CHAPTER 1

INTRODUCTION

1.1 INTERNET TECHNOLOGY

Internet has been used by millions of people, yet they know very little about how it works, its culture, history and its use. Internet is essentially a networks of networks, through which users surf the information superhighway by navigating through a maze of networks of computers. This task is accomplished by a common set of protocols, which determines how computers connect, send and receive information on the Internet. Protocol is a set of precisely specified rules for carrying out the procedures or transfer of Information through a network of computers. This transmission control protocol / Internet protocol (TCP/IP) consists of about hundred different protocols through which new ones are developed and added regularly. Transmission control protocol (TCP) converts messages into a stream of packets. Packets are small pieces of message, which is transported to the network. Internet protocol is used to route the message to the destination computer, with the help of packet switching, which enables the packets to be reassembled in a proper sequence.

Prior to the packet switching, circuit switching method of data transmission was used. The packet switching method was initiated in 1960.
1.2 ORIGIN OF INTERNET

This packet switching method was the ground work for the network of networks. ARPANET (Advanced Research Project Agency Network) was created by BBN, Inc., in 1969 for the US defence department, which was also known as DARPA (Defence Advanced Research Project Agency). In 1972 the ARPANET became an network of nodes in Europe. TCP/IP rules for ARPANET was established in 1980. Since then, ARPANET was known as Internet. But Internet became an open system from 1983, when the TCP/IP was distributed free of cost by the United states defence department.

WWW, the World Wide Web was created by Timbanners – Lee at CERN (a French acronym for the European Laboratory for Particle Physics) which facilitates publishing of information in Internet.

Internet is growing in a very fast pace. Each day, approximately 33, 000 new users access Internet. Internet connections are now available in almost all the countries. While Internet is still growing at a rate of 100% each year, the Internet 2 has emerged in 1996. Thirty four United states research institutions joined together to form Internet 2 consortium. It is run by the University Corporation for Advanced Internet Development (UCAID). It promises to offer super – fast connections with the help of optical circuit 1-2 which has a bandwith of 622 megabites per second.  


\[\text{Harsha Parekh, (2000), Internet in the Scholarly Communication Process, Mumbai : Knowledgeware.}\]
1.3 INTERNET AND INDIA

Internet was started in India when VSNL (Videsh Sanchar Nigam Limited) launched its Internet service in August 15th 1995. Since then, India has witnessed a dynamic growth and the expansion of use of Internet, throughout the country. This trend of extensive use of Internet not only helps India to play a vital role in the emerging global e-economy, it will also enable the citizens of India to avail the benefits drawn from the Information super highway. India promises a good market potential for the evolving Internet economy. Internet acts as a catalyst for the growth oriented sectors like e-commerce and e-business, which have a deep impact on country’s economy. The immense success of quite a large number of Indian Information technology professional, has elated the status of India as one of the world’s largest talent pool of technical people. This technical knowledge of Indians will be enhanced further by exploiting the abundant sources of Information which emerge from web resources.

For any developing technology sectors including Internet, the role of government is a paramount important. The government can play a crucial role in establishing a legal infrastructure, that will provide a unified law for the development and control of e-commerce and e-trading, which is vital for the global economy. The government of India has realised the importance of having a comprehensive legal basis and introduced an IT ACT 2000, which provides a framework for software and business policy issues ranging from retail software to Internet traffic.
1.4 INTERNET AND LIBRARIES

Twenty first century is witnessing a dynamic transitional change of Libraries. They are moving towards digital library in a very fast pace which conveniently transfers information through networks of computers. This metamorphosis of Libraries into sophisticated information centers, eventually leads to the extensive use of Internet, which has triggered a change in the process of knowledge management. This changing scenario necessitates, redefining the management strategies of the Libraries. The transformation evokes number of issues, which includes familiarisation of Internet among the Library professionals, and understand the use of Internet and its impact on society. These issues, raise a number of practical questions, which have to be understood and clarified. Some of the vital questionable issues are the following:-

- What is the role of Internet in the exchange of information and knowledge chain?
- What is the impact of Internet on society?
- How the abundant source of information from Internet can be utilised by the users of Library to derive maximum benefits from Internet?
- To what extent Internet can act as a catalyst to attract and motivate potential users to the Libraries?
- Could Internet be used successfully to provide a cost-benefit method of disseminating information to a wider audience?
- How to harness the diversified global knowledge of Internet and channelise them towards the achievement of constructive, mission-oriented objectives of the society?

Probing into the above issues has, provoked this present study which aims at analysing the use and implications of Internet users of cyber cafes in Chennai.

The developing technical complexity of information technology has ushered a new Internet culture throughout the world. Internet is penetrating the value chain of several points of the society and it is revolutionising the manner in which the information is accessed. The importance of literacy has now gained a new dimension, which is now emerging as Internet literacy. It has accelerated the individual's educational, socio-economic and business achievements. It provides infinite geographical expansion, which facilitates virtual travelling in cyber space, through more than millions and millions of servers and personal computers. The increased use of Internet has drastically changed the lifestyle of the society. People tend to spend more time in browsing Internet, which has led to the development of a new culture called 'cyber culture'.

1.5 CYBER CULTURE

1.5.1 Net Addiction

The net addiction leads to certain social and pathological conditions. Most of the Internet users tend to become addicted to Internet and spend their
time in surfing and chatting. Majority of the users, are teenagers and they use it extensively for communicating with their friends.

1.5.2 Less social activities

A systematic study may reveal that the net addiction might lead to psychological disturbances and reduce socializing, which might result in loneliness. Sometimes it may be the other way round. Chatting and e-mail may drive away the loneliness of individuals.

1.5.3 Viewing objectionable sites

One of the significant reasons which drive the younger generation to the increased use of Internet is, free access to pornographic sites, which is also termed as 'hot sites'.

1.5.4 Use of Internet by elderly people

It is now quite common to see elderly people using e-mail for contacting their relatives who are living in foreign countries.

1.6 FEATURES OF INTERNET

1.6.1 Development of e-commerce

E-commerce has been gaining momentum in western countries, in which electronic business transactions are becoming familiar day by day. Though India was one of the first few countries in the world to pass e-commerce enabling legislation, (the information technology act 2000), this practice is yet to be popularised here. Number of companies in India hosting
e-commerce sites, which have been targeted towards the Non Resident Indians (NRI's) with gift delivery services, books, audio and video cassettes etc.,. Certain Indian banks started their customer's services and business transactions through Internet. Yet e-commerce scenario has not attracted people of India dramatically. One of the major reasons for this is, the government of India has still problems with verification process of digital signatures. But the new IT policy of India might bring a positive attitude towards e-commerce.

1.6.2 E-Governance

E-governance involves publicising the government policies, regulations and programmes through Internet. In India the bureaucratic setup leads to red tapism and the paper-based system of rules and procedures of the government is time consuming and secretive nature. If rules and procedures are made transparent by making information freely available to the citizens, any business transactions will be made faster, which is possible by using Information technology. And this will lead to the effective e-governance. India is a multilingual country, hence access to information in the local language is more beneficial for the citizens. The responsibility of developing e-governance was initiated by the co-ordinate activities of Information Technology and Citizens interface set up by the National Task Force on Information Technology and Software development. This also serves as the high powered committee on improving efficiency in government through the use of Information Technology, under the chairmanship of cabinet secretary. The Department of Electronics (DOT) has taken upon itself, the charge of the
technological aspects of e-governance. It enables the government bodies to carry out various business transactions and facilitates smooth interactions with their coordinate systems and the citizens. India is still in the earliest phase of the implementation of e-governance.

1.6.3 E-Learning

Computer literacy has increased the significance of e-learning. Number of virtual class rooms have been mushroomed by various educational and research organisations. This has expanded the educational opportunities at the global level. The web model of e-learning reflects one to many relationship, which is very similar to the television or Radio communication. Universities are now moving away from traditional classrooms and offering more and more e-learning. Though this e-learning offers certain advantages such as overcoming the distance both in time and space, and cut down expenses of travel, there are number of drawbacks. Educationlaist

The major criticism of online learning is that it ignores the social dimensions of learning such as ‘Human content’ and ‘personal touch’ which have a significant impact on learning process. Another major criticism is that, the validity of online education has been debated by several educationists. Since some educationists have the opinion that the concept of virtual degrees is motivated by getting a certificate rather than receiving proper education. Some academicians criticise it on the basis of that, e-learning advocates only delivery of information through Internet and it does not involve real learning. The interaction between the teacher and the student may not be, as effective
as in formal classroom. In India the system of e-learning is yet to catch up with the western countries.

1.6.4 Virtual Libraries

The metamorphosis of conventional libraries to digital libraries has brought in the advent of virtual libraries. This has a significant impact on resource sharing and access to information. It has introduced a cost effective approach in collection development in libraries.

'Every coin has two sides'. Internet is no exception to this proverb. While it offers a number of constructive measures, it has also emerged as a platform for destructive and criminal activities.

1.7 CYBER SECURITIES

1.7.1 Cyber Crimes

The cyber crimes have been growing, as rapidly as, the growth of Internet in diversified forms. Criminals have used cyber space to target credit cards for their fraudulent activity. Internet frauds have extended well beyond security-based transactions and financial thefts are made. Internet users are cheated by fake franchise offerings and bogus investment schemes.

Investigations have revealed that the terrorist attack on world trade centre, in the United States, on September 11th 2001, was planned and carried out through cyber space, and it could be considered as the gravest of cyber crimes.
Anonymity of the net presents ample opportunities for creating and viewing pornographic sites, which is considered as one of the attractions of the use of Internet among the younger generation.

Most users when joining a chat room they do not reveal their real identity and give a fictitious name. Cyber crimes in India include child pornography, peadophile, fake franchises, e-mail threat, cyber squatting and credit card frauds. For example a 16 year old school student, hosted a site which provided details about the physical attributes of the girls and the teachers of his school. His action was attributed for taking revenge on them and ended up in a juvenile home. This cyber crime attracted much attention because this was the first case to be registered in India.

A few incidences of cyber squatting were detected in India, which involves hosting objectionable sites in the names of VIP’s and political leaders.

One of the first case in India about the ‘Identity theft’ which was registered for credit card fraudulent, through which an officer in a private company received a bill for Rupees one lakh and fifty thousand. Such credit card fraudulent is carried out by using the computer programm such as ‘credit wizard’. In November 2000 the Mumbai police rescued a 16 year old boy who was kidnapped by a lady peadophile. The boy befriended her through chatting. In another incident, an ‘e-mail threat’ has been sent to the Chief Minister of Tamilnadu and the police arrested the criminal and a case has been registered.
1.7.2 **Cyber law**

Though, the Internet has reduced the world virtually to a smaller place, the cyber crimes made it very unsafe, since relatively it is more difficult to locate and punish the guilty. The criminal mechanism involves, such as tampering the computer source documents, hacking, forgery of digital signature and domain name disputes, which may seem to be clearly distinct, but there are numbers of loopholes in cyber laws.

The Internet is a network of servers and individual personal computers, which are located in different geographical areas throughout the world, where the regulation of cyber law of one country may not have a binding with another nation.

The detection of cyber crimes becomes more complicated with the emergence of cyber cafes.

1.8 **CYBER CAFES**

Though the personal computers are slowly becoming a necessary educational and communication gadget in Indian homes, the recurring cost prevents its entry in every home. Hence those who cannot afford to have computers at home, access Internet in their office, educational institutions or in cyber cafes. This has led to the sprouting of cyber cafes. The cyber cafes not only play a pivotal role in increased access to information and reducing the digital divide, it also has a darker side, where it provides opportunities for misusing Internet. In developed countries such as United States, free Internet
access is offered to a greater extent then the developing countries like India, where cyber cafes have gained a significant popularity.

1.8.1 Origin of cyber cafes in India

In 1997 the first cyber cafe in India was started in Banglore. Customers were allowed to browse Internet for Rs.120 per hour with a cup of coffee offered free. Thus, the concept of cyber cafes originated in India.

Though the cyber cafes were started in Chennai in 1997 itself, they gathered momentum in 1998. Only during the millennium, they sprouted in every nook and corner of Chennai city like mushrooms.

These cyber cafes have been used as meeting points of younger generations to develop new friendship and for getting latest information.

These cyber cafes are the driving force, which accelerated the use of Internet in the country. The increased use of Internet consequently led to the misuse of the same. The extent of misuse of Internet is evident by the incident, where a schoolboy was arrested in Delhi for designing a pornographic site, which raised social and legal issues.

1.8.2 Cyber law in India

India is one of the few countries in the world to pass a legislation, (Information Technology act 2000 ("ACT")), which facilitates e-commerce and the use of the Information technology in conducting business transactions. This Act comprises of the following three significant aspects:
- Legal recognition of electronic records and communication
- Regulation regarding appointment of certificate authorities (Controller of certification authorities) to grant of licenses for digital signature certificate etc.,
- Cyber contravention, which deals with civil and criminal violations, penalties and establishment of the Adjudicating Authority and cyber Regulating appellate tribunal etc.

Further, the Act amends provisions of existing laws such as Indian penal code (1860), which deals with the related issues of electronic crimes, evidence and regulations, regarding electronic funds transfer etc.

The act attempts to introduce two separate manifestations of cyber violations such as ‘civil misfeasance’ and ‘criminal misfeasance’. Yet, interpretation of the act may be problematic because the act does not clearly differentiate civil from criminal violations.

Moreover punishing a person who is involved in cyber crimes, is difficult, because such persons will not use theirs own computer systems.

In general the cyber café owners were held responsible for the cyber crimes. In this context it should be noted the Mumbai police suggested that an Identity card should be issued to all cyber café users. This move was opposed by public and came back to an expert panel committee, appointed by Mumbai court for suggesting certain solutions to prevent cyber crimes. The panel suggested that Identity card system can check the pornographic viewing
but this suggestion had not taken into consideration due to certain practical difficulties.

In such a situation, there is a greater possibility of evolving cyber crimes from cyber cafes. It is a known fact that cyber cafes are sprouting all over Chennai in a very fast pace and they are usually flocked by younger generation.

This phenomenon generates a curiosity to investigate, whether the cyber cafes are the convenient source for making new friends through chat facility or accessing pornographic sites, or to satisfy the quest for latest information and also to determine the driving force behind the tremendous growth of cyber cafes in the city. The curiosity of the researcher has motivated to conduct a survey to find out the answers to the above queries, which resulted in carrying out the present research work.

1.9 A PILOT STUDY

A pilot study has been carried out by the researcher to determine the feasibility of conducting the present research work. The pilot study revealed that majority of schools and colleges in Chennai do not provide Internet access facility.

As per the survey conducted by the researcher there were more than 250 (Two hundred and fifty) cyber cafes in Chennai in the year 2000, when this study started. Further it also revealed that there are no proper guidelines and regulations for establishing cyber cafes.
1.10 STATEMENT OF THE RESEARCH TOPIC

On the basis of the findings of the pilot study, an outline for conducting the actual research was determined. The academic Libraries and public Libraries are completely neglecting Internet, which is an unlimited source of information. This situation is capitalized by the commercial Internet providers whose major objective is getting more profit, which has led to the increased establishment of cyber cafes in Chennai. As per the survey conducted by the researcher there were more than 250 (Two hundred and fifty) cyber cafes in Chennai in the year 2000, when this study started. The exact number could not be assessed since there is no directory for the cyber cafes in Chennai. Apart from that some of the longevity of cyber cafes are very short, because they are closed down as fast as they appear.

Twenty-five cyber cafes were selected using random sample method and a survey was conducted to analyse the use and implications of cyber cafes in Chennai.

This study consists of three distinct aspects. First it aims to determine the demographic factors of cyber cafe users such as Age, Sex and Educational qualifications.

Next the study identifies the purpose of using Internet by the cyber cafe users.
Further the study probes into the extent of awareness of target users regarding Internet features such as awareness of online courses, virtual libraries, e-commerce, e-governance and cyber law etc..

Apart from this the study also determines search techniques used by the users and the success rate of retrieval of relevant information.

The study also tries to find out the time and money spent by users for browsing Internet.

The second aspect of this study involves an opinion survey of the parents regarding the use of Internet by their siblings and further probes into their role in counseling and guiding their children in viewing objectionable sites.

The third aspect of this research, highlights the income fetched by the cyber cafes and the negligent role of cyber cafe proprietors in preventing the use of objectionable sites and cyber crimes.

Finally this study suggests a model of regulation for cyber café to be established in Tamilnadu.

1.11 NEED FOR THE STUDY

The fast spreading awareness about the advantages of Internet has accelerated the use of Internet in multi-fold, at global level.

India is no-way behind this, and day-by-day Indians are increasing their travel in information superhighway. Surfing Internet has become a
common phenomenon in Chennai also. Unlike the developed countries, there are no free Internet facilities available in most of educational institutions and other organisations in India. The commercial organisations such as cyber cafes are utilising this draw back to their advantage, and the increased emergence of cyber cafes are not uncommon in India.

In the recent past, Chennai, the capital city of Tamilnadu is witnessing a sudden sprout of cyber cafes which indicates the increased use of Internet.

One of the reasons attributed to this, is non-availability of Internet access, except in a very few private academic institutions and their libraries. Accessibility of Internet facility after business timings and at their convenient locations, further adds to their increased usage of cyber cafes. Hence the mushrooming of cyber cafes in every nook and corner in Chennai is not a surprising phenomenon. This fact indicates the suitability of choosing the cyber cafes, to study about the use of Internet.

A survey on cyber cafes in Mumbai\(^3\) has been done, which does not deal with the aspects included in the present study. No similar study has been undertaken so far. Further the present study concentrates more on the issues and implications of the use of Internet by the users of cyber cafes in Chennai.

This study reveals various aspects and implications of use of Internet such as awareness and use of e-learning, e-governance, e-commerce, virtual libraries, cyber law and viewing of objectionable sites etc.,

\(^3\) Harsha parekh and Jyotsna Sawant (2000). Cyber Cafes in Mumbai Information Today & Tomorrow, V.19(4)pp.11-12.
This study brings out the significance of certain important issues such as lack of proper legislation regarding establishment of cyber cafes.

This study helps to formulate a fundamental framework for establishing cyber cafes and recommends how the use of Internet can be used to promote more constructive and beneficial activities to the society by establishing cyber cafes in Libraries. The significance of the above issues dealt in this research work stress the need for selecting this present topic.

1.12 OBJECTIVES

The objective of the present research work are enumerated below:

1) To determine the feasibility of the use of GIS for locating cyber cafes in Chennai city which are included in this study.

2) To determine the reason for using cyber cafes.

3) To analyse the demographic data of the cyber cafe users such as age, sex, educational qualification and formal computer education.

4) To determine the actual propose of using Internet by cyber cafe users.

5) To determine the extent of awareness about the features of Internet such as e-learning, e-governance, virtual library and cyber law.
6) **To find out** the success rate of getting relevant information by the cyber café users by analysing their familiarity with search engines, web sites and duration of using Internet.

7) **To calculate** the maximum and minimum amount spent by the users of cyber café for browsing Internet.

8) **To probe** into the impact of use of Internet in improving their knowledge.

9) **To identify** the parents involvement in counseling their children in the use of Internet and their opinion about the usefulness of Internet.

10) **To assess** the income generated by the cyber café proprietors.

11) **To find out** the measures taken by the cyber café proprietors to prevent the use of objectionable sites and cyber crimes.

1.13 **SCOPE AND LIMITATION OF THE STUDY**

Twenty-five (25) cyber cafes in Chennai City in Tamilnadu were chosen from 25 areas which were selected by using random sampling method. The areas in which the cyber cafes are located are listed below:

1. Adayar (E)
2. Agaram (S)
3. Annanagar (W)
4. Egmore
5. Guindy (E)
6. K.K. Nagar
7. Kilpauk (N)
8. Kodambakkam (S)
9. Kodungaiyur West
10. Kolathur
11. Nehru Nagar
12. Nungambakkam
13. Old Washermanpet
14. Park Town
15. Royapuram
16. Santhome
17. Teynampet
18. Theyagaraya Nagar
19. Thiruvanmiyur (E)
20. Thiru.Vi.Ka Nagar
21. Tondiarpet
22. Vadapalani (N)
23. Velachery
24. Villivakkam (S)
25. Virugambakkam (N)
In each area only one cyber cafe has been selected for the survey because questionnaire method was adopted to collect data from 375 (three seventy five) users from these twenty five (25) cyber cafes, which involves time constraint. Apart from this, the sample includes one hundred and twenty five (125) parents, twenty five (25) cyber café supervisors and fifty (50) girls (non-users of cyber cafes) from two colleges.

1.14 CONSPECTUS

Chapter I

Introduction

The first chapter explains the concepts of Internet, and it provides a brief account of origin of cyber cafes in India. This is followed by the description of pilot study, statement of research topic, justification of the selection of topic, list of objectives, scope and limitation of the study and organisation of the thesis.

Chapter II

Review of literature

Articles, books, and websites were searched to retrieve relevant information and they have been described in this chapter. Some of the views of the authors cited in the literature survey have been correlated with the findings of the present study.
Chapter III
Methodology

This chapter describes the sample of the study, lists the hypotheses and explains the method of data collection. Further, it also explains the various tools used and their purpose for analysing the data.

Chapter IV
Analysis

The collected data has been analysed by using softwares such as Map Info (GIS), Fuzzy Decision Maker and SPSS. Tables, Pie-diagrams, Bar charts and Maps were provided to make the analysis more explicit.

Chapter V
Findings and Inferences

The inferences were drawn from the analysis and the major findings were listed. Further the researcher has suggested model for cyber café regulations. The thesis ends with description of future course of action, enumerates the byproducts and concluding remarks.