

Understanding Internet Usage Pattern among Students In A Northeastern State of India



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Abstract

The Internet as a borderless media has become an indispensable communication medium for the world population. In India, its growth rate is very high but the penetration level is very low. Similar is the case in one of the Northeastern states of India, where number of Internet users is increasing day by day. But very few studies have thrown light on how the students, one of the largest segments of Internet users, use the Internet there. The present study employs Uses and Gratification Theory to find out the Internet usage among the students. Data are collected from 200 samples which consist of almost equal number of male and female students. The study unfolds how gender, education and monthly household income influence the Internet usage pattern. The paper would be helpful for the Internet Service Providers to design the product and promotion mix according to the needs of the segment. It will also enhance the researchers and scholars' understanding of individuals' motives and needs for a new media.

Keywords: Borderless Media, Indispensable Communication Medium.

Introduction

Traditional media like newspaper, radio, television and telephone are generally based on centralized production and distribution. The growth of these media has been restricted to a particular area because of their own inherent characteristics. The new media, especially the Internet does not face such problems. It is more of a borderless media which is transformed into a network of networks. It gives a wide range of benefits to its users. It has become an indispensable communication medium for the world population.

In most of the developed and developing countries the growth of the Internet and its penetration has surpassed the expectation of Internet Service Providers (ISPs). In India the growth of the Internet has started picking up since the government announced favorable policies for the Telecom and ISPs. The growth is very high but the penetration is still very low as shown in Table 1. It is this very attribute which attracts the ISPs' managers to know how the Internet is used in this emerging market.

Table 1: Internet Users' Statistics

Growth and Penetration		
Country	Subscribers (in million)	Growth (Q1 2006-2007 in percent)
US	60.30	22.09
China	56.25	36.56
Japan	26.53	13.17
Germany	16.14	39.57
India	2.52	93.39
World	298.01	28.69

Source: Business World, September 3, 2007, p. 27.

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In India, every state has its own characteristic to speak of. Northeastern States—some of the most distinct states in the country in terms of their culture and less exploited resources—have succeeded these days to get special attention from the public and private business houses. The government has also taken several initiatives to improve the socioeconomic condition of the people. ISPs do not want to leave any stone unturned to penetrate the market as early as possible. Consequently, to penetrate the Northeastern market of the country—one of the less saturated markets as reported by ISPs managers—warrants an urgent understanding of how the people use the Internet.

The paper employs Uses and Gratification (U&G) theory to understand Internet usage among the students. Understanding the students—one of the largest segments of Internet users—is a prerequisite for ISPs to succeed in this market. The paper throws light on how gender, monthly household income and education—three important demographic variables—influence the Internet use for different purposes. This study would be helpful for the ISP managers to design product and promotion mix for the different segments of Internet users. Moreover, research undertaken in this area will also enhance the understanding of individuals' motives and needs for a new media.

Review of Literature

Uses and Gratification Theory

U&G theory has been used frequently to understand the underlying reasons people generally state for using a mass media. This theory basically has its genesis in the field of media research. Katz et al. (1974) explain that this theory assumes that media use is goal directed and attracts only active media users. In addition, users are aware of their needs and choose an apt media to gratify their needs. According to Severin and Tankard (1997), this theory is a psychological communication perspective which helps to reveal how and why people use the same mass media for different purposes. In simple terms, Rubin (1994), states that the main purpose of the theory is to study the psychological needs that influence the people's behavior towards media use. People fulfill their intrinsic needs by keeping themselves engaged in certain media. Ruggiero (2000), found that U&G theory is a time-honored theory. Consumers' motivation for media use can be understood easily by using this theory. In short, it can be said that the U&G approach can be helpful in explaining how and why individuals use mass media to gratify their needs and also in identifying the pros and cons of individual media use (Rosengren, 1974). The main assumption behind this theory is that people make active decisions rather than being just passive users of predetermined set of media services.

Internet Uses and Gratification Study

U&G theory has been applied to understand consumption of all major media for several years. Mendelson used it way back in 1964 to study different factors which motivate individuals to use radio. Later on, this approach has been used to understand the motivations and needs for using newspapers,

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television, telephones, pagers and several other communication media.

The rapid growth of the Internet as a mass media urged several researchers and scholars to apply U&G theory to understand its usage. Rayburn, in 1996, suggested that U&G approach is appropriate for understanding the Internet uses. He substantiated his argument by saying that consumers make purposive choice for visiting specific sites. According to Ruggiero (2000), Internet usage demands higher level of interactivity from its users as compared to the traditional media. These two reasons (user-directed nature of Internet media and Internet interactivity) essentially make this approach suitable for examining the Internet use (Stafford and Stafford 2001). Later on, Stafford et al., in 2004 found that U&G approach is robust and useful in understanding why and how people use the Internet.

Research Questions

Researchers all over the world have observed that any mode of communication treats men and women differently. Earlier, women used the traditional media like radio, television, pager, telephone lesser than men. They were underrepresented and portrayed as less successful in movies, TV serials and radio soap operas. A study done by Copeland (1989) confirmed that gender differences existed in TV programs. In addition, differences have been found in the portrayals of men and women in TV commercials (Craig, 1992). Similar differences have been found in the wire services which serve the media (Moslem, 1989).

In India, women were lagging behind in the usage of newer modes of communication. It is evident of our history—when the first picture film was screened in India female roles were performed by the male actors. Moreover, women were not encouraged by the society to be exposed to new media. Radios, televisions and computers were first adopted by men. These days managers of cybercafés have reported that cybercafés are visited more by men. It suggests that the Internet usage is also male-dominated.

It has been observed that the quest for knowledge prompts individuals to look for new avenues of information source. It suggests that level of education influences the use of media. Here, Internet usage is also viewed in the same perspective. Similarly, income affects the use of a newer media. Activities like searching for information, playing games and chatting involve leisure and play. These leisure and play activities are important because they are influenced by the money-spending attitude of the individual (Holbrook and Hirschman, 1982). To a great extent, this attitude is affected by the income an individual earns, one of the variables of money-spending attitude.

Based on the literature review, past observations and anecdotal evidences, the present study examines how the gender of Internet users affects the frequency of using the Internet for some purposes. The study also throws light on the influence of other demographic variables: level of education and monthly household income on the Internet usage pattern.

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RQ1: Does gender have an impact on the Internet usage pattern?

RQ2: Does level of education affect the Internet usage pattern?

RQ3: Does monthly household income influence the Internet usage pattern?

Internet Use

The first cybercafé 'Sparkle', in the area where the survey was conducted, was opened in November 2000. The cost of surfing the net for one hour was Rs. 50. Today there are cybercafés in almost all the localities there and the cost has gone down to Rs. 30 per hour. Besides these cybercafés, there are 26 Community Information Centers run by the State Government. These centers are equipped with Internet facilities and are available to the public at a cheaper rate of Rs. 20 per hour. Bharat Sanchar Nigam Limited (BSNL) and Airtel are the only Internet, telecommunication and mobile connection providers in the locality. The number of wireless connections allotted by BSNL in the whole state till January 5, 2006 was 18,537. The number of landline telephone connections and Internet connections allotted till December 2005 were 53,694 and 2149 respectively. (Source: Field Survey).

Methodology

The present study is exploratory in nature which is designed to find out the usage pattern of the Internet among the students. It has examined the effect of gender, level of education and monthly household income of consumers on Internet usage pattern.

Population

All the students of three different schools who are using the Internet— Government Higher Secondary School, Institute of Comprehensive Education, and Home Mission College and two colleges— Pachhunga University and J Thankima College in a state (a northeastern State of the country) comprised the population. The schools and colleges were selected carefully in order to have a representative sample of the state's population.

Sampling Method

Convenience sampling (a non-probability sampling method) was used to select different sections of the first and second years of 11th, 12th and graduation classes. Students from both the arts and science streams of these classes were contacted.

Sample Size

200 students who were using the Internet were contacted personally in the college and school premises. A structured questionnaire was administered under the surveyor's vigilance. Almost equal number of boys (55%) and girls (45%) were included to avoid the gender bias.

Data Collection

Data were collected from the sample with the help of a structured questionnaire. The questionnaire has three parts. The first part comprises demographic details of the respondents. The second part includes questions pertaining to different media uses. And the last part is used to study the frequency of usage of various functions on the Internet.

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Sample Characteristics

Respondents' Demographic Profile

The data in this study were collected from those students who were using the Internet in the months of February and March 2007. All the respondents were between the age group of 15 and 24 years. Most of the respondents were undergraduates. The level of education of 50% of the respondents was above Intermediate. A high percentage (92%) of the respondents was Christians and the rest were Hindus. Majority of the respondents were born in Mizoram. Almost 50% of the respondents' monthly household income was above Rs. 15,000. It is interesting to note that majority of the respondents' fathers were educated—30% of them were postgraduates, above 34% were graduates and 36% had their education till 12th standard. Among them, 47% work as government employees and 20% of them run their own businesses.

Majority of the respondents' mothers also have their education till 12th, and nearly 50% of their mothers were working.

Respondents' Media Habits

Majority of the respondents watch serials of Star World Channel and 18% of them prefer to watch the music channels like MTV and VH1. Sports and news channels are their next favorites, followed by the Discovery Channel. Most of the students seem to be reading one newspapers and magazines but only 56 have mentioned the name of the paper. 31% of them read Vanglaini every day. It is the most circulated Mizo daily in Mizoram. 14% of them prefer reading English dailies. Among the English magazines, Cosmopolitan, India Today, Readers' Digest and Sports Star are the most preferred magazines mentioned by the respondents.

Internet Usage

34% of the respondents have access to the Internet at home, while 50 of them visit cybercafés. The cafes are situated within a radius of 1 km from their homes. The rest of them go to their parents' offices or their friends' places for Internet usage. Almost 50% of the students have been using the Internet for about three years, while 12% of them have been using it for eight years. A majority of the respondents use the Internet in the evening. Very few use it in the morning hours. Most of them use the Internet on working days from Monday to Friday. Sunday is the least preferred day for the Internet usage.

Data Analysis and Interpretation

Data were analyzed to see the difference in Internet usage pattern for some important functions based on gender, education level and monthly household income of the respondents. Here, gender, monthly household income (up to Rs. 15,000 and above than Rs. 15,000) and education (up to Intermediate and above than Intermediate) are taken as independent variables. Dependent variables are chatting, updating news, downloading software, job search, research work, games, information for further education and the time length of Internet usage. Mean values were analyzed to make comparison of these two groups of respondents. Independent sample t-

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tests were performed to identify the significant difference between the two categories (based on gender, monthly household income and education) in Internet usage pattern as shown in Table 2.

Research Question 1

Gender plays an important role in Internet usage. It generally makes a difference between male and female users. Table 3 shows that male and female respondents differ in terms of using the Internet for chatting, updating news and downloading software.

Table 3 shows that the mean values of three functions are above two on a four point scale. It indicates that the majority of the respondents often use the Internet for chatting, updating news, and downloading software. It is interesting to note that female respondents chat more often than male respondents on the Internet. Whereas the male respondents use the Internet for updating news and downloading software more often than their female counterparts.

Independent Variables	Dependent Variables
Gender	Emails
Level of Education	Quiz
Monthly Household Income	Chatting
	Updating News
	Downloading Software
	Job Search
	Research Work
	Playing Games
	Information Related to Further Education
	Time Length of Using the Internet

Note: The respondents were asked to state how frequently they use Internet for the above mentioned purposes on a four-point Likert scale (1 = Regular, 2 = often, 3 = rarely and 4 = never).

Internet Use	Gender	N	Mean	Std. Deviation	Std. Error Mean
Chatting	Male	112	2.32	0.941	0.088
	Female	76	2.05	0.877	0.100
Updating News	Male	109	2.09	0.948	0.090
	Female	76	2.59	0.835	0.095
Downloading Software	Male	110	2.12	0.958	0.091
	Female	76	2.60	0.939	0.107

Note: The respondents were asked to measure the frequency of using Internet for the listed purposes on a four-point scale (1 = regularly, to 4 = never).

Internet Use	t-test for Equality of Means		
	t	df	Sig. (2-tailed)
Chatting	2.000	168.46	0.047
Updating News	-3.705	183.00	0
Downloading Software	-3.370	184.00	0.001

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Here, the objective was to find out the difference between the male and female respondents in using the Internet for chatting, updating news and downloading software. Independent sample t-test was used for the purpose.

Table 3 shows that the difference in mean values between male and female respondents is very high. However, Table 4 reveals that t-value is significant in the usage of the Internet for chatting (0.047), updating news (0), and downloading software, which results in the rejection of null hypothesis. It indicates that there is a significant difference between the male and female respondents in using the Internet for these three functions.

Research Question 2

The level of education determines the Internet usage pattern. In order to test this hypothesis, the total sample has been divided on the basis of education under two categories: a) the respondents who have education up to Intermediate; and (b) the respondents who have education above Intermediate. These two categories were considered as independent variables while all the functions are taken as dependent variables. Similarly, Independent Sample t-tests were performed to compare the mean values of the two groups of respondents. The respondents were classified under two heads (up to Intermediate and above Intermediate) because of two reasons. First, data were collected only from the students who were pursuing either Intermediate or Graduation. It was revealed by the pilot survey in the state that the students who had their education level more than Matriculation (tenth) were more exposed to the Internet than the students who had not passed the tenth standard examination. Second, the objective of the study was to make a comparison between the two groups of respondents, which led to division of the

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sample into almost two equal groups of respondents on the basis of their education level.

Table 5 shows that the mean values of the two are near or above three on a four point scale. It indicates that a majority of the respondents rarely use the Internet for job search and research. However, the differences between the mean values of two groups are very high. It suggests that the respondents who have less education (up to Intermediate) use the Internet for these two purposes lesser than the respondents who have more education (above Intermediate). They often do job search and research work on the Internet after completing their Intermediate level of education.

Table 6 indicates that there is a significant difference between the two categories of respondents ((a) up to Intermediate; and (b) above Intermediate) in using the Internet for job search (0.046). It means that the level of education plays an important role when the respondents use the Internet for searching jobs. So far as research work (0.056) is concerned there is no significant difference between the two groups of respondents but if the significance level is increased by 0.006, it will fall under a critical region, and in such a case the null hypothesis cannot be rejected.

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Table 5: Group Statistics for Education

Internet Use	Education	N	Mean	Std. Deviation	Std. Error Mean
Job Search	Upto Intermediate	95	3.14	0.898	0.092
	Above than Intermediate	90	2.87	0.921	0.097
Research	Upto Intermediate	95	3.23	0.880	0.903
	Above than Intermediate	90	2.95	1.059	0.111

Note: * The respondents were asked to measure the frequency of using Internet for the listed purposes on a four-point scale (1 = regularly, to 4= never).

Research Question 3

It has been observed that the Internet usage is influenced by monthly household income of an individual. Considering this, all the respondents were asked to state their monthly household income on ordinal scale. After collecting the data on ordinal scale, the data was changed into nominal scale to get almost equal number of the respondents in each category. One group of the respondents comprises those whose monthly household income is up to Rs. 15,000 and the other group of respondents comprises those whose monthly household income is above Rs.

15,000. These two groups were considered as independent variables and all the purposes of Internet usage were considered as dependent variables. And finally, Independent Sample t-test was performed to compare the mean values of the two groups of respondents.

Table 7 shows that a majority of the respondents often use the Internet for games and information related with further education. In both these cases the difference in mean values of the two groups is high. Interestingly, it indicates that the respondents who have household income above Rs.

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15,000 per month use the Internet for games lesser than their counterparts. Whereas information search is done more often by the respondents whose household income is above Rs. 15,000 monthly.

As shown in Table 8, t-test for equality of means reveals that there is a significant difference

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between the two categories of respondents (up to Rs. 15,000 and above Rs. 15,000) in using the Internet for games (0.025) and information search related to further education (0.001). It indicates that income has an effect on the Internet usage for games and information search for further education.

Table 7: Group Statistics for Income

Internet Use	Income	N	Mean	Std. Deviation	Std. Error Mean
Games	Upto 15,000	98	2.55	1.026	0.103
	Above 15,000	88	2.88	0.999	0.106
Information for Further Education	Upto 15,000	96	2.53	0.905	0.092
	Above 15,000	88	2.12	0.691	0.073

Note: * The respondents were asked to measure the frequency of using internet for the listed purposes on a four point scale (1 = regularly, to 4= never).

Table 8: Independent Samples Test

Internet Use	t-test for Equality of Means		
	t	df	Sig. (2-tailed)
Games	-2.252	184.00	0.025
Information for Further Education	3.436	176.38	0.001

Table 9: Group Statistics

Internet Use	Income	N	Mean	Std. Deviation	Std. Error Mean
Time Length of Internet Usage	Upto 15,000	92	3.11	1.966	0.205
	Above 15,000	87	4.10	1.988	0.213

Table 10: Independent Samples Test

Internet Use	t-test for Equality of Means		
	t	df	Sig. (2-tailed)
Time of Length of Internet Usage	-3.354	177	0.001

Table 11: Group Statistics

Internet Use	Education	N	Mean	Std. Deviation	Std. Error Mean
Time Length of Internet Usage	Upto Intermediate	94	3.18	1.747	0.180
	Above Intermediate	85	4.05	2.230	0.241

Table 12: Independent Samples Test for Education

Internet Use	t-test for Equality of Means		
	t	df	Sig. (2-tailed)
Time of Length of Internet Usage	-2.891	158.8	0.004

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The innovation adoption and diffusion processes differ from one individual to another. Rogers (2003), mentions that all people do not adopt an innovation at the same time. Adoption of innovation depends on several variables like age, education, gender, income, life style, area, information accessibility, etc. With a view to see whether the time length of Internet usage is influenced by the respondents' monthly household income, the respondents were asked for how long they had been using the Internet. For this, the time length of Internet usage was considered as a dependent variable.

Table 9 shows that the mean values in terms of the time length of Internet usage differ from the group of respondents whose monthly household income is up to Rs. 15,000 to the other whose monthly household income is above than Rs. 15,000.

The majority of the respondents have been using the Internet for more than three years as shown in Table 9. But, the majority of the respondents whose monthly household income is above Rs. 15,000 have been using the Internet for more than four years. Table 10 shows that there is a significant difference between the two categories of respondents (up to Rs. 15,000 and above Rs. 15,000 monthly household income) in the time length of Internet usage. The respondents whose monthly household income is up to Rs. 15,000 have been using the Internet for lesser time length than the respondents whose monthly household income is above Rs. 15,000.

As it is observed that monthly household income has a positive impact on the time length of Internet usage. An attempt was made to observe whether the level of education influences the time length of Internet usage. Table 11 shows that the majority of the respondents have been using the Internet for more than three years. But, the respondents who have education above intermediate have been using the Internet for more years (four years) than the respondents who have education up to intermediate.

Table 12 shows that there is a significant difference between the two categories of respondents (one who have education level up to Intermediate and the other who have education level above Intermediate) in the time length of Internet usage (0.004). Findings suggest that the lesser education level the lower is the Internet usage.

Conclusion

There has been a considerable research work in uses and gratification of the Internet. It is found that most of the studies were conducted outside India. There are few researches which have thrown light in this area. But, nothing has been done in the Northeastern state of India where the Internet penetration seems to be low in comparison to other part of the country. This paper is an endeavor to identify students' usage pattern of the Internet.

The findings of the study reveal that gender, monthly household income, and education determine the usage pattern for several purposes on the

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Internet. Identification of these variables among the Internet users provides opportunities for the advancement of the business of Internet access services in India. Moreover, better understanding of the uses and gratifications from the Internet usage can help the ISPs to customize their offerings. For example, chatting done more by females can be used by the service providers to design their offerings to make things easier for the female students who use the Internet for this purpose frequently. Similarly, male students download software from the Internet more often than their female counterparts; can be taken into account more seriously by the managers of downloading sites (download.com) to enhance the quick and effective downloading services for this particular segment.

The internet usage is also influenced by the monthly household income of an individual. For example, games are played more often by the people who earn lesser money than the people who earn more. This is one of the major findings of the study which may surprise as well as guide the Internet Service Providers to stimulate the users for playing more on the Internet. These leisure and play activities identified here suggest hedonic aspects of the Internet and enjoyment which are also affected by the money-spending attitude of Internet users.

Understanding the consumers' motivation to use the Internet is a critical factor in the success of e-commerce. The findings revealed by the paper can be used by the marketers to develop effective product and promotion mix for different segments. This study suggests that consumers use the Internet for several reasons. The Internet usage for different functions and the time length of its usage vary with the age, monthly household income and education level of respondents.

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