

**Digital divide in the use of social networking sites: a study of P.G. students (gender-wise) through scalogram analysis**

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**Abstract**

Digital divide refers to the separation between those who have awareness and access to digital information and communications technology (ICT) and those who do not. This is true not only on the basis groups, classes, castes, communities, regions, residential area but also on a gender basis. Social networking sites have emerged as a vital force for knowledge dissemination and information. Based on a sample of 100 respondents, the paper investigates the gender digital divide in the use of social networking sites among post-graduate students and some of the ways they use and understand the connective in the relationships developed in social networking sites. A scalogram analysis was used in the study, which is a one-dimensional measure of attitude, preference, etc., where statements (items) represented increasingly positive feelings with respect to the object being measured. It was used to determine whether a measure forms a Guttman scale where statements form a continuum from least to most favourable.

**Keywords:** Digital divide, social networking sites, P.G. students, gender-wise, scalogram analysis.

**1. Introduction**

The term “digital divide” was coined by a former United States Assistant Secretary for Commerce for Telecommunications and Communication, Larry Irving, Jr, to focus attention on “the existing gap in access to information services between those who can afford to purchase the computer hardware and software necessary to participate in the global information network, and low-income families and communities that cannot” (Dragulanescu, 2002). Digital divide refers to any inequalities between individuals, groups, households, businesses, and geographic areas at different socioeconomic and other demographic levels in terms of access to, use of, or knowledge of information and communication technologies (ICT).

The Global digital divides designates countries as the units of analysis and examine the divide between developing and developed countries on an international scale (Chinn, Menzie D. and Robert W. Fairlie, 2004). There is no doubt that a digital divide exists, but its severity and depth is evaluated differently according to the indicators used to measure it (Evers, Hans-Dieter and Gerke, Solvay, 2004). However, the implications of the new media need to be understood more deeply because of the way in which innovations in digital technologies are contributing to the exercise and the distribution of power in society (Silverstone, 1999). According to Kuppuswamy and Shankar (2010) social network websites

grab attention of the students and then diverts it towards non-educational and inappropriate actions including useless chatting. Also Liccardi et al (2007) reviewed that the students are socially connected with each other for sharing their daily learning experiences and make conversation on several topics.

Social networking sites (SNSs) like Facebook, Twitter, YouTube, LinkedIn and MySpace, have become essential and popular communication and information sharing tools for internet users all over the world (Hussain, M. & et.al.). Social networking sites are extremely popular among graduates and Facebook with its origin in higher education is clearly the SNS of choice (ECAR, 2008). Social networking sites have emerged as a vital force for knowledge dissemination and information and form a base of interrelationships. Relationships or ties are the basic building blocks of human experience, mapping the connections that individuals have to one another. Social networking sites (SNS) are defined as web-based services that allow individuals to construct a public or semi-public profile within a limited system, articulate a list of other users with whom they share a connection, and view and traverse their list of connections and those made by others within the system (Abdulahi, A. et.al, 2014). The nature and terms of these connections may vary from site to site. A social network is a structure of relationships linking social actors or the set of actors and the ties between them. Social Networking Sites (SNS) amongst people has vastly increased and the usage of SNS has extensive influence on them in numerous ways, particularly in their interpersonal relationships with their members of family, friends and colleagues, organizations, etc. Sociologists argue that the digital divide is not a technological problem but a social problem and the consequence of underlying societal inequalities. Awareness, Access and availability of information promote the technocratic-meritocratic ideology, which uphold that success essentially depends on appropriate skills, knowledge, promotion of talents and abilities.

## **2. Digital divide in India**

Various studies (Huberman: 2001; DiMaggio et al: 2001) showed that the problem of digital divide is starker in the developing countries like India. The gap of digital divide is significant between the rural and urban India (Dasgupta et al: 2002; Nath: 2001). In India, globalization and information age have led to a diverse and new social networking's. But a large section of population has remained outsiders from within, being subordinated and excluded from the dominant processes of globalization and knowledge economy. Efforts have been made from both governmental and non-governmental platforms to enhance the telecommunication infrastructure. The idea is to help modern telecommunication technologies to serve all segments of India's cultural diverse society and to transform it into a country of technologically savvies (Singh: Year N.A.). Indian social context is ridden with the unequal distribution of resources and divisions based on caste, class, ethnicity and gender. Illiteracy, low income and spatial isolation widely contribute to sustain the pre-existing social exclusion. Along the time, there are also digital dimensions of digital divides of various sorts. These divides are between the rich and poor, between urban and rural, between English speaking and non-English speaking people. These digital divides are again accentuated with the varied extent of access of electricity, telephone and computer. While most of the urban centres have been connected with the forces of globalization and ICT networks and a distinctive category of elites have emerged therein, the rural areas, on the other hand where only upwardly mobile gentry are connected while as the agricultural labourers, tenants, poor peasants and the artisans who represent vast section of the marginalized people in India are excluded.

**Table 1**  
**Digital divide in India**

Sate	Access to Electricity % house hold	Telephone connections per 100 people (2004)	Internet connections per 1000 people
<b>Maharashtra</b>	59.7	5.34	8.21
<b>Punjab</b>	83.5	10.86	1.24
<b>Kerala</b>	61.1	9.79	0.87
<b>Karnataka</b>	63.0	5.58	2.73
<b>West Bengal</b>	18.8	1.96	2.51
<b>Orissa</b>	21.1	2.45	0.12
<b>Utter Pradesh</b>	N.A.	4.66	0.12
<b>Andhra Pradesh</b>	N.A.	4.76	N.A.

Source: BalaKrishnan, 2001 and observer statistical Handbook, 2005. Knowledge society and Employment Accessibility

**Table 2**  
**State-wise urban and rural teledensity in India (In %)**  
**(As on 29/02/2009)**

Circle/States	Teledensity		
	Rural	Urban	Overall
Andaman & Nicobar Islands	13.89	24.77	17.94
Andhra Pradesh	10.15	72.44	27.34
Assam	3.85	72.46	13.67
Bihar	3.1	89.13	12.13
Chhattisgarh	1.31	14.27	4.18
Gujarat	15.57	58.15	32.34
Haryana	16.06	57.67	29.45
Himachal Pradesh	30.5	118.64	39.9
Jammu & Kashmir	7.35	59.4	20.99
Jharkhand	1.14	11.38	3.49
Karnataka	11.14	73.38	33.68
Kerala	25.5	97.46	43.98
Madhya Pradesh	4.96	58.34	19.54
Maharashtra (-) Mumbai	11.66	55.16	26.18

Source: Sing, S.: Digital Divide in India: Measurement, Determinants and Policy for Addressing the Challenges in Bridging the Digital Divide. Department of Commerce Ramjas College: University of Delhi Delhi-7, India. [www.chnm.gmu.edu/digitalhisotry/links/pdf/introduction/0.26a.pdf](http://www.chnm.gmu.edu/digitalhisotry/links/pdf/introduction/0.26a.pdf).

**3. Societal implications of digital divide**

According to (S.S. Rao/Telematics and Informatics: 2005) the digital divide has severe implications on the society as follows:

**(i) Computer literacy:** Those who can operate computers stand a better chance than those who cannot, though literate and otherwise competent, to get even a secretarial job let alone an administrative one.

**(ii) Use of electronic data interchange (EDI):** An export company from a country that cannot use e-commerce over the Internet may lose a large export order to another company from a different country that has collected more information through the Internet and submitted quotations through EDI. Singapore has announced that it will not trade with any company that cannot transact with it in paperless EDI mode over a computer network. If many other countries follow the suite, it results in a Global digital divide. As a consequence, exports may grind to a halt for a country just because its companies cannot transact in EDI over a network.

**(iii) Tech savvy operations:** Those who know how to operate automated teller machine can draw money faster and those who cannot operate need to spend more time at manual counters.

**(iv) Use of information:** The cruellest blow is inflicted because of digital divide. It may be exploited by the unscrupulous because of information that urbanite may be privy to while others may not.

**(v) Working knowledge of English:** Internet hosts more than 80% of the Web pages in English though only 54% of the Internet users are amongst English-speaking people. In India and other developing countries, the disparity is much wider, resulting in a language divide. Even within advanced countries, concerns are there about divides along racial and gender lines. In fact, digital divide is an amplifier of economic and social divides that exists universally. The only saving grace is in converting digital divide into digital dividend to mitigate the prevailing economic and social disparities.

Knowledge society and Employment accessibility are correlated. Knowledge societies emphasizes the significance of human capital as a key component that gives these societies an edge in competence over others (Houghton & Sheehan: 2000; Olssen & Peters: 2005; UNESCO: 2005). The poorly educated and trained are generally the losers in the process of economic change where society as a whole seems to march towards order of development. This is what happens in knowledge societies. Those who have access to knowledge and related technologies can take advantage of emerging economy and thus the economic advantage. This is true in the case of both the individuals and nations. The richer countries strive to attract and retain the world's best-trained minds in many ways. Among the more powerful "pull" factors are the effective policies that stimulate research and development (R&D) activities and increase direct investment, offer attractive post-graduate training and research opportunities and recruit younger graduates and professionals (Glanz: 2001). Roughly 25 per cent of science and engineering students in U.S. graduate schools come from other countries. This amounts to somewhere between 50,000 to 100,000 students from abroad who are introduced into the U.S market for advanced human capital. Most of these students received their basic education and first degrees in their home countries - meaning that the cost of their initial training was probably assumed by the countries of origin rather than by the country of employment (NSF, 2000:app.table 4-22). Brain drain is a big problem for developing countries. It is estimated, for example, that at least 40 per cent of the graduates of the highly regarded Indian institutes of technology (IITs) seek employment abroad. The countries of sub-Saharan Africa having an average territory enrolment rate of only 4 per cent, compared with 81 per cent in the

United States, yet it is estimated that about 30,000 Africans holding Ph. Ds' live outside Africa and that 130,000 Africans are currently studying overseas. The challenge before the knowledge society is whether such a society will actually be able to achieve the universal concepts of equity and equality of all (Debal K, Singh Roy & Ms. Jitha, T. J: 2005).

#### **4. Research methodology**

The methodology of the present study is as under:

##### **4.1. The universe and sample of the study**

The universe of the present study constitutes post-graduate students of University of Kashmir. The study is based on a sample of 100 respondents selected from only 2 departments (*Sociology and Social work*) out of 8 departments of social science faculty in the year 2014. A list of post-graduate students of these selected departments was taken from the offices of the concerned Departments. Later, on a simple random sampling technique was used to collect information about the use of social networking sites from post-graduate students. From the list 62 students from sociology and 38 students from social work were selected which forms 41 percent male and 59 percent female students.

##### **4.2. Design of the study**

For the present study a 'descriptive research design' was used. The reasons for such a type of design were mainly methodological and technical since the problem under investigation demands assessment of the digital divide in the use of social networking sites by post-graduate students through scalogram analysis.

##### **4.3. Techniques and sources of data collection**

To carry out this study, the techniques of questionnaire and in-depth interviews were used to get objective and reliable findings. The study involved both primary and secondary sources of data collection. For primary sources, first-hand information was collected from the field. The secondary source of information is based on books, journal papers, unpublished thesis, etc. available on the topic.

##### **4.4. The objectives of the study**

- i) To understand the nature of the gender digital divide in social networking sites used by PG Students;
- ii) To analyse the impact of social networking sites on PG students' studies due to its use;
- iii) To investigate some of the ways students use and understand the connective in the relationships developed in social networking sites;
- iv) To measure the one-dimensional measure of attitude, preference, etc. of PG students where statements (items) represent increasingly positive feelings with respect to the object being measured through scalogram analysis.

#### **5. Results and discussion**

##### **5.1. Use of social networking sites by post-graduate students**

A social network is a structure of relationships linking social actors or the set of actors and the ties between them. Social Networking Sites (SNS) amongst students have vastly increased and the usage of SNS has emerged as a vital force for knowledge dissemination and information. The respondents

(students) were asked a question to reveal their membership of social networking sites, the responses are given in the table as below:

**Table 3: Membership of social networking sites of students gender-wise**

S. No.	Are you a member of social networking sites	RM	UM	RF	UF	Number	Percentage
1	Yes	28	24	8	25	85	85.00
2	No	4	7	1	3	15	15.00
	Total					100	100.00
If Yes, please select the social networking site for which you are a member		RM	UM	RF	UF	Number	Percentage
Facebook		22	20	7	17	66	66.00
Twitter		9	7	5	7	28	28.00
Google		19	15	5	20	59	59.00
LinkedIn		2	2	-	2	6	6.00
Myspace		-	1	-	2	3	3.00
Any other		8	7	2	13	30	30.00

**RM = Rural Male; RF = Rural Female; UM = Urban Male; UF = Urban Female**

**Source:** Field work carried out in 2014

Social networking sites have emerged as a vital force for knowledge dissemination and information and form a base of interrelationships. It is seen from the table that 85.00 percent of the post-graduate students were members of social networking sites and only 15.00 percent were not its members. The membership varied amongst Facebook, twitter, google, LinkedIn, myspace, etc. the study showed that 66.00 students had a member of Facebook followed by 59.00 percent google. The membership is greater for male (RM+UM), 52 (61.18 percent) out of total 85 memberships in contrast to female (RF+UF) i.e., 33 (38.82 percent). This male-female divide is further seen in terms social networking sites like Facebook where 42 (RM+UM) out of 66 i.e., 63.64 percent were males as compared to 24 (36.36 percent) female followed by twitter where 16 (RM+UM) out of 28 i.e., 57.14 percent were males as compared to 12 (42.86 percent) female; google where 34 (RM+UM) out of 59 i.e., 57.62 percent were males as compared to 25 (42, 37 percent) female.

**5.2. Impact on studies due to use of social networking sites for post-graduate students**

Social networking sites have a significant impact on studies of students like increase in understanding of knowledge, communication opportunities, and sharing of information with others. In this backdrop, the respondents were asked to reveal the impact of social networking sites on their studies as mentioned in the table below:

**Table 4: Impact of social networking sites on studies of students gender-wise**

<b>11. Impact on studies due to use of social networking sites</b>		<b>RM</b>	<b>UM</b>	<b>RF</b>	<b>UF</b>	<b>Number</b>	<b>Percentage</b>
(a) Increase my understanding of knowledge	a) Strongly Increased	7	8	-	10	25	29.41
	b) Increased	19	16	6	13	54	63.52
	c) No Change	2	-	1	2	5	5.88
	d) Decreased	1	-	-	-	1	1.17
	e) Strongly Decreased	-	-	-	-	-	-
	Total					85	100.00
(b) Increased opportunities to communicate with my teachers	Strongly Increased	3	5	2	2	12	14.11
	Increased	12	10	-	10	32	37.64
	No Change	5	6	3	10	24	28.23
	Decreased	7	3	2	3	15	17.64
	Strongly Decreased	2	-	-	-	2	2.35
	Total					85	100.00
(c) Increased opportunities for sharing information with my academic partners	a) Strongly Increased	9	10	2	6	27	31.76
	b) Increased	16	12	3	16	47	55.29
	c) No Change	3	1	2	3	9	10.58
	d) Decreased	-	1	-	-	1	1.17
	e) Strongly Decreased	1	-	-	-	1	1.17
	Total					85	100.00

**RM = Rural Male; RF = Rural Female; UM = Urban Male; UF = Urban Female**

**Source:** Field work carried out in 2014

It is seen from the table that the majority 54 (63.52 percent) of the post-graduate students had increased understanding of knowledge due to use of social networking sites. The gain of knowledge is higher for male (RM+UM), 35 (64.82 percent) out of total 54 students, in contrast to female (RF+UF) i.e., 19 (35.18 percent). Again 22 (RM+UM) out of 32 students, 68.75 percent felt that they had increased opportunities to communicate with their teachers as compared to 10 (31.25 percent) female. The data further reveal that the majority 47 students (55.29 percent) felt that social networking sites had increased opportunities for sharing information with academic partners, out of which 28 (RM+UM) i.e., 59.57 percent were males as compared to 19 (40.43 percent) female. Most of the respondents do feel that SNSs have a positive impact on their academic performance, due to the fact that SNSs can be used for various academic activities such as communicating with the faculty and university authorities, discussing academic topics with classmates and chatting with friends on topics of educational interest. Meanwhile, the negative impacts of SNSs on their academic performance were considerably low.

**5.3. Attitude towards social networking sites by post-graduate students**

The use of social networking sites is thought to very indispensable for society, but attitudes of its users vary from positive to negative feelings. In the absence of proper monitoring, checking and control, the misuse of social networking sites has increased vastly. In this backdrop, the respondents were asked to reveal their attitude of social networking sites as mentioned in the table below:

**Table 5: Attitude of students towards social networking sites gender-wise**

12.Your attitude towards social networking sites		RM	UM	RF	UF	Number	Percentage
(i) Use of social networking is indispensable for society	a) Strongly Agreed	7	4	-	4	15	15.00
	b) Agreed	13	14	6	14	47	47.00
	c) No Change	7	7	1	7	22	22.00
	d) Disagreed	4	5	2	3	14	14.00
	e) Strongly Disagreed	1	1	-	-	2	2.00
	Total					100	100.00
(ii) Misuse of social networking sites is increasing day by day	a) Strongly Agreed	22	20	5	18	65	65.00
	b) Agreed	7	8	3	9	27	27.00
	c) No Change	2	-	1	1	4	4.00
	d) Disagreed	-	-	-	-	-	-
	e) Strongly Disagreed	3	-	-	-	3	3.00
	Total					100	100.00
(iii) Activities of users on SNS must be checked, controlled and monitored	a) Strongly Agreed	23	18	4	6	51	51.00
	b) Agreed	12	11	2	7	32	32.00
	c) No Change	3	2	1	5	11	11.00
	d) Disagreed	1	-	2	-	3	3.00
	e) Strongly Disagreed	2	1	-	-	3	3.00
	Total					100	100.00

**RM = Rural Male; RF = Rural Female; UM = Urban Male; UF = Urban Female**

**Source:** Field work carried out in 2014

The above table reveals that the majority 47.00 percent of the post-graduate students felt that social networking are indispensable for society, out of which 27 were male (RM+UM) i.e., 57.44 percent in contrast to 20 (42.55 percent) female (RF+UF). Similarly, the majority 42 (RM+UM) out of 65 students, i.e., 64.61 percent argued that misuse of social networking sites is increasing day by day as compared to 23 (35.38 percent) female. The data further reveal that the majority 51.00 percent strongly agreed that activities of users on SNS must be checked, controlled and monitored, out of which 41 (RM+UM) i.e., 80.39 percent were males as compared to 10 (19.60 percent) female. They argued that without a proper controlling mechanism, SNS are misused and result in the negative impact of SNSs on students' academic performance.



**6 Scalogram matrix**

R E S P O N D E N T S	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6
		Increase my understanding of knowledge	Increased opportunities to communicate with my teachers	Increased opportunities for sharing information with my academic partners	Use of social networking is indispensable for society	Misuse of social networking sites is increasing day by day
28	Y	Y	Y	Y	Y	Y
15	Y	Y	Y	Y	Y	-
30	Y	Y	Y	Y	-	-
22	Y	Y	Y	-	-	-
5	y	-	-	-	-	-

Y= Yes (Agreement)

Symbolically, Agreement = Y

N= No (Disagreement)

Disagreement = -

The matrix shows the responses of all the students on all the items of table 2 and 3 listed above. The student respondents who agreed with more statements were listed at the top and those agreeing with fewer were listed at the bottom. For respondents with the same number of agreements, statements were sorted from left to right from those that most agreed to those that fewest agreed to. The scale is very cumulative when we move from left to right across the columns. The results showed that if a respondent agreed with item 4, he also agreed with item 2 and 1 and thus showing an overall favourable attitude towards social networking sites gender-wise.

**7. Conclusion.**

The digital divide is a social phenomenon, involving the spread of technological innovations in various social systems. ICT's has spurred the creation of economic and social network of individuals and communities. Social networking sites have emerged as a vital force for knowledge dissemination and information. The study showed that membership is greater for male (RM+UM) in contrast to female (RF+UF). This male-female divide was further seen in terms of awareness and access of social networking sites like Facebook, twitter, google, etc. Most of the respondents do feel that SNSs have a favourable impact on their academic performance, but the gain of knowledge and opportunities are higher for male (RM+UM) in contrast to female (RF+UF).

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