The Relationship Between Internet Usage, Socioeconomic Status, Subjective Health and Social Status

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Abstract

This study strives to analyze the concept of digital divide within the context of Pakistan. In this study, the differential internet usage has been studied through the impact of age, income, and having an online job on the average daily usage of internet per person in Pakistan. A questionnaire was developed for the survey and data was collected through purposive sampling technique. A total of 500 filled questionnaires were returned. The findings of the survey report a higher use of internet among young people as compared to aged people. Furthermore, higher income class within the sample is found to be a major user of internet, and having an online job increases the internet usage hours by manifolds. In addition, the findings of the study also depict that youngsters are more inclined towards the use of social websites which is also a source of social satisfaction for its users.

1. Introduction

Internet is a technology that has the most profound effect on human functioning. It was commercialized in 1995, removing last restrictions on its use to carry commercial traffic. This resulted in using internet as an added facility in almost all phases of life. Internet services (social sites, e-mails, etc.) provide users with a wide range of benefits and shortcomings, many of which the users are aware of; but all use it to fulfill certain goals. This means that the key to using internet is not technology but the individuals themselves. In addition, people's perceptions about using internet are shaped by the existing value system of a society. Pakistan introduced internet in the early 1990's. According to the International Telecommunications Union, there were 133,900 internet users in 2000 or just 0.1% of the 164 million people in Pakistan. By 2006, internet use had grown to 12 million users or 7.2% of the population. By 2011, this usage had further grown up to 31 million users or 17.6% of the total population (ICT Indicators, 2010).

Regradless of the increasing trend of internet usage, the economic and social inequality can still be seen in the society in terms of access, use and skill requirements for the internet usage. The technological inequailty refers to the concept of digital

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divide which explains the socioeconomic and other disparities between people who have opportunites to benefit from digital technologies and those who do not. The idea of digital divide is a complex and dynamic phenomenon which is typically measured through the difference between those who have the access to the web versus those who do not.

However, several conceptualizations of digital divide have been presented in the literature (Van Deursen & Van Dijk, 2014; Sui, Goodchild, & Elwood, 2013). Through these conceptualizations the literature indentifies four main areas of discussion including attitudes, access, skills and type of usage. The focus of this study is the differential internet usage across three different dimensions including socioeconomic status, subjective health, and social status. The primary motivation of this study emerged from the fact that having physical and material access and necessary skills to apply digital media is not enough to determine the differential internet usage. Rather the literature has identified separate grounds and determinants of differential internet usage encompassing factors such as socioeconomic status, user age, content, frequency, length of time the internet is used, and the type of activities performed over the internet. On the basis of the said determinants, this paper focuses on understanding the patterns of differential internet usage across the user age, his socioeconomic status, health conditions and social status. Using a cross-sectional data set, empirical findings of the study are generated through the application of Chi-square test. In order to achieve the said objectives the rest of the study has been organized as follows. Section 2 provides a detailed review of the related literature. Section 3 gives an account of the methodology adopted to achieve the said objectives. Section 4 contains a detained discussion pertaining to empirical findings of the study. Section 5 provides the conclusion of the study.

2.   Literature Review

Digital Divide is defined as the gap between the geographical areas, individuals, households and corporations on the basis of their ability to access Information and Communication Technologies (ICT)[3]. Also the idea of Digital Divide describes the difference between the use of internet for a wide variety of activities by individuals, households and corporations. The concept of Digital Divide strives to translate social inequalities into digital discriminations. People with different socioeconomic status tend to depict differencing attitudes towards the usage of technology (Van Deursen & Van Dijk, 2014; Sui, Goodchild, & Elwood, 2013).

Analyzing the theories of media, the knowledge gap hypothesis serves as a forerunner of the digital divide concept. The knowledge gap hypothesis says that when

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3   *World Internet Project. (2012). Los Angeles, CA. http://www.worldinternetproject.net*

the flow of mass media information increases in the social system, those segments of the society which are at a higher socioeconomic status tend to absorb this information at a higher rate as compared to the lower socioeconomic status segments of the population (Tran, 2013). The knowledge gap hypothesis applies to the traditional sources of mass media including newspaper, radio, television and telephone. The knowledge gap hypothesis cannot be directly applied upon internet as the internet usage requires specific set of skills as well as enabling technologies as compares to simply reading newspaper or watching television (Pearce & Rice, 2013).

The functionality of radio, television, newspaper and telephone is little different as compared to the internet due to which the internet creates a usage gap which is different from the knowledge gap (Pearce & Rice, 2013). Usage gap is a broader area of research which talks about differential in uses and activities pertaining to daily life. The usage gap hypothesis is based on the assumption that there are certain internet activities that are more beneficial and advantageous as compared to other activities (Hashim, 2015; Zhang, 2013). Such beneficial activities over the internet provide the users with an opportunity to excel in career, education, work and societal positions rather than other activities that are basically consumptive or entertaining. Here it can be conclude that the usage gap hypothesis enables the users to build more social, cultural and economical capital through the internet (Ngai, Tao, & Moon, 2015).

The concept of differential internet usage based on the usage gap hypothesis can be explained through several socio-demographic variables (Terlutter, Bidmon, & Röttl, 2014). Age is one of the most important variables that explain the differential usage of internet among different social classes. The literature reveals that young adults are more active users of internet as compared to the older age people. The younger generations take the lead in using communication tools for chatting and instant messaging and also for entertainment and downloading music. The studies also reveal that older people are primarily involved in online purchases, emailing and searches for health issues (Kuss, Van Rooij, Shorter, Griffiths, & van de Mheen, 2013).

Moreover, the socio-economic status is another important determinant of internet usage. The studies in the literature indicate that people at a higher socio-economic status tend to use internet more as compare to those at a lower socioeconomic status. People at a higher socioeconomic status are more effective in using internet productively and also for increasing their economic wealth. However socioeconomic status is a multifaceted concept measured through several variables like educational level, employment status and income levels. Here the education level attained and income is strongly correlated. However income has also been found to have an independent effect on internet usage. It is found out that people with high income tend to be involved in using internet for news, for searching jobs, product information and also

for work. On the other hand people with low income are found to be more inclined towards using internet for entertainment and downloading (Ritzhaupt, Liu, Dawson, & Barron, 2013).

Furthermore research reveals that people who are experienced in internet usage are more involved in suing internet for personally advantageous activities such as acquiring online jobs, getting health care information and developing social ties and relationships over the internet (Nadkarni & Hofmann, 2012). Apparently there are two motives behind the internet activities (Pontes, Szabo, & Griffiths, 2015). First the internet is used by young people for entertainment and for social networking. Second internet is used by highly educated mature people for information and work purposes such as online jobs. Smith and Brenner (2012) indicated that the internet has enabled people in USA to avoid isolation as the social networking forums provide people with the opportunity to develop social ties and to develop large social networks (Heo, Oh, Subramanian, Kim, & Kawachi, 2014). Lennon, Rentfro, and Curran (2011) found out that social networking in young people enables them to develop new relationships and new social ties.

Neter and Brainin (2012) explored the use of internet for the purpose of extending health literacy. It is revealed that eHealth literacy allows people to hunt Health information pertaining to their specific health issues over the internet. The findings indicate that people who are more eHealth literate tend to generate more productive results of the eHealth information retrieved through the internet (Kontos, Blake, Chou, & Prestin, 2014).

A detailed review of the literature reveals that several dimensions of socioeconomic research have been discussed in detail in past researches however for an underdeveloped country like Pakistan a research pertaining to digital divide and differential internet usage gap hypothesis is a new area of research. Therefore this study strives to analyze the socioeconomic dimensions of digital divide and internet usage gap hypothesis within the context of Pakistan. The next section provides a detailed discussion of the methodology employed in this study.

3.   Methodology

Data is collected through a survey of self-made structured questionnaires having a set of close ended questions. The reliability of the questionnaires is checked using Cronbach's Alpha test and is found to be 0.62. The sample consists of people from all walks of life, students and faculty of major universities in cities like Peshawar, Rawalpindi, Islamabad and Lahore. The age of the respondents was not kept in a range, i.e. anybody who was a consumer of internet was taken as a fit respondent for

the survey. A sample of 500 respondents was taken (n=500) which comprised of 298 males and 202 females. The data is analyzed using Chi-square test of independence.

3.1 Hypotheses

This study strives to investigate the relationship of internet usage with the socio-economic conditions and income of its users. The study also intends to investigate the relationship of differential internet usage users' social needs and health. On the basis of the said objective the following hypotheses have been tested in this study.

Socioeconomic status is a digital divide research variable intending to explain the social status of the respondents in monetary terms. The literature presents digital division specifically between the rich and the poor. The understanding, skills and access of the respondents towards the internet technologies is inevitable due to the differential in the economic wealth of the respondents. Therefore rich and economically sound people are expected to use internet more as compared to the poor people as hypothesized below,

H_1: there is an association between internet usage and socioeconomic status

Moreover people with greater internet usage tend to have a greater access to the online information databases pertaining to different issues in life such as health. Therefore it can also be hypothesized that as people use more internet they can use the available information related to health issues productively.

H_2: there is an association between internet usage and Subjective Health

Additionally increased internet usage is also attributable to the increase in the number of social networking websites and forums which help people to develop social connections online and improve upon their social status. Therefore a relationship between internet usage and social status can also be hypothesized as under,

H_3: there is an association between internet usage and Social Status

The study is based on a detailed analysis of what effects and trends the internet has caused in our lives, whether it is on the social front or in terms of health, all major relations and trends that could be linked to the internet and user have been highlighted. Secondly internet usage and its trends regarding age, economic conditions and social area, has been searched out in this study.

4. Analysis & Results

This section of the study discusses its empirical results.

4.1 Age of User and their Internet Consumption (hrs. /daily)

Table 1: Age and Hourly Internet Usage

Age Range/yrs	Hours usage/day			Total
	Low	Medium	High	
11-20	68	36	32	136
21-30	118	127	88	333
31-40	11	6	4	21
41and above	7	1	0	8
Total	204	170	124	498
	Value	df	Asymp. Sig. (2-sided)	
Pearson Chi-Square	18.382	8	.019	
Likelihood Ratio	20.359	8	.009	

The results, as evident from Table 1, show a Pearson Chi-Square value of with a p value = 0.019 which is less than the significance level of 5%. This indicates a significant association between age of the respondents and hours of internet usage .

4.2 Association Between Income Range and Expenditure on Internet Packages

Table 2: Income and Expenditure on Internet Package

Income/Rs.	Expenditure on Packages Rs./monthly			Total
	300-1000	1100-1999	2000-2500	
100-2000	39	56	16	111
2100-5000	50	91	32	173
5100-10,000	28	56	29	113
11,000-30,000	11	31	5	47
31,000-80,000	7	15	13	35
81,000-120,000	3	12	2	17
Total	138	261	97	496
	Value	df	Asymp. Sig. (2-sided)	
Pearson Chi-Square	20.895	12	.052	
Likelihood Ratio	21.006	12	.050	

The results, as evident from Table 2, show a Pearson Chi-Square value of with a p-value = 0.052 which is less than the significance level of 10%. This indicates a significant association between income and expenditure on internet package.

4.3 Online Jobs and the Usage of internet

Table 3: Online Jobs and Hours of Internet Usage

Hours Used/ day	Job		Total
	No	Yes	
1-2	195	10	205
3-9	148	22	170
10 and above	98	26	124
Total	441	58	499
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	19.908	2	.000
Likelihood Ratio	20.373	2	.000

The results, as evident from Table 3, show a Pearson Chi-Square value of with a p-value = 0.000 which is less than the significance level of 5%. This indicates a significant association between online jobs and hours of internet usage.

4.4 Health of an Individual and Visits for Check-ups

Table 4: Health and Visits for Check-ups

Health	Go for check ups		Total
	No	Yes	
Very bad	4	0	4
Bad	8	5	13
Fair	72	18	90
Good	233	33	266
Very good	84	43	127
Total	401	99	500
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	28.805	4	.000
Likelihood Ratio	28.172	4	.000

The results, as evident from Table 4, show a Pearson Chi-Square value of with a p-value = 0.000 which is less than the significance level of 5%. This indicates a significant association between regular visits to doctor for check-ups and the health of an individual.

4.5 Age and Social Interaction on the Internet

Table 5: Age and Social Interaction on the Internet

Age/ yrs	Most of Social interaction on Internet		Total
	No	Yes	
11-20	31	104	135
21-30	97	237	334
31-40	14	7	21
41-50	4	1	5
51-60	3	0	3
Total	149	349	498
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	29.770	4	.000
Likelihood Ratio	28.032	4	.000

The results, as evident from Table 5, show a Pearson Chi-Square value of with a p-value = 0.000 which is less than the significance level of 5%. This indicates a significant association between age and social interaction on the internet.

4.6 Internet and Social Activity

Table 6: Internet and Social Activity

Do you use internet for social activities	Active socially				Total
	daily	Once a week	monthly	After 3-4months	
No	13	23	16	15	67
Yes	44	120	177	91	432
Total	57	143	193	106	499
	Value	df	Asymp. Sig. (2-sided)		
Pearson Chi-Square	9.615	4	.047		
Likelihood Ratio	9.532	4	.049		

The results, as evident from Table 6, show a Pearson Chi-Square value of with a p-value = 0.047 which is less than the significance level of 5%. This indicates a significant association between internet usage by an individual and his/her likelihood of becoming social.

4.7 Health Condition and Internet Usage for Treatment

Table 7: Health Condition and Internet Usage for Treatment

Health range	Does it Solve Problem			Total
	Never	**Sometimes**	**Always**	
Very Bad	1	0	0	1
Bad	1	3	4	8
Fair	2	20	28	50
Good	2	59	87	148
Very Good	3	28	32	63
Total	9	110	151	270
	Value	Asymp. Sig. (2-sided)		
Pearson Chi-Square	34.04	.000		

The results, as evident from Table 7, show a Pearson Chi-Square value of with a p-value = 0.000 which is less than the significance level of 5%. This indicates a significant association between internet usage by an individual and his/her likelihood of finding treatment for health issues.

5. Discussion of Results

5.1 Age

The analysis reached a conclusion that age has a significant relationship with the amount of internet used on daily basis, with increasing age the internet usage by people drops, thus showing that people from 11-30 yrs of age use more internet and the average daily usage keeps falling with increasing age.

Akman & Mishra (2010) survey reached the same conclusion that the age of employees had a significant relation with the average usage of dailyinternet in Turkey. A similar conclusion by Koyuncu & Lien (2003) found that age promotes online activities and recorded significant positive effects for age. Teo and Lim (2000), Hills and Argyle (2003) surveys reached the conclusion that majority users of internet are young. Jackson et al. (2008), also supported the conclusion; younger Chinese children

use internet and computer more and are better at it than older ones.

Middleton, Veenhof, and Leith (2010) found age to be strongly associated with internet use, while the scope of use declined with age. The Future of the (Internet Economy A Statistical Profile (2008) and Jackson et al. (2000) reached the conclusion that elderly people are not used to the penetration of internet into their daily lives as much as the younger generation thus supporting the conlusion that age has a negative relation with avergae usage of internet.

The conclusion also carries a notable trend in the society where the younger generation is more prone to using advancing technology and World Wide Web is integrated to almost all of these in the present era thus making the younger lot a major consumer of internet and making age a significant variable of the study.

5.2 Expenditure on Internet and Income of User

The analysis reached the conclusion that people with higher income spend more on the internet they are consuming where the expenditure made was recorded through the service package they bought: thus with increasing income the internet users buy better and more expensive data packages.

A survey of OECD in 2008 revealed that the access of internet is highest in households where the bracket of income was also higher, thus representing a significance between the expenditure on internet by a user and their internet consumption. Akman and Mishra (2010) reached a similar conclusion where the average daily internet usage held a significant relation to the income of the user, thus supporting the reports conclusion. Smith, et al., (2008) concluded that higher the income of someone the more confident they are in spending it on internet in NewZealand, thus supporting the significance of variables.

Kalmus, Realo, and Siibak (2011) support the conclusion that people from a higher income bracket are more involved in internet, thus spending more portion of their income on their daily internet. Jansen (2010) also found the same about the american population i.e. the better-off americans use internet more and so spend more on it.

5.3 Productiveness of Searches about Health Queries Online

The results showed a positive relation between the rate of success to gather information about health and the health of a person, thus people with a success rate at the online health query searches are more healthier than those who either don't use internet for these information or do not find the right information on web. Therefore health literacy makes a person healthier. The results were compiled by Andreassen

et al. (2007) where they concluded that internet had a direct and positive relation to the health of subjects; are a similar conclusion to this report.

5.4 Impact of Online Jobs

The report showed a significance between owning an online job and using more internet while the relation had a positive coefficient thus showing that with more and more online jobs the usage of internet will increase; the conclusion reached has a very logical explanation to it where getting hired in an online job requires first for you to be online.

5.5 Users of Web Forum

The analysis reached a significance between the age of users and the usage of social websites, where the nature of the relation was negative thus with increasing age the use of social web forums is reduced, the distribution of sample showed that from a sample of 500 respondents a total of 469 people who used internet belonged to ages 11-30 yrs while the highest rate of usage was noted between people aging from 21-30 yrs.

Smith and Brenner (2012) reported through the Pew Internet Civic Engagement Tracking Survey, established the fact that about 69% adults online use social websites where as out of 351 sampled people from age 18-29yrs 92% claimed to be using social web forums. Also, 26% of users of social websites were between the ages 25-34 while 25% users were between ages 35-44 while 16% users in the US social networking were between ages 18-24.

Seybert and Loof (2010) surveyed that out of ten, eight young internet users post to chat sites blogs or social websites, where the people most involved in social interactions online was between ages 16-24 years. Zickuhr and Madden (2011) found that out of ten eight social networkers are of ages 18-29 as compared to seven in ten 30-49 year olds, while only a half of 50-64 year olds, and only a one-third of age 65 and older are involved in social networking online. Lennon et al. (2011) reported that 85% of participants of survey used social websites weekly while a total of 40% use it several times a day and this group was dominated by female and people below age 21.

5.6 Internet and Social Life

The analysis concluded that people are more satisfied with their social lives when their most of interaction is on the internet this included social websites, chat forums and other communicating sites. Lennon et al. (2011) reported that people between ages 22-29 give more importance to social networking where the reasons behind it were stated as making new connections with new people and reconnecting with those

they have lost touch with and being able to share their lives with people.

Kalmus et al. (2011) through factor analysis of online activities reached two motives behind internet use, one was the social media and entertainment where general linear modelling predicated that the younger age is more involved in the social media online and the second motive behind internet use is work and information where this was more frequent in users of higher educational level and by people at work. Smith and Brenner (2012) in the pew survey about social networking sites exlpored peoples overall relation to these social networks; where the survey found that social netoworking sites are increasingly used to keep up with close social ties while on an average user of social sites have better social circle and are half likely to be isolated as the avergae american. The report also concluded that internet users get more support from these online ties and get closer to their friends and family and revive dormant relations.

Lewin (2008) wrote about a study conducted by MacArthur Foundation in the new york times about teenagers socializing on internet; the study reached a conclusion that it might not be bad after all for teenagers to use internet, though a sample of 800 young people with teenagers socializing online, this has lead to new relations, making ties closer, new romantic relationships are being explored. This socializing is leading to better realtionships in the present on the go system thus better for the social growth of individuals. Lenhart, Purcell, Smith, and Zickuhr (2010) through two pew surveys showed that nearly a 73% of online teenagers are involved in social networking here the report pointed out the fact that teenagers who are communicating their lives and updating their social circle online have become central activites on these sites and are satisfing its users.

6. Conclusion

This paper reviewed and reported the findings of survey concerning the impact of age, income and having an online job on the average daily usage of a person in Pakistan. It includes findings about the social scenario online, representing the age of users involved in the social scene and the satisfaction involved in using these online social sites. The survey was conducted in random patterns in different cities of the country where people from all walks of life were questioned. A total of 500 responses were gathered and was run through analysis. The results indicated that age had a highly significant and negative relation with internet usage thus increasing age represented falling average daily usage, while expenditure on internet was directly significant to the income of user and having an online job meant more internet hours used on the average. The analysis showed that the social scene online was dominated by youngsters and that this trend was increasing social satisfaction among its users.

The analysis reached the conclusion that internet usage was strongly influenced by certain demographic factors; Age being on the top, where with increasing age the average internet usage daily kept decreasing, the most frequent users were recorded to be in ages 11-30 years; while another important factor was the income of a user, where with increasing income of people their expenditure on internet increases. The report also concluded that having an online job significantly increased your average usage of internet. The Social media scenario in the report concluded that Age of users was the most important factor in the currently increasing social scene, where people between ages 11-30 years were the major users of Social-Networks while this increasing usage had also reached a satisfaction point to its users; people felt more social when interacting with people on these social forums thus making them satisfied with their social lives.

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