Gender-Gap in Internet Literacy in India: A State-Level Analysis

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Abstract		**Original Research Article**

Internet literacy is the knowledge of using internet facility, deals with intellectual ability of men and women. Internet plays very important role in our daily life to live, learn, work in a society to access information, knowledge, entertainment and improve our skills and internet literacy is one of the basic literacy whereas the gender gap is difference between men and Women in social, political, intellectual, cultural, economic attainments' or attitudes. The present study analyses gender gap in internet literacy in India using National Family Health Survey (NFHS) 5 data employing descriptive statistics, and t test. Study analyses gender gap in internet literacy in all the states of India shows clearly there is considerable level of gender gap among men and women. The finding indicates that just 63.06% of males and 40.65% of females have ever used the internet. Assam has one of the lowest rates of male Internet literacy in India, whereas Goa has one of the highest (82.90). Bihar has the lowest percentage of Internet-literate women, while Sikkim has the most. The gender disparity is most in the state of Telengana, with a score of 30.9, followed by Chhattisgarh (29.6), and it is at its smallest in the state of Sikkim, with a score of 1.5 and the gender difference seems to be more than 20 in the majority of the states.
Keywords: Gender, Gender gap, Gender disparity, inequality, Literacy, Internet literacy, India.

1. INTRODUCTION

Internet literacy is the ability to use the internet and is concerned with men's and women's intellectual abilities. The internet plays a significant part in our everyday lives since it allows us to access information, education, enjoyment, and enhance our abilities. Internet literacy is one of the core literacy skills. Internet use is simply the application of information and communication technologies. As the internet and its applications grow to dominate the world's economy in the next years, it is critical to raise knowledge among both men and women about the internet and its applications so that the problems and possibilities created in the global market are fully used. Today that we are in the age of the digital revolution, the most significant discrepancy in social and economic groups is the gender split. Several measures and policies are being implemented to raise literacy rates, and a significant rise has been accomplished after decades of work. Although though the government is concentrating on gender sensitization, there is still a digital divide between men and women, with the difference being greater in rural regions than in metropolitan ones (Banerjee, 2019). Gender disparities in literacy rates between men and women are narrowing, but there is still a 14% disparity in literacy rates between men and women in India. With the fast advancement of technology, particularly in the sector of the internet, it is critical to verify and monitor the Internet literacy rate of citizens, and required efforts must be taken to educate the public about the internet and its use. In light of this, this study is focused on the current literacy rate of men and women, and the results will be analysed to derive a better road map to increase the literacy rate and bridge the gap between literacy rate of men and women, so that both have an equal opportunity to make the best use of the applications and facilities, thereby positively impacting the Indian economy (Chigisheva *et al*., 2021). India has the world's biggest working-age population. Digital literacy is a significant way of technology or media for connecting people across the globe. Digital literacy supports technical advancement and aids in the acceleration of economic growth. Digital literacy increases demand for

employment and technical progress while also accelerating economic growth. Prime the use of smart phones is assisting women in gaining more information and encouraging effective participation. On the other hand, financial independence encourages them to study and engage in financial investments and successful adoption in their day-to-day lives. Just 42 percent of urban families and 14.9 percent of rural households have a computer with an internet connection, according to NSSO statistics. Gender disparities in internet literacy and use of the internet have resulted in increased awareness, need, and use of the internet among men and women at all phases of life (Mathew & Thomas, 2018). The Covid - 19 epidemic has increased the breadth and exposure for digital literacy, and it has emerged as the dominant alternative for education, employment, and a variety of services. (Chadha, 2020). According to the NFHS -5(2020- 21) survey, in India, 70 percent of women in urban regions have used the internet, compared to 49.6 percent in rural areas. In urban regions, 86.9 percent of males have used the internet, compared to 68.5 percent in rural areas. In India, women have a literacy rate of 52.9 percent, while males have a literacy rate of 71.6 percent (NFHS- 5 report 2021) (NFHS 5). Hence, although the gender gap in literacy has narrowed in India, the gender gap in Internet literacy is rising, notably in rural regions rather than metropolitan ones. Increase in internet literacy increases women empowerment which may reduce the gender violence (Maiti *et al.*, 2023). The main causes include a lack of technical expertise, custom-related restrictions, a lack of ability and education, a lack of network connection (the majority of rural people do not have access to broadband), a lack of financial independence and exposure, undeveloped infrastructure, and so on (Upadhyay, 2021). Policy actions are required to increase digital literacy and close the digital divide (Khokhar, 2016) . The current study addresses the gap in online literacy as well as the hurdles and downsides in gaining access to internet literacy.

2. REVIEW OF LITERATURE

Major societal changes are being fueled by the Inforation Techology revolution. While widespread use of ICT has undoubtedly improved many aspects of our collective existence, this revolution has not yet reached every person on the planet (Mariscal *et al.*, 2019). Although advancements in information and communications technology and the internet have opened up numerous doors of opportunity for human progress and empowerment in fields as diverse as teaching, green living, medical science, and commerce, they have also been identified as a major factor in widening economic and social gaps between different demographics (Moghaddam, 2010). It appears that acquiring accurate data on internet use by gender is challenging, especially from poor nations; yet, assessments of information on internet access and use across countries suggest that gender is one of the most important factors impacting online use. A considerable

"Digital Gender Gap" was found in many of these countries, according to study conducted by the UCLA Global Internet Project in 14 different countries. They found that there is an 8% difference in gender between male and female internet users. This number is lower than one might have anticipated due to widespread gender inequality. This gender gap is especially noticeable in some technologically advanced countries, where men outnumber women Internet users by around 2:1.

The gender difference is at its tightest in Taiwan, where men make up the highest internet users compared to women's. The gender disparity is at its largest in Italy. Researchers discovered that in the United States, 69.0% of women and 73.1% of men use the internet, with the gender gap being somewhat smaller than the average for the world (Moghaddam, 2010). In terms of internet literacy, India came up at position 73 out of 120 countries in 2021 (Basuroy, 2021, Maiti *et al.*, 2022). There are 352 million internet users in rural India, over 20% more than in urban regions, according to research by Nielsen, a global leader in audience measurement, data, and analytics. Yet, the same study also found that around 60% of the rural population does not now use the internet. Lack of computer knowledge could be to blame. India is getting close to its $5 billion target, but there is still a long way to go before the country's rural-urban divide is eliminated. India has a population of 1.3 billion people, yet only about 25-30% of them are computer savvy. According to Nielsen, the global market leader in audience measurement, they found that there are 352 million internet users in rural India, which is almost 20% more than in urban regions. However it seems that rural communities have lower levels of digital literacy than urban ones. Nonetheless, the same research showed that 60% of the rural population still does not use the internet, most likely because of a lack of digital literacy (Modi, 2022)

In light of the aforementioned literature, this chapter's overarching goal is to determine whether or not there is a major gender disparity in internet literacy at the state level. The chapter is organised as follows: First, the chapter sets the stage by introducing the subject; the chapter's second half provides a literature assessment of the subject matter, while the chapter's third section describes the study's specific aims in greater detail. The discussion of research methods and primary sources that comprises the fourth section the fifth portion is dedicated to data interpretation, and the last section, "Conclusion," provides a wrap-up of the study.

3. OBJECTIVES

Firstly, the present chapter tries to find out the significant state level gender-gap considering internet literacy is present or not. Secondly, to rank the states in descending order as per the gender-gap.

4. METHODOLOGY AND DATA SOURCE

The National Family Health Survey (NFHS) - 5 is a large-scale, multi-round survey conducted in a representative sample of households throughout India published by the Ministry of Health and Family Welfare, Government of India which is being used in this study. The present study considered Men Internet Literacy (MIL) which is measured by the men who have ever used the internet and Women Internet Literacy (WIL) which is measured by the Women who have ever used the internet. The data in this chapter is analysed using descriptive statistics, the t-test and gender-gap is measured by the difference between MIL and WIL.

5. ANALYSIS OF RESULT AND DISCUSSION

This section reprents the analysis of result. Table 1 depicts the descriptive statistics of the Variables and result of State level analysis, result of T-test represented in table 2 and table 3 presents sate wise gender-gap with rank as per NFHS 5.

Table 1: Descriptive statistics of the Variables and result of State level analysis

	Descriptive statistics of the Variables					Result of State level analysis	
Variable	Min.	Max.	Grand Mean	SD	CV	Min.	Max.
MIL	42.30	82.90	63.06	11.960	0.19	Assam	Goa
WIL	20.6	76.7	40.65	16.227	0.40	Bihar	Sikkim

Source: Gupta *et al.*, (2023)

Table 1 indicates that MIL is minimum in Assam (42.30) but maximum in Goa (82.90). The overall mean of MIL considering all sample states is 63.06 with 11.960 Standard deviation (SD) and coefficient of variation (CV) 0.19. In case of WIL, the minimum is found in Bihar (20.60) and maximum in Sikkim (76.70) with 40.65 grand mean, SD is 16.227 and 0.40 CV. Table 1 also depicts the fact that MIL is more consistant than WIL as CV of MIL is 0.19 whereas CV of WIL is 0.40.

Table 2: Result of T-Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Internet Literacy	Equal variances assumed	3.147	.082	5.777	52	.000	22.411	3.879	30.196	14.626
	Equal variances not assumed			5.777	47.812	.000	22.411	3.879	30.212	14.609

Source: Gupta *et al.*, (2023)

H1: There is a significant difference in Internet Literacy (IL) between Male and Female

An independent sample t-test is conducted to compare the IL for Male and Female which is presented in table 2. There are significant difference (t(52)= 5.777, p= 0.000) in the scores with mean score for Male (M= 63.06, SD= 11.960) is greater than Female (M= 40.65, SD= 16.227). The magnitude of the differences in the means (Mean Diffence= 22.411, 95% CI: 30.196 to 14.626) is significant. Hence H1 is accepted which is same as Gupta *et al.*, (2023) preprint.

Table 3: Sate wise Gender-gap with rank as per NFHS 5

States	Gender Gap	Rank
Telangana	30.9	1
Chhattisgarh	29.6	2
Uttarakhand	29.5	3
Manipur	29.1	4
Madhya Pradesh	28.8	5
Uttar Pradesh	28.5	6
Rajasthan	28.3	7
Gujarat	28.1	8
Andhra Pradesh	27.8	9

States	Gender Gap	Rank
Karnataka	27.4	10
Jharkhand	26.6	11
Odisha	25.8	12
Haryana	24	13
Maharashtra	23.5	14
Punjab	23.4	15
Tamil Nadu	23.3	16
Bihar	23	17
Tripura	22.8	18
West Bengal	21.2	19
Arunachal Pradesh	18.7	20
Himachal Pradesh	18.2	21
Kerala	15	22
Nagaland	14.7	23
Assam	14.1	24
Mizoram	12.1	25
Goa	9.2	26
Sikkim	1.5	27

Source: Gupta *et al.*, (2023)

According to Table 3, the gender disparity is most in the state of Telengana, with a score of 30.9, followed by Chhattisgarh (29.6), and it is at its smallest in the state of Sikkim, with a score of 1.5. According to this table, the gender difference seems to be more than 20 in the majority of the states.

6. CONCLUSION AND RECOMMENDATIONS

Based on the data, it appears that there is a disparity in the number of people in each sex who are proficient in using the internet across all of India. Even more so between rural and urban areas, there is a significant gender discrepancy between men and women. Moreover, this finding indicates that just 63.06% of males and 40.65% of females have ever used the internet. Assam has one of the lowest rates of male Internet literacy in India, whereas Goa has one of the highest (82.90). Bihar has the lowest percentage of Internet-literate women, while Sikkim has the most. The t- test indicates a statistically significant gender gap in Internet literacy. Based on this data, the gender gap is greatest in the state of Telengana, followed by the state of Chhattisgarh, and finally by the state of Sikkim. In India, there is a significant gender difference in internet literacy across most states (Iqbal, 2022).

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