service		
11.	Bibliographical Services		
12.	User Education/user orientation		
13.	Physically Challenged and disabled Services		
14.	Audio Visual Services (Video conference)		
15.	Competitive Exam Section		
16.	Cloud Service & Mobile Service		
17.	Project Work/ Internship		
18.	If any, please specify:		

3. Aware and use the following Electronic Information Services provided by your college library

S.No	Types of Electronic Information Services	Aware	Use
1.	Online reference service		
2.	Electronic Current Awareness (CAS) service		
3.	Electronic Selective Dissemination Information (SDI) service		
4.	Electronic Document Delivery (DDL) service		
5.	New arrivals alert services through e-mail		
6.	Electronic Newspaper clipping service		
7.	Online Public Access Catalogue (OPAC) & Web enabled OPAC		
8.	Reference management		
9.	If any other please specify:		

4. Aware and use the following Web Based Information Services provided by your college library

S.No	Web BasedInformation Services	Aware	Use
1.	Ask Librarian		
2.	Table of Content Journal service		
3.	Frequently Asked Questions		
4.	Text and virtual chats		
5.	Library blog and subject gateways		
6.	Discussion forum for users		
7.	Library wiki		

8.	Social Networking		
9.	Virtual tour		
10.	Apps for library and information services		
11.	If any, please specify:		

Part – III: Frequency Reading Habit

1. Adequacy of using information technology based e-resources and services in your Resistance

Always □ Sometime □ Occasionally □

2. Normally how long have you been using the information technology based for e-resources and services?

Less than 1 year □ 2 to 3 Years □
3 to 5 years □ More than 5 years □

3. How many hours you spent for searching / accessing information technology based for e-resources and Services?

Less than 1 hour □ 2 to 3 hours □
3 to5 hours □ more than 5 hours □

4. Place of accessing ICT Sources and Services

S.No	Place of Accessing	Please Tick (√) the Relevant
1.	Library	
2.	Departments	
3.	Home	
4.	Browsing center	
5.	If any, please specify:	

5. Search Engine used to access ICT Sources and Services

S.No	Search Engine	Please Tick (√) the Relevant
1.	Google	
2.	Alta Vista	
3.	Yahoo	
4.	MSN	
5.	If any, please specify:	

6. Browser used to access ICT Sources and Services

S.No	Frequency	Please Tick (√) the Relevant
1.	Google chrome	
2.	Internet explorer	
3.	Mozilla firebox	
4.	If any, please specify:	

7. Motivational factors to use the Internet

S.No	Motivational Factors	Please Tick (√) the Relevant
1.	Institution	
2.	Friends	
3.	Relatives	
4.	Self-taught	
5.	If any, please specify:	

8. Frequency of using ICT tools

S.No	Types of Sources	Daily	Weekly	Alternate weekly	Monthly	Occasionally
1.	e-Database					
2.	e-Journals					
3.	e-Reports					
4.	e-Books					
5.	e-Magazine					
6.	CD-ROM-Database					
7.	e-Lectures					
8.	If any, please specify:					

9. Ranking of Information Technology based using E-Resources and Services

S.No	Ranking of Information Technology	Ranking
1.	Access full text articles	
2.	Browse e-journals	
3.	Online reference sources	
4.	Search the database	
5.	Search the online catalogue	
6.	Use of e-books	
7.	Visit to library website	

10. Purpose of Using ICT Sources and Services

S.No	Purpose of Using	Always	When it Need	Never
1.	To collect Subject related material			
2.	To collect Research related material			
3.	To prepare for seminar/conferences			
4.	To send e-mail			
5.	To search E-Journals			
6.	To search e-books			
7.	To use for Teleconference			
8.	To use for Entertainment			
9.	To watch/listen Current affairs			
10.	To download e-resources			
11.	If any, please specify:			

11. Knowledge about ICT Sources and Services

S.No	ICT Knowledge	Proficient	Expert	Fair	Beginner	Don't Know
1.	Internet					
2.	E-mail					
3.	SMS / MMS					
4.	Telephone					
5.	Mobile Phone					
6.	CDs					
7.	Fax					
8.	Web Camera					
9.	Video conference					
10.	Chatting					
11.	If any, please specify:					

12. Preferred formats for reading the ICT based Information Resources

S.No	Description	Please Tick (√) the Relevant
1.	Word format	
2.	PDF format	
3.	HTML format	
4.	Image format	
5.	If any, please specify:	

Part – IV: Attitudes facilities and Satisfaction level of Library ICT Sources and Services

1. Attitudes facilities of Library ICT

S.No	Attitudes facilities	Strongly Agree	Agree	Neither Agree	Disagree	Strongly disagree
1.	Deviation Low band width/Speed of Internet					
2.	Browsing difficulties of digital resources					
3.	Library staff are not user friendly					
4.	UPS Back up is very low					
5.	Limitation of Timing access					
6.	Shortage of computers					
7.	Low configuration of computers					
8.	Network failure					
9.	Lack of Internet Access					
10.	Lack of relevant article					
11.	Unable to access very old Journals					
12.	Poor Library Facilities					
13.	Lack of computer knowledge					
14.	Lack of Proper Orientation Programme					

15.	Lack of awareness of available facilities					
16.	Lack of Printers/Scanners					
17.	If any, please specify:					

2. Satisfaction level of using ICT Sources and Services

S.No	Satisfaction Level	Strongly Agree	Agree	Neither Agree	Disagree	Strongly disagree
1.	ICT infrastructural Facilities					
2.	ICT based service					
3.	Availability of E-resources in library					
4.	Attitudes of library staff					
5.	Internet facilities					
6.	Photocopy service					
7.	Communication level					
8.	CD/DVD sources					
9.	If any, please specify:					

Signature

Thank you very much for your participation.

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GROWTH AND IMPORVEMENT OF INFORMATION COMMUNICATION TECHNOLOGY ENABLED INFORMATION SERVICES AMONG THE STUDENTS OF WOMEN COLLEGES AFFILIATED TO MADURAI KAMARAJ UNIVERSITY – A STUDY

Thesis submitted to Madurai Kamaraj University for the fulfilment of requirement for Award of Ph.D. degree in Library and Information science By

A. Sheik Maideen (Reg. No. P5628)

Under Supervision of Dr M.Ravichandran College Librarian Sri Meenakshi Government Arts College for Women (A) Madurai – 625002, Tamilnadu, India

Department of Library and Information Science Madurai Kamaraj University Madurai – 6250021

September 2021

Dr. M.RAVICHANDRAN M.Com, M.L.I.Sc, PGDCA, Ph.D. College Librarian Sri Meenakshi Government Arts College for Women (A) Madurai – 625002, India CERTIFICATE This is to certify that the Mini Project entitled Growth and Development of Information Communication Technology Enabled Information Services among the Students of Women Colleges Affiliated to Madurai Kamaraj University–A Study is the research topic carried out By A. Sheik Maideen (Reg. No. P5628) under my supervision in the

Department of Library and Information Science, Madurai Kamaraj University, Madurai

and

that the research topic

has not previously formed the basis for the award of the any other Degree, Diploma, Fellowship or any other similar title and that the

research topic as a whole in its approach to the subject in its organization and treatment of the material and in its critical evaluation represents original and independent work on the part of the researcher. Date: Dr. M. Ravichandran Supervisor A.SHEIK MAIDEEN (Reg. No. P5628) Part Time

Research

Scholar Department of Library and Information Science, Madurai Kamaraj University, Madurai

DECLARATION I hereby declare that the research entitled Growth and Development of Information Communication Technology Enabled Information Services among the Student of Women Colleges Affiliated to Madurai Kamaraj University – A Study is a bonafied record of the

original research work carried out by me under the guidance and supervision of Dr.

M.Ravichandran College Librarian, Sri Meenakshi Government Arts College for Women (A), Madurai – 625002, India and that has not been submitted either in whole or in part elsewhere for award of any Degree, Diploma or any other similar title. Place: Virudhunagar Date: A.SHEIK MAIDEEN