

GENDER ANALYSIS OF INTERNET USE PATTERNS IN HIGHER EDUCATIONAL INSTITUTIONS OF SILCHAR TOWN IN CACHAR DISTRICT

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ABSTRACT

Education is one of the significant instruments for socio-economic transformation in the society. It is the process of human enlightenment and empowerment for achieving better and higher quality of life. The swift development in information and communication technologies (ICTs) across the world has influenced the higher education in India. ICTs, an umbrella term, include any communication device or application encompassing radio, television, mobile phone, computer and network hardware and software, Internet and satellite systems as well as various services and applications associated with them, such as video-conferencing and distance learning. Internet is a global information system that uses networks of computers to enable people all over the world to interact with one another, and to share a vast and diversified body of information. The total number of Internet subscribers in India is 22.86 millions on 31 March, 2012 as compared to 19.67 millions on 31 March 2011 showing an annual growth rate of about 16.19. As the swift development in ICTs across the world has influenced higher education in India, this paper analyses the use patterns of Internet among the rural Muslim students, males and females, studying in the higher educational institutions of Silchar town. The field data for the study were generated through a structured interview schedule during 2011-2012, administered to 273 Muslim students, 149 males and 124 females, in six colleges, a national institute of technology and a university of the town, selected by stratified random sampling technique. The study finds that majority of male students use Internet in cyber cafés whereas majority of female students use it at home; majority of the students use Microsoft Internet Explorer browser for Internet surfing; majority of male students use Internet in cyber cafés whereas majority of female students use it at home; male students use Internet mostly during their free time but female students use it in the afternoon; both male and female students use Internet for two hours in a day; both male and female students use Internet for downloading study materials for upcoming examinations and retrieve information by taking print out of the important information downloaded from Internet. Thus, the integration and increasing use of ICTs in education has brought changes to teaching and learning at all levels of higher education systems in India.

Key words: ICTs, Internet, education, gender, rural students

INTRODUCTION

The integration of ICTs is the most striking innovation in the field of education. The learning process is based on four key roles of the computer – a tool, a tutor, a topic and a thought provider. The technological resources which are available for the teaching and the learning specially include computer hardware and software, in addition to the growing range of peripherals which include video, Compact Disc Read-Only Memory (CD-ROM) and electronic communication media. The communication is a process by which an individual, the communicator, transmits to modify the behaviour of other individuals. It is a purposeful process, which involves sources, messages, channels and receivers. The process of globalisation occurring at the fast pace and availability of information in nanoseconds through the electronic media has significant impact on the content, methods and quality of education. ICTs are the catchall phrase used to describe a range of technologies for gathering, storing, retrieving, processing, analysing and transmitting information. The technologies include radio and new digital technologies like computers, satellite, mobile phone and Internet. Internet is a new communication technology through which a multitude of services can be accessed round the clock. The Internet is a global information system that uses networks of computers to enable people all over the world to interact with one another, and to share a vast and diversified body of information (Aggarwal 2004: 50-53). Most of the traditional media including telephone, music, film and television are being reshaped or redefined by the Internet giving birth to new services. According to Internet World Stats, there were 2,267,233,742 Internet users worldwide upto 31 December, 2011 representing 32.7% of the world's population. India has the world's third largest Internet user-base with over 22.86 millions on 31 March, 2012 (Quarshie & Ami-Narh 2012: 1303 & Telecom Regulatory Authority of India 2011-12). The younger generation represents the highest population of Internet users. In the information era, the rapid proliferation of information has important implications for the education among the students. Internet was introduced in India during the 1990s. The three earlier Internet Service Providers; viz., Education and Research Network (ERNET), National Informatics Centre Network (NICNET) and Software Technology

Parks of India (STPI) with different growth histories have been offering Internet services to the people of India. Subsequently, Videsh Sanchar Nigam Limited (VSNL), Bharat Sanchar Nigam Limited (BSNL) and Mahanagar Telephone Nigam Limited (MTNL) joined the Internet services market of India. The private sector participation of Internet services was begun in November 1998 with 'Satyam Online', the first private Internet Service Provider of India, launched by Satyam Infoway. Later on, other private sector Internet Service Providers, such as Sify, Airtel, Netcom, Reliance and Hathway also entered the market. The advent of Internet in different spheres of life has enhanced the academic literature with empirical analysis. There is a growing body of research studies on use patterns of Internet in education among the students in India. A study was conducted on 150 undergraduate students - 75 males and 75 females - of Mumbai University, Mumbai to find out the use patterns of Internet in 2015. It was revealed from the study that all of the students belonged to the age group of 17-21 years; 36% of the students belonged to the discipline of electronics and telecommunications engineering, subsequently followed by pharmacy (17%) and mechanical engineering (17%), Bachelor of Science (12%), catering and hotel management (10%) and computer engineering (8%); the computer of all of the students was connected through Wi-Fi and cable Internet network; over four fifths (80%) used Internet for 3-5 hours everyday; and three fifths (60%) used Internet for educational purpose, two fifths (20%) spent time on Internet for chatting and making friends and a small fraction used Internet for playing games (Limaye & Fotwengel 2015: 26-28). Another study was carried out to know the use of Internet among 100 students - 50 males and 50 females - of the PSG Polytechnic College, Coimbatore using the questionnaire in 2019. The study depicted that 60% of the students used Internet for 1-2 hours daily, followed by 3-4 hours (30%); over a half of the students (54%) used Internet at home, followed by college (36%) and hostel (10%); over three fifths (68%) learned Internet from self-interaction, followed by guidance from friends (14%) and training from college (12%); over two fifths (42%) used Internet for academic activity; mobile phone was used by over three fourths (76%), followed by desktop (14%) and laptop computer (10%); over three fifths (62%) used search engine to find out relevant materials from the Internet

and near about two fifths (38%) typed the address of websites to search the information required for completing their academic activity; and over a half (55%) argued that Internet could not replace library services whereas over two fifths (45%) argued that these could be replaced by the Internet (Vijesh 2019: 39- 43). Another study was conducted on 150 students to find out the use patterns of Internet in education and awareness of the students regarding advantages and disadvantages of using Internet using the questionnaire in 2016. It revealed that all of the students belonged to 19-22 years of age group; over one third (33.3%) were males and over three fourths (76.7%) were females; most of the students had access to computer (98.7%) and Internet (98%); over three fifths (67.2%) used computer at home and near about one third (32.2%) used it in the university; near about one third (31.3%) were skilled in computer literacy; over one third (34%) were able to write a paragraph of text; 49.3% used e-mail everyday; over one third (36%) found lecture notes on the college website very useful; and over a half (55.3%) used Internet for searching dental websites for dentistry and amusement purpose daily (Renuka & Gurunathan 2017: 18-21). A study was conducted on 268 dental students from second, third, fourth and fifth years at the University of Jordan to find out their knowledge, skills and opinions regarding ICTs during 2002-03. The study found that 38.45% of the students were males and 61.6% were females; 51% belonged to the age group of 21 and below 21 years, followed by 22-23 years (46%) and 24-25 years (3%); near about three fourths (73.9%) accessed to computer at home; over two fifths (44%) were not regular users of computer whereas one third (33%) used it regularly for more than three years; over a half (54.5%) had basic computer skills and training such as computer fundamentals, Windows, Microsoft Office and Internet; more than two thirds (69%) were familiarised with computer skills through self-learning and over one fifth (21%) attained computer literacy through the university courses (Rajab & Baqain 2005: 387-398). The empirical evidence shows that the society is homogenised through the application of ICTs. Internet allows huge potentialities to the students. The paper attempts to find out the use patterns of Internet in education among the rural Muslim students in Silchar town. Hence, a question is arising here: What use patterns of Internet are perceived among the rural Muslim students in

India, especially in Assam? Then, the question is attempted with reference to the Muslim students in higher educational institutions of Silchar town in Cachar district of Assam.

THE LOCALE OF THE STUDY

Silchar town headquarters the Cachar district in southern part of Assam. It connects the three districts of Barak Valley; namely, Cachar, Karimganj and Hailakandi and the adjoining North Eastern States of Tripura, Mizoram and Manipur. The Census of India estimated the total population of Silchar town as 1,72,709 – 86,812 males and 85,897 females. It has the sex ratio of 989 females per '000 males. The literacy rate of the town is 91.74%. The literacy rate among males and females constitutes 93.97% and 89.5% respectively.

THE METHODOLOGY

The descriptive research design has been used in the study to analyse the Internet use patterns in education. Silchar town constitutes the universe and the rural Muslim students constitute units of the study. A structured interview schedule was developed to collect primary data from a sample of 273 rural Muslim students, 149 males and 124 females, in six degree colleges, a national institute of technology and a university of the town during 2011-2012. The sample was selected using the stratified random sampling technique. For the analysis of data, bi-variate tables were prepared to understand different use patterns of Internet among the rural Muslim students.

THE SOCIO-ECONOMIC BACKGROUND OF THE RESPONDENTS

Of the sampled students in higher educational institutions of Silchar town, 62.28% are from the degree colleges (51.01% males and 75.81% females) and 37.72% are from the university and the institute of technology (44.96% and 4.03% of males, and 23.38% and 0.81% of females). Most of the students (90.84%) belong to the age bracket of 18-23 years and a small fraction is from the age group of 23⁺ and below 18 years. Majority of the students (87.91%) belong to the General category and the rest belong to the Other Backward Classes (OBCs); most of the students (91.21%) belong to the Bengali community and a small fraction belongs to Assamese, Manipuri and Hindi linguistic groups. By family occupation, over a half of the

students (50.18%) have business, followed by service-jobs (35.9%), and the rest depends on agriculture and are non-workers. Their annual family income ranges from Rs 50000/- to above Rs 400000/-, out of which the income group of Rs 150001/- to Rs 200000/- constitutes near about one third (30.4%) of families of the students.

THE GENDER ANALYSIS OF INTERNET USE PATTERNS IN EDUCATION

The use of Internet in education is influenced by social factors in the sociological literature. The most effective social factors include gender, age, residence, educational level and family income. Of them, gender of the students differentiates their use of Internet in academic activities. This section highlights the gender analysis of use patterns of Internet among the rural students:

Types of Web Browser Used for Internet Surfing

The web browser is a software program used by the students to search, access and use resources on the World Wide Web. The students use eight categories of web browsers for navigating through hyperlinks of different web pages; namely, Microsoft Internet Explorer, Mozilla Firefox, Netscape Navigator, Microsoft Network (MSN) Explorer, HotJava, Google Chrome, Opera and Ask.com. The following table shows the distribution of the students into types of web browser:

Table 1
Types of Web Browser Used for Internet Surfing among the Students by Gender

Type of Web Browser	No. of Students (%)		Total (%) (N=273)
	Male (%) (N=149)	Female (%) (N=124)	
Microsoft Internet Explorer	96 (64.43)	72 (58.06)	168 (61.54)
Mozilla Firefox	47 (31.54)	40 (32.26)	87 (31.87)
Netscape Navigator	8 (5.37)	4 (3.23)	12 (4.4)
MSN Explorer	11 (7.38)	16 (12.9)	27 (9.89)
HotJava	9 (6.04)	3 (2.42)	12 (4.4)
Google Chrome	--	1 (0.81)	1 (0.37)
Opera	5 (3.36)	1 (0.81)	6 (2.2)
Ask.com	--	1 (0.81)	1 (0.37)

The table reveals that over three fifths of the students (61.54%) use Microsoft Internet Explorer, followed by Mozilla Firefox (31.87%) and a small fraction uses MSN Explorer, Netscape Navigator, HotJava, Opera, Google Chrome and Ask.com. By gender, over three fifths of male students (64.43%) and near about three fifths of female students (58.06%) use Internet Explorer developed by Microsoft. Thus, Internet Explorer is widely used web browser among the students which comes virtually with every computer. Google Chrome and Ask.com are the two least used web browsers found only among the female students. Ask.com was founded in 1996 by Garrett Gruener and David Warthen in Berkeley, California. It is a question answering-focused web search engine that delivers answers from the web and real people.

Social Networking Websites

The social networking websites are Internet-based applications and webmail services used by the students to develop a profile that exists on the cloud and make connection with other users. The common social networking websites and webmail services used by them include Gmail, Facebook, Wikipedia, YouTube, Twitter, Orkut, Yahoo Mail, Rediffmail, Hotmail and Hotpop. The following table depicts the distribution of the students into these websites:

Table 2
Social Networking Websites among the Students by Gender

Social Networking Website Used Most	No. of Students (%)		Total (%) (N=273)
	Male (%) (N=149)	Female (%) (N=124)	
Gmail	75 (50.34)	54 (43.55)	129 (47.25)
Facebook	49 (32.89)	45 (36.29)	94 (34.43)
Wikipedia	57 (38.26)	45 (36.29)	102 (37.36)
YouTube	19 (12.75)	9 (7.26)	28 (10.26)
Twitter	22 (14.77)	3 (2.42)	25 (9.16)
Orkut	22 (14.77)	16 (12.9)	38 (13.92)
Yahoo Mail	18 (12.08)	20 (16.13)	38 (13.92)
Rediffmail	11 (7.38)	13 (10.48)	24 (8.79)
Hotmail	4 (2.68)	7 (5.65)	11 (4.03)
Hotpop	1 (0.67)	--	1 (0.37)

The table shows that near about a half of the students (47.25%) use Gmail, over one third, each, use Wikipedia (37.36%) and Facebook (34.43%), over one tenth, each, use Orkut

(13.92%), Yahoo Mail (13.92%) and YouTube (10.26%) and the rest are users of Twitter, Rediffmail, Hotmail and Hotpop. Similar pattern is observed across the two genders. Thus, the cloud services of Gmail as a product of Google are often accessed and used by the students.

Place of Internet Use

The place of browsing and using the Internet-based resources among the students depends upon the social situation. Both public and private Internet access points are used by the students. They include home, cyber café, institute library, hostel, neighbour's, friend's and relative's house. These are distributed in the following table:

Table 3
Place of Internet Use among the Students by Gender

Place of Internet Use	No. of Students (%)		Total (%) (N=273)
	Male (%) (N=149)	Female (%) (N=124)	
Home	63 (42.28)	78 (62.9)	141 (51.65)
Cyber café	94 (63.09)	58 (46.77)	152 (55.68)
College/University/ Institute Library	47 (31.55)	40 (32.26)	87 (31.87)
Hostel	2 (1.34)	2 (1.61)	4 (1.47)
Neighbour's House	1 (0.67)	--	1 (0.37)
Friend's House	2 (1.34)	3 (2.42)	5 (1.83)
Relative's House	--	1 (0.81)	1 (0.37)

The table points out that of the total students, over a half, each, use Internet in the cyber café (55.68%) and at home (51.65%), near about one third (31.87%) use in the library of the educational institutions and an insignificant number uses in friend's house, hostel, neighbour's and relative's house. However, more male students (63.09%) than female students (46.77%) use Internet in the cyber café whereas more female students (62.9%) than male students (42.28%) use Internet at home. Similar pattern is observed across the two genders. Thus, Internet has created a learning environment at home.

Suitable Time for Using Internet

The use of Internet depends upon the preferred time of the day when the students are not occupied with study and work. They use personal computer and mobile phone for using Internet. Broadly, the students use Internet during morning, afternoon, evening, night and at convenient hours of the day which are shown in the following table:

Table 4
Suitable Time for Using Internet among the Students by Gender

Suitable Time for Using Internet	No. of Students (%)		Total (%) (N=273)
	Male (%) (N=149)	Female (%) (N=124)	
Morning	15 (10.07)	10 (8.06)	25 (9.16)
Afternoon	28 (18.79)	49 (39.52)	77 (28.21)
Evening	39 (26.17)	23 (18.55)	62 (22.71)
Night	14 (9.4)	3 (2.42)	17 (6.23)
During convenient time	59 (39.6)	45 (36.29)	104 (38.1)

Of the total students, near about two fifths (38.1%) use Internet at convenient time, over one fourth (28.21%) use in the afternoon and near about one fourth (22.71%) use in the evening and the rest use in the morning and night hours. By gender, more male students (39.6%) than the female students (36.29%) use Internet during spare time whereas more male students (26.17%) than the female students (18.55%) use it in the evening.

Time Span of Using Internet

The duration of time for using Internet among the students depends upon different time intervals. The students use less than 1 hour, 2 hours, 3 hours, 4 hours and more than 4 hours daily. The distribution of the students into the time span of using Internet is depicted into the following table:

Table 5
Time Span of Using Internet among the Students by Gender

Time Span of Using Internet (in hours)	No. of Students (%)		Total (%)
	Male (%)	Female (%)	
< 1	10 (6.71)	9 (7.26)	19 (6.96)
1	17 (11.41)	26 (20.97)	43 (15.75)
2	69 (46.31)	67 (54.03)	136 (49.82)
3	35 (23.49)	15 (12.1)	50 (18.32)
4	14 (9.4)	6 (4.84)	20 (7.32)
> 4	4 (2.68)	1 (0.81)	5 (1.83)
Total (%)	149 (100)	124 (100)	273 (100)

The table reveals that near about a half of the students (49.82%) use Internet for two hours, near about one fifth (18.32%) use it for three hours, more than one tenth (15.75%) use it for one hour and an insignificant fraction of the students uses it for four hours, less than one hour and more than four hours in a day. By gender, similar pattern is observed across the two genders. Use of Internet for two hours is the common finding among the male and the female students.

Purposes of Using Internet

The purposes of using Internet among the students include searching study material, entertainment, downloading MP3 music, downloading free software, watching video clips, playing computer games, sending e-mail, video-conferencing, chatting, inviting people, e-shopping, e-commerce, e-governance for family, e-banking, looking for internet advertisement and collecting information about anything. The following table shows the distribution of the students into the purpose of using Internet:

Table 6
Purposes of Using Internet among the Students by Gender

Purpose of Using Internet	No. of Students (%)		Total (%) (N=273)
	Male (%) (N=149)	Female (%) (N=124)	
Searching study material	100 (67.11)	106 (85.48)	206 (75.46)
Entertainment	24 (16.11)	11 (8.88)	35 (12.81)
Downloading MP3 music	30 (20.13)	16 (12.9)	46 (16.85)
Downloading free software	9 (6.04)	4 (3.23)	13 (4.76)
Watching video clips	9 (6.04)	2 (1.61)	11 (4.03)
Playing computer games	6 (4.03)	3 (2.42)	9 (3.3)
Sending e-mail	36 (24.16)	29 (23.39)	65 (23.81)
Video-conferencing	10 (6.71)	11 (8.87)	21 (7.69)
Chatting	22 (14.77)	14 (11.29)	36 (13.19)
Inviting people	4 (2.68)	--	4 (1.47)
E-shopping	12 (8.05)	20 (16.13)	32 (11.72)
E-commerce	4 (2.68)	--	4 (1.47)
E-governance for family	2 (1.34)	2 (1.61)	4 (1.47)
E-banking	16 (10.74)	13 (10.48)	29 (10.62)
Looking for Internet advertisement	13 (8.72)	4 (3.23)	17 (6.23)
Collecting information about anything	62 (41.61)	64 (51.61)	126 (46.15)

The table demonstrates that over three fourths of the students (75.46%) use Internet for searching study material for education purpose, subsequently followed by collecting information about anything (46.15%), sending e-mail (23.81%), downloading MP3 music (16.85%), chatting (13.19%), entertainment (12.81%), e-shopping (11.72%) and e-banking (10.62%), and a small

fraction uses it for video-conferencing, looking for Internet advertisement, downloading free software, watching video clips, playing computer games, inviting people through e-mail, e-commerce and e-governance for family. The similar pattern is observed across the categories of gender.

Educational Purposes of Using Internet

The students use Internet for different educational purposes. They are for preparing lessons, preparing project, writing notes, downloading study materials, downloading educational software, sending e-mails to teachers and friends, online discussion with teachers and friends, and video-conferencing with teachers and friends which are depicted in the following table:

Table 7
Educational Purposes of Using Internet among the Students by Gender

Educational Purpose of Using Internet	No. of Students (%)		Total (%) (N=273)
	Male (%) (N=149)	Female (%) (N=124)	
Preparing lessons	15 (10.07)	13 (10.48)	28 (10.26)
Preparing project	27 (18.12)	16 (12.9)	43 (15.75)
Writing notes	69 (46.31)	55 (44.35)	124 (45.42)
Downloading study materials	107 (71.81)	98 (79.03)	205 (75.09)
Downloading educational software	8 (5.37)	5 (4.03)	13 (4.76)
Sending e-mails to teachers and friends	52 (34.9)	45 (36.29)	97 (35.53)
Online discussion with teachers and friends	10 (6.71)	10 (8.06)	20 (7.33)
Video-conferencing with teachers and friends	5 (3.36)	2 (1.61)	7 (2.56)

The table reveals that of the students, over three fifths (75.09%) use Internet for downloading study materials, subsequently followed by writing notes (45.42%), sending e-mails to teachers and friends (35.53%), preparing project (15.75%), preparing lessons (15.75%) and the rest use it for online discussion with teachers and friends, downloading educational software and video-conferencing with teachers and friends. By gender, more male students (46.31%) than female students (44.35%) use Internet for writing notes whereas more female students (79.03%) than male students (71.81%) use Internet for downloading study materials.

Mode of Retrieving Information from Internet

The students use different means to restore online resources from the Internet. They include retaining in memory, writing important information, taking print out of important information and downloading in Compact Disc (CD)/pen drive which are highlighted in the following table:

Table 8
Mode of Retrieving Information from Internet among the Students by Gender

Mode of Retrieving Information from Internet	No. of Students (%)		Total (%) (N=273)
	Male (%) (N=149)	Female (%) (N=124)	
Retain in memory	6 (4.03)	6 (4.84)	12 (4.4)
Note down important information	38 (25.5)	35 (28.23)	73 (26.74)
Take print out of important information	111 (74.5)	96 (77.42)	207 (75.82)
Download in CD/pen drive, etc.	44 (29.53)	20 (16.13)	64 (23.44)

The table depicts that over three fourths of the students (75.82%) retrieve information by taking print out of the important information downloaded from Internet, subsequently followed by writing notes on useful online resources (26.74%), downloading in CD and pen drive, and a small fraction tries to recollect them from the memory. Similar pattern has emerged from the categories of gender.

RESULTS AND DISCUSSION

The major findings of the study are discussed as under:

1. The students primarily use Internet Explorer developed by Microsoft because it is already installed in the Windows. Other web browsers such as Mozilla Firefox and MSN Explorer are in competition with Netscape Navigator, HotJava, Opera, Google Chrome and Ask.com. The students give less importance to a few web browsers such as Netscape Navigator, HotJava, etc. because they have gradually become obsolete due to lack of functional features in accessing to resources and URL (Uniform Resource Locator) link of these materials on the computer network.
2. The common social networking site used by the students is Gmail, a webmail service, which supports chatting and encryption of messages sent and received via e-mail. They use chat box to make conversation with their batch mates. Facebook, Orkut and YouTube

are other emerging social networking sites which are often used for individual and group chatting and watching videos.

3. Cyber cafés offer Internet facility at affordable prices to the users. The students who do not possess personal computer can avail Internet facility from cyber cafes. The students possessing laptop, desktop and smartphone use Internet at home. They visit the library of the educational institutions when they have break from class hours. They use Internet at their convenient time of the day.
4. The students use Internet for searching study materials related to contents of the syllabus, collecting information about any topic for writing home assignments through e-mail, listening online music for mental satisfaction, making conversation through chatting which supports emoticons, video calling and purchasing various products from online shopping sites such as Flipkart, Amazon and Snapdeal.
5. Most of the students do not have printer at home. Hence, they use the USB (*Universal Serial Bus*) drive and the CD to save downloaded resource materials. They can connect USB drive for data transfer to own or another person's computer. Unlike the CD, the USB drive supports the read-write function. Thus, the students take print out of the learning materials for studying.

CONCLUSION

Internet is a very important and useful source of information to fulfil the requirements of the society in the information era. The Internet has reduced the gender gap among the rural Muslim students. The males use Internet in cyber cafes but the females cannot always visit the cyber cafes due to the problem of accessibility and use it at home. They search for free Wi-Fi connectivity areas to get free access to Internet in the college and university campus. Thus, most of the students use Internet. More males than females use Internet for preparing assigned works. They face the problem of slow functioning of Internet connection. Mostly search engines are used more than subject gateways or web directories to locate information. Teachers and students are the most frequent users of Internet who use it mainly for educational purposes rather than for

entertainment. However, females encounter many barriers in using Internet while the typical Internet users who represent the major group in higher education are the young males. Negative attitude and conservatism acted as barriers to effective Internet use. Hence, the students need to be aware about the importance of ICTs in education which will reduce the digital divide across their genders.

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