Gender Gaps and the Social Inclusion Movement in ICT

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Chapter 2
A Human Rights-Based Approach to Bridge Gender Digital Divide: The Case Study of India

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ABSTRACT

Using India as a case study, this chapter examines four elements of gender digital divide, the causes of gender digital divide, and ways to bridge gender digital divide. It finds that girls and women do not have equal access to the internet and mobile technologies like men do. This is due to social norms favoring men in the distribution of resources and opportunities, women's lack of the economic means, and ineffective law enforcement. This study calls for a human rights-based approach to bridge gender digital divide, which emphasizes women's rights to ICT-related education and training, internet privacy and freedom of expression, and mobile phone ownership.

INTRODUCTION

India, which is the world's second-most populous country, has transformed government's way of working through information and communications technologies (ICTs) since the 1980s. In 2015, the government launched the Digital India programme with a vision to transform the nation into knowledge economy and a digitally empowered economy (Ministry of Electronics & Information Technology, 2017). However, the problems of digital divide between urban and rural areas and between men and women are serious in the nation. A review of previous literature shows that there is a lack of study on gender digital divide and ways to bridge gender digital divide in India. In order to fill the research gaps, this study examines four elements of gender digital divide, the causes of gender digital divide, and ways to bridge gender digital divide using a human rights based approach.

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BACKGROUND

Gender digital divide refers to the inequalities between men and women in terms of access to ICTs. According to Van Dijk (2004), digital divide can be understood as inequalities in four types of access: (a) mental access which refers to lack of elementary digital experience due to anxiety or lack of interest; (b) material access which refers to no possession of computers and network connections; (c) skills access which refers to inadequate education or social support; and (d) usage access which refers to lack of significant usage opportunities (p.160). Gender digital divide is a serious problem in developing countries where girls and women lack access to computers, the Internet and mobile technologies. The exclusion of women from ICTs adversely affect their self-confidence, social and economic status and capacity-building opportunities. The problem of gender digital divide continues to capture worldwide attention. According to a recently published report, less than one third of India's Internet users were female (UNICEF, 2017). There are some social, cultural and economic reasons attributed to gender digital divide in India, such as social norms favouring men in the distribution of resources and opportunities and women's lack of the economic means. Gender digital divide has put women in a very disadvantageous position in terms of educational opportunity, economic opportunity, earnings potentials and peer connections. For married women, gender digital divide may also adversely affect their children's welfare and development outcomes due to limited employment opportunities and lower income level. Gender digital divide has been a long-standing problem in India that deserves an in-depth analysis.

GENDER DIGITAL DIVIDE IN INDIA

Mental Access

In India, mental barrier is one of the main reasons why many females do not have Internet or mobile access. A comparative study on the Internet gender gap found that the rate of female Internet access was the lowest in India, which accounted for only 8 percent, compared with that of Uganda (9 percent), Egypt (32 percent) and Mexico (34 percent) (Intel Corporation and Dalberg Global Development Advisors, 2012, pp. 23-4). While the study cited larger rural population (69 percent) and lower Gross National Income (GNI) per capita (USD 3,620) as two macro barriers to women's access to the Internet in India (Intel Corporation and Dalberg Global Development Advisors, 2012, p. 24), it cited discomfort with technology (38 percent) and lack of interest (31 percent) as two mental barriers to Indian women's access to the Internet (Intel Corporation and Dalberg Global Development Advisors, 2012, pp.48-9). Women's perception that using the Internet was inappropriate (12 percent) and disapproval from family and friends (8 percent) also created psychological pressure on women's access to the Internet (Intel Corporation and Dalberg Global Development Advisors, 2012, p. 52). The study found that women in India were six times more than women in Uganda to report that using the Internet was inappropriate (Intel Corporation and Dalberg Global Development Advisors, 2012, p. 52). Through the interviews, the study found that the fear of watching wrong things online (Intel Corporation and Dalberg Global Development Advisors, 2012, p. 46), doing household work and looking after children were reasons why family members opposed women's access to the Internet (Intel Corporation and Dalberg Global Development Advisors, 2012, p. 53). The study showed that "barriers related to cultural and gender norms play[ed] a significant role in limiting women's use of the Internet" (Intel Corporation and Dalberg Global Development Advi-

sors, 2012, p. 52). In 2015, a survey conducted by Google revealed that almost half of the Indian female respondents did not see any reasons to access the Internet while some respondents feared angering their in-laws for spending too much time online (The Indian Express, 2015 May 26). Another survey which examined women's mobile access and usage in 10 low- and middle-income countries (hereafter the 2015 survey) found that the fear of making mistake with their mobile phone and losing money was a barrier to women using mobile phone or using a mobile phone more often or for more varied usages (GSMA, 2015b, p. 54). In rural India, most of the female respondents in selected villages in Eastern Uttar Pradesh did not have confidence in using mobile financial service (MFS) on their own because of "a lack of literacy and numeracy skills, or fear of making a mistake" (Grameen Foundation, 2013, p.6). Although the majority of them were trained by a mobile money agent or another person, their hesitancy and lack of confidence in their abilities to use MFS continued to exist (Grameen Foundation, 2013, p.6). Fear of technology led to women relying on assistance from a male household member or an agent to transact for them (Grameen Foundation, 2013, p.20).

Material Access

In India, there is gender gap in Internet access in the nation due to women's lack of economic means. The 2012 survey showed that "a woman in India is 27 percent less likely to have internet access than a man" (Intel Corporation and Dalberg Global Development Advisors, 2012, p. 98). 19 percent of Indian female respondents said that they could not easily access a computer or mobile phone with Internet (Intel Corporation and Dalberg Global Development Advisors, 2012, p. 57). Cost was cited by 13 percent of Indian female respondents as a significant barrier to their access to the Internet (Intel Corporation and Dalberg Global Development Advisors, 2012, p. 54). In India, desktop or laptop was the most expensive Internet platform, which cost USD 275 (Intel Corporation and Dalberg Global Development Advisors, 2012, p. 62). The less expensive Internet platform was tablet (USD 80), which was followed by smartphone (USD 40) and Internet enabled feature phone (USD 20) (Intel Corporation and Dalberg Global Development Advisors, 2012, p. 62). Those who could not afford a desktop or laptop at their homes may use public and shared facilities to access the Internet, including public libraries, rural village telecenters and information kiosks, and cybercafés (Haseloff, 2005). The statistics provided by Cyber Café Association of India showed that India had 72,000 cybercafés in 2016 (Sharma, 2016 July 31). Cybercafés offered "a low-cost alternative to the otherwise expensive model of in home-ownership and access" (Haseloff, 2005). The hourly surfing charge was about 11 rupees (Sharma, 2016 July 31). However, most of the women did not go there because of the perception that cybercafés were not safe (Intel Corporation and Dalberg Global Development Advisors, 2012, p. 54) and "cultural norms that discourage[d] the mingling of men and women" (Intel Corporation and Dalberg Global Development Advisors, 2012, p. 54).

Meanwhile, Indian women have difficulty in owning a mobile phone although the price of it is less expensive. Gender gap in mobile phone ownership, which referred to "how less likely a female is to own a mobile phone than a male" (GSMA, 2015b, p.19), was high in India. The 2015 survey found that gender gap in mobile phone ownership in India was 36 percent (GSMA, 2015b, p.74), which was higher than the average gender gap in mobile phone ownership in low- and middle-income countries, which only accounted for 14 percent (GSMA, 2015b, p.24). Besides, there was a sharp difference in mobile phone ownership between urban and rural women in India. The National Family Health Survey 2015-16 showed that about 62 percent of urban women had a mobile phone that they themselves used compared

with about 37 percent of rural women (Ministry of Health and Family Welfare, 2017, p.6). According to the 2015 survey, half of the Indian female respondents reported that handset cost and credit recharge was the greatest barrier to mobile phone ownership and usage (GSMA, 2015b, p.44). It is because earning less income or being less likely to earn an income made Indian women less financially independent (GSMA, 2015b, p.45). "India has amongst the lowest women's labour force participation rates (LFPR) in the world" (International Labour Organization Country Office for India, 2017, p.2). In 2012, India's female LFPR was about 33 percent, which was well below the global average of about 50 percent (Das et al., 2015, pp.4-5). "Traditional social norms regarding women's mobility and their primary role as family caretakers limit women's participation in paid economic work" (Malhotra et al., 2012, p.13). The husband and in-laws imposed restrictions on women's movements outside the household (Chaudhary and Verick, 2014, p.16). For example, "[i]n villages in Rajasthan and Gujurat, in northwest India, women do not step out of their houses" (Intel Corporation and Dalberg Global Development Advisors, 2012, p.65). In India, most women need permission from family members to "undertake a job or start a business, usually prioritizing their responsibilities as daughters, wives, and mothers" (Malhotra et al., 2012, p.13). For women who can work outside the home, "structural constraints make it difficult for them to break into better paying and more stable jobs" (Surie, 2016). "[M]oney is often scarce for the millions of Indian women" (The GSMA Development Fund et al., 2010, p.39) because most of them are employed in "the informal, semi-or unskilled sector such as domestic work, where incomes are low and there are limited benefits or job security" (Surie, 2016). The National Sample Survey Organization report (2011-2012) found that about 64 percent of urban women and 60 percent of rural women in India engaged in domestic work (Singh, 2014 October 13). Rural women had a less stable income than urban women. The share of regular wage or salaried employees for rural women was 7.6 times less than that of urban women (Ministry of Statistics and Programme Implementation, 2017, p.60). Besides, the average per day wage/salary earned by a female was less than that by a male, irrespective of education level and residence (Ministry of Statistics and Programme Implementation, 2017, p.60). For example, the average per day wage/salary earned by a rural female and urban female was respectively about 202 rupees and 366 rupees while the average per day wage/salary earned by a rural male and urban male was respectively about 322 rupees and 470 rupees (Ministry of Statistics and Programme Implementation, 2017, p.75).

Due to the lack of economic means, most of Indian female respondents said that they used their husband's money to buy their mobile phone (48 percent) and refill credit balance or pay a monthly bill (50 percent) (GSMA, 2015b, pp.121-2). Women had low level of decision-making power in India (GSMA, 2015b p.75) because fathers, husbands and brothers were the main decision makers of households (Bhattacharya, 2017 April 26). Since men played a dominant role in making decisions about general household expenses, women who earned an income could hardly control how that income was spent, including on mobile-related expenses (GSMA, 2015b, p.45). According to the 2015 survey, of the 44 percent of Indian female respondents who used their own money or the household budget to pay for their mobile phone, 61 percent of them had to ask for permission to spend this money on a mobile phone (GSMA, 2015b, p.60). Besides, 41 percent of Indian female respondents reported that they had no role at all in choosing a mobile phone while only 19 percent of Indian female respondents could make the mobile phone purchasing decision themselves compared with 72 percent of male respondents (GSMA, 2015b, p.60). For women who did not own a mobile phone, it was common practice for them to borrow a mobile phone from other people. The 2015 survey found that Indian women had the highest mobile borrowing rate, which accounted for 29 percent (GSMA, 2015b, p.34). In India, borrowing was more common among women with lower education level (39 percent) and in rural areas (34 percent) (GSMA,

2015b, pp. 34-5). Most of them borrowed a mobile phone from household members (GSMA, 2015b, p.35), which unavoidably limited their privacy (Bhattacharya, 2017 April 26). Unfortunately, 49 percent of Indian female respondents reported in the 2015 survey that they never had the opportunity to try a mobile phone (GSMA, 2015b, p.35). However, about 66 percent of these non-mobile phone users said that they would use a mobile phone if they were given one (GSMA, 2015b, p.35).

Skills Access

In India, girls and women are not provided with equal access to education. The male-female gap in literacy rates is still very high although India has achieved substantial progress in improving women's literacy rate (Nair, 2010, p.100). The female literacy rate steadily increased from 8.9 percent in 1951 (Nair, 2010, p.100) to 59 percent in 2016 (Ministry of Statistics and Programme Implementation, 2017, p.39). But it was still lower than the male literacy rate, which accounted for 79 percent in 2016 (Ministry of Statistics and Programme Implementation, 2017, p.39). Besides, there is a great disparity in adult literacy rate between urban and rural women. In 2016, adult literacy rate for women in urban areas was about 77 percent while adult literacy rate for women in rural areas was only about 51 percent (Ministry of Statistics and Programme Implementation, 2017, p.39). Gender inequality in education is largely attributed to parents' reluctance to educate girls (Nair, 2010, p.103). Parents think that it is unnecessary for women to receive education because women will end up becoming child bearers and rearers (Nair, 2010, p.103). The importance of education of girls is also downplayed by domestic responsibilities and lack of mobility (United Nations, 2005, p.16). Engaging in domestic activities was one of the main reasons why Indian females aged 5 to 29 years never enrolled in schools (Ministry of Statistics and Programme Implementation, 2017, p.48). In rural areas, parents cannot afford to pay tuition fees for their children and most of the girls are kept at home to do household chores and serve as free labour in the farms (Nair, 2010, p.104). Meanwhile, inadequate toilet facilities (Nair, 2010, p.103) and "discriminatory stances, such as women's education having lower economic utility or at best being a secondary wage earner" (Nair, 2010, p.103) are other factors inhibiting women's access to education. Without literacy or having poor literacy, girls and women are unable to develop the cognitive skills of reading and writing and numeracy skills to process and interpret mathematical information (UNESCO, 2006, pp.149-150). "Literacy is often a pre-requisite for the acquisition of many other skills" (Kapur and Murthi, 2009, p.4) and "an indispensable instrument for access to further learning and training opportunities" (Gunawardena, 1997, p.596).

Without literacy or having poor literacy, girls and women are unable to possess skills related to the use of new technologies such as digital media. In India, many girls and women are digitally illiterate that they lack "the skills, understandings and practices required to successfully navigate the ever-changing digital landscape" (Meyers et al., 2013, p.356). They are unable to make effective use of the Internet and may encounter informational obstacles on the Internet because they are unable to access or understand information online (Birru et al., 2004). For example, a government survey in 2014 found that only 9 percent of female respondents knew how to do an Internet search or use either a computer or a mobile phone to send emails, compared with over 16 percent of male respondents (Bellman and Malhotra, 2016 October 13). According to the 2012 survey, 19 percent of Indian female respondents cited 'There is no one to show me how to use it' as one of the reasons for not accessing the Internet (Intel Corporation and Dalberg Global Development Advisors, 2012, p. 49). During the survey interviews, female respondents "called for classes to educate females about the Internet and free training in computer education" (Intel Corporation and Dalberg Global Development Advisors, 2012, p. 50). In rural areas, women have very

low awareness of the Internet. A survey which examined the use of mobile Internet among urban and rural women in Kenya, India, and Indonesia found that rural non-users in India had the lowest awareness of the Internet (GSMA, 2015a, p.30). Many admitted in the interviews that "they were not completely sure what the internet was, or what it could be used for" (GSMA, 2015a, p.30). Although some rural women enquired about the Internet, they failed to receive any positive responses from friends and family members. They were told that "there was no point in them learning it because 'a woman's place was in the household'" (GSMA, 2015a, p.34). This discouraged women from learning the Internet when family members and friends refrained from teaching them how to use it (GSMA, 2015a, p.34). Meanwhile, lack of economic independence was a barrier to women's digital literacy (GSMA, 2015a, p.31). For rural women who were users of mobile Internet, their reliance on men to recharge their mobile phones "inhibited them from freely spending money on learning" (GSMA, 2015a, p.31).

While computers demand high skill sets, mobile phones are user friendly (United Nations Development Programme, 2012, p.13) and "only require basic literacy" (United Nations Development Programme, 2012, p.13). Nevertheless, many Indian women still lack the related knowledge and skills to use mobile phones. The 2015 survey showed that technical literacy was cited by Indian women from both wealthier and poorer households as a barrier to mobile phone ownership and usage (GSMA, 2015b, p.28). The survey found that 34 percent of Indian female respondents said that they did not know how to use a mobile phone or how to use the more complex features of their mobile phone (GSMA, 2015b, p.54). Besides, 32 percent of Indian female respondents said that they had trouble reading and/or understanding handsets and/or content language (GSMA, 2015b, p.54). Another survey found that language was a barrier to women's use of mobile phone. Smartphones and apps that were in English or Hindi prevented rural, low-educated women in India from using mobile phones (GSMA, 2015b, p.56). Due to "low mobile literacy and a lack of digital skills" (GSMA, 2015a, p.11), many Indian women have to seek assistance from other people in order to use a mobile phone. Compared with women in other low- and middle-income countries, more women in India needed help when using mobile Internet. While over 70 percent of women in Turkey, Mexico, Columbia, Jordan and Egypt reported that they could use mobile Internet without any help, only 24 percent of Indian female respondents said that they could use mobile Internet without any help (GSMA, 2015b, p.55). According to the 2015 survey, many Indian female respondents needed help to use mobile Internet (76 percent) and send SMS (50 percent) while some of them needed help to make a call (5 percent) (GSMA, 2015b, p.123). Most of the female respondents (39 percent) reported that their husband was the first person who taught them how to use a mobile phone while 33 percent of female respondents reported that they worked it out on their own (GSMA, 2015b, p.124). It means that some women learnt to use many features on their mobile phones independently by experimenting with various buttons and icons (GSMA, 2015a, p.30). In rural area, many women experienced difficulties in using voice calling feature on their mobile phones. A survey found that many uneducated rural female respondents relied on their household members to make calls for them due to the lack of numeracy skills (Grameen Foundation, 2013, p.6; Grameen Foundation, 2013, p.15). All of them "could use the phone only if somebody else dialled the number for them or if they were on the receiving end" (Grameen Foundation, 2013, p.15). Some of them could only use mobile phones to watch videos or listen to music unless their husbands or other household members assisted them to download content in advance (Grameen Foundation, 2013, p.15). About 70 percent of female respondents said that they did not use other non-voice features such as SMS because "they did not know how" (Grameen Foundation, 2013, p.16). Recently, a report has revealed that village women are only taught to press the green button to pick up phone calls and the red button to disconnect the mobile phone (Khan, 2017).

Usage Access

For many women in India, especially those in rural areas, "the hurdles to Internet access are too high for regular use" (Intel Corporation and Dalberg Global Development Advisors, 2012, p.65). There is gender disparity in Internet access due to various reasons. According to the 2012 survey, women's access to the Internet was much less than men's because of less formal schooling, less physical mobility, and less employment outside the home (Intel Corporation and Dalberg Global Development Advisors, 2012, p. 50). The heavy burden of unpaid family and household responsibilities, such as cooking, cleaning and child care, also leads to women having little free time to access and use the Internet (The International Center for Research on Women, 2010, p.7). However, it is the lack of freedom greatly limiting women's opportunities to use the Internet. Osama Manzar, head of India's Digital Empowerment Foundation, said that a woman needed to first give her family a reason why she wanted to use the Internet (Intel Corporation and Dalberg Global Development Advisors, 2012, p.65). Even though a woman got approval from family members to use the Internet, she could only use the Internet in a very limited way. For example, a 16-year-old Indian girl whose brother kept an eye on which website she was accessing was allowed to use online dictionaries for help with homework, but was not allowed to use social media sites such as Facebook (Subramanian, 2017 May 29). Besides, she was not allowed to own a mobile phone because her parents wanted to prevent her from chatting with boys (Subramanian, 2017 May 29). In rural India, young women can only use mobile phones in a limited way because they had "their access and use of mobile monitored and controlled by their families" (GSMA, 2015b, p. 60) to reduce their contact with men outside the immediate family or protect them from harassment from untoward admirers (GSMA, 2015b, p. 60). These examples show that social norms limit women's access to social media sites and ownership of mobile phones. In fact, "Facebook has a massive gender divide in India" (Bhattacharya, 2016 September 7). In 2015, there were "roughly 3 men for every woman on Facebook in India" (GSMA, 2015b, p. 30). Moral panic of family members is a barrier to girls' and women's access to mobile and Internet technology (Subramanian, 2017 May 29). Another situation faced by women in India is that they can hardly use the Internet to express their views or participate in political debates because men dislike them posting their views online. A study which examined whether the democratic nature of Twitter allows Indian women to be more free and vocal about politics found that women were significantly underrepresented in Twitter's political conversations (Anderson, 2015, p.1). Only 7.72 percent out of 23,250 tweets under political trending topics were by women, compared to 46.15 percent by men (Anderson, 2015, p.4). The finding mirrored "an under representation of women in actual processes of electoral politics in India" (Anderson, 2015, pp.5-6). Women were discouraged to express their political views online because women who took up space online were regarded as trespassers in a male dominated Internet structure (Anderson, 2015, p. 6). Most of them faced cyber abuse that they were forced offline. This will be explained in detail in the next section.

THE CAUSES OF GENDER DIGITAL DIVIDE IN INDIA

In India, "the gender gap in [ICT] access is often symptomatic of underlying structural inequalities – especially in education and income – between women and men" (Gurumurthy and Chami, 2014, p.12). India is a patrifocal society that "women are subordinate to the welfare of the family" (Varma, 2010, p.258). The appropriate female behaviour emphasizes "obedience to family rules and authority, fond-

ness for simplicity and home life" (Varma, 2010, p.258). Due to patrifocality, women "fall far behind men in almost all spheres of life" (Katiyar, 2016, p.47). They are not treated at par with men politically, economically and socially (Katiyar, 2016, p.47). The Global Gender Gap Index, which measures the relative gaps between women and men across the key areas of politics, economy, education, and health in 144 countries (World Economic Forum, 2017, p. v), showed that India experienced a decline in its overall Global Gender Gap Index ranking from 87th in 2016 to 108th in 2017 (World Economic Forum, 2016, p.11; World Economic Forum, 2017, p.11). Its decline was attributed to a widening of its gender gaps in political empowerment, economic participation and opportunity, and healthy life expectancy (World Economic Forum, 2017, p.176). While it "rank[ed] fourth-lowest in the world on Health and Survival" (World Economic Forum, 2017, p.22), it dropped to sixth-lowest in the world on Economic Participation and Opportunity (World Economic Forum, 2017, p.176). In the previous section, some economic, social and cultural reasons that attributed to four types of gender digital divide have been examined. In this section, two more reasons that affect females' use and access of the Internet and mobile phones would be examined in detail.

Khap Panchayats' Ban on the Use of Mobile Phones Among Girls and Women

Over the past few years, informal village councils known as khap panchayats have issued orders prohibiting girls and women from using mobile phones and imposed fines on violators (The Express Tribute, 2017 May 3). "The word 'Khap' connotes village area inhabited by a clan" (Gurtoo, 2016, p. 46). "*Panchayat* literally means assembly (*yat*) of five (*panch*) prudent and respected elders chosen and accepted by the village community" (Kachhwaha, 2011, p. 298). Khap panchayats are dominated by men and have a patriarchal ideology (Singh and Pawar, 2016, p.240). They are "being acknowledged and supported by powerful male elements of the society" (Thakur et al., 2015, p.10). They "believe themselves to be autonomous from the state and claim to represent all members of that particular community" (Sadiq and Khan, 2015, p.11753). They "have been declared illegal and unconstitutional bodies by the Supreme Court for their alleged encouragement of honour killings" (Rajpurohit and Kaur, 2017, p.291). But they have considerable influence in rural India (The Express Tribute, 2017 May 3) and "even big politicians are dominated by them (Rajpurohit and Kaur, 2017, p.291). They "impose self-created norms backed by sanction in the name of preserving morals and values of the society" (Rajpurohit and Prakash, 2015, p.81). They "are known for issuing diktats aimed at upholding the socially conservative traditions that have long held sway and resisting modernisation" (The Express Tribute, 2017 May 3). "The question of rights for women does not exist anywhere in the territories ruled by Khap panchayats" (Sunita and Yudhvir, 2013, p.16). It is because Khap panchayats "uphold the dictum of Manu that women should be protected by men in every stage of life" (Ameera, 2017, p.156) and girls are brought up with the notion that they are submissive to men and have to bear all suppression (Ameera, 2017, p.157). Khap panchayats "override any notion of gender equality or gender empowerment that the Indian legal system provides" (Gurtoo, 2016, p. 48). They sustain control over female members of the community and instil fear in minds of girls by issuing various orders that are degrading and mortifying to the women (Ameera, 2017, pp.156-7).

In December 2012, a panchayat in Bihar village in Northeast India banned girls and women from using mobile phones (Firstpost, 2012 December 3). A girl who was found using a mobile phone would face fines of 10,000 rupees while a married woman who was found using a mobile phone outside her house would face fines of 2,000 rupees (Firstpost, 2012 December 3). The financial penalty was heavy

because the average daily wage in India was only 193 rupees and 250 million people living below the poverty line could only earn 86 rupees per day (Lewis, 2016 February 22). Most of the village elders favoured such ban because they thought that mobile phone was the cause of all evils leading to an increase in love affairs and the incidents of elopement (Firstpost, 2012 December 3). In 2014, Muzaffarnagar village in Northern India banned young girls from using mobile phones (Chauhan, 2016 February 19). In 2015, Barmer village in the north western Indian state of Rajasthan also imposed such ban on girls (Chauhan, 2016 February 19). In February 2016, Basauli village in Northern India completely banned unmarried girls from using mobile phones or social media (Chauhan, 2016 February 19). Those who broke the rule would face hefty penalties of up to 1,000 rupees or their parents would be punished by sweeping 500 metres of village roads for five days (Chauhan, 2016 February 19). According to the khap panchayat coordinator, the reason behind such ban was that the use of mobile phone led to girls getting spoiled and getting involved in relationships with boys at a young age (Chauhan, 2016 February 19). Village elders and other men decided in a meeting that several teams would be formed to keep a tab on girls carrying mobile phones (Chauhan, 2016 February 19). In the same month, Gujarat village in Western India banned unmarried women from using mobile phones because community leaders thought that unmarried women' use of mobile phones created a nuisance in society (Dave, 2016 February 18). Village sarpanch claimed that the move could help girls "better utilise their time for study and other works" (Dave, 2016 February 18). According to the diktat, women who possessed or used a mobile phone would face fines of 2,100 rupees while informers could get 200 rupees as reward (Dave, 2016 February 18). The only exception to the ban was that women were allowed to use their parents' mobile phone if their relatives wanted to talk to them (Dave, 2016 February 18). In May 2017, Mathura village in Northern India banned girls from using mobile phones in public or while walking through the village lanes (Chaturvedi, 2017 May 3). Any girls who violated the diktat would face fines of 2,100 rupees (The Hindu, 2017 May 3). According to Head of the panchayat, such ban was due to the fact that girls were not much educated and the use of mobile phones was an 'evil' that may lead girls to a 'wrong path' (Chaturvedi, 2017 May 3). Former head of the village said that girls' use of mobile phones encouraged elopement (Financial Express Online, 2017 May 3) and elopement could sometimes lead to violence (The Hindu, 2017 May 3). Hence, the all-male panchayat decided that "girls should use mobile phones only within the boundaries of their homes" (The Hindu, 2017 May 3). Local police said that the ban on the use of mobile phones among women were against the constitution because of curbing the freedom of women and they would take action (The Express Tribute, 2017 May 3). But no concrete action has been taken by the police so far.

Ineffective Law Enforcement

Due to the pervasiveness of patriarchal mindset on the online spaces, women's use of Twitter, Facebook or other social media platforms to express their views are often met with cyber stalking, bullying, sexual harassment, the threat of violence (Arya, 2013 May 8), gender-based hate speech (Padte and Kovacs, 2013), disturbing emails (Krishnani, 2015) and harassing phone calls from unknown men (Dutt, 2017 May 12). Their personal information or their family members' personal and related information are also leaked onto the Internet (Arya, 2013 May 8; Halder and Jaishankar, 2011, p. 394) that lead to repeated acts of harassment in real life. Online trolling has been used to create a hostile culture in which sexism and woman-hating is expressed (Kovacs et al., 2013) and this works to "control, intimidate and eventually silence women" (Dutt, 2017 May 12). In 2010, a survey which examined 60 Indian female

respondents' cyber victimization experiences found that 85 percent of them received abusive mails with sexual images and dirty messages and 75 percent of them received sexually teasing remarks in their social networking profiles or associated email (Halder and Jaishankar, 2010, p.17). Besides, the survey found that 45 percent of the respondents had been targeted because of her sexuality or feministic ideologies while about 42 percent of them received hate messages and 40 percent of them had been victim of cyber stalking (Halder and Jaishankar, 2010, p.17). The survey result showed that women could be victims of different types of cyber abuse. Many women facing cyber bullying did not go to the police "in fear of defamation of her profile as well as her family's name" (Saha and Srivastava, 2014, p.62). They were "taught to shun their voice for the fear of being stigmatized" (Saha and Srivastava, 2014, p.61). That is one of the reasons why many cyber abuse cases go unreported. For women who went to the police, their complaints were dismissed as trivial and they were even told by the police that it was unnecessary for women to express their views online (Arya, 2013 May 8). When women tried to approach their friends to ask for help, most of their friends told them to 'let it go' (Krishnani, 2015). Secondary victimization of women due to the unmotivated attitude of police to pursue proper investigations and the unempathetic attitude of their friends (Halder and Jaishankar, 2011, pp. 387-8) put women into a very disadvantageous, helpless and vulnerable situation. Most of the women ended up handling cyber bullying on their own. They responded to cyber bullying in different ways, which included getting the abusive content removed (Arya, 2013 May 8), blocking abusers (Krishnani, 2015), refraining from expressing their views online (Arya, 2013 May 8), shutting down their social media accounts temporarily (Walia, 2016 March 3), deleting their social media accounts (Hindustan Times, 2017 May 12) or withdrawing from online spaces (Subramanian, 2017 May 29). According to the 2015 survey, 33 percent of Indian female respondents said that harassment from strangers was a barrier to their use of mobile phones (GSMA, 2015b, p. 50). Cyber abuse adversely affects "the exercise of and advocacy for free speech and other human rights" (The United Nations Broadband Commission for Digital Development, 2015, p.2).

A HUMAN RIGHTS BASED APPROACH TO BRIDGE GENDER DIGITAL DIVIDE

Gender equality is a human right critical for advancing development. It is also an important value that the United Nations has made unremitting efforts to promote in different conferences and documents. It is important to inform, educate and empower women through ICTs so that women have the ability to make informed decisions that shape their lives, make their voices heard, improve their economic and social status, have political participation, and contribute to the nation's economy. At present, gender digital divide is a pervasive problem in India. There is an urgent need to address this gender divide. Otherwise, there might be "a risk that ICT may exacerbate existing inequalities between women and men and create new forms of inequality" (United Nations, 2005, p.3). The adoption of a human rights based approach to bridge gender digital divide is to encourage rights holders to claim their rights as well as developing the capacity of duty-bearers to meet their obligations (United Nations Population Fund, 2014). Women being rights holders have the rights to receive ICT education, obtain online information and services, have freedom of expression online, participate in decision-making processes, and privacy. Meanwhile, the adoption of a human rights based approach recognizes that duty bearers which are usually governments have the obligations to respect, protect and guarantee these rights (United Nations Population Fund, 2014). "Gender sensitivity is the prerequisite that must prevail and be strengthened at all levels" (Parihar, 2017, p.29). The government, private organizations and non-government organizations should

foster a gender-responsive culture and environment to realize the rights of women through ICT and facilitate women's empowerment.

Women's Right to ICT-Related Education and Training

The Internet can bring both tangible and intangible benefits to women in developing countries (Intel Corporation and Dalberg Global Development Advisors, 2012, p.29). Tangible benefits include finding more education and job opportunities, having greater access to information ranging from government services to health and other needs (Intel Corporation and Dalberg Global Development Advisors, 2012, p.29), and improving their networking capabilities (Gallup, Inc. and the International Labour Organization, 2017, p.55). For example, female respondents in India reported in the 2012 survey that tangible benefits brought by Internet use included improving their education/studies (77 percent), searching and applying for jobs (59 percent), expanding their networks to improve job prospects (59 percent) and earning additional income (39 percent) (Intel Corporation and Dalberg Global Development Advisors, 2012, pp.32-3). Meanwhile, intangible benefits brought by the Internet include greater confidence, higher self-esteem, a sense of connection and participation, empowerment, and even a feeling of liberation (Intel Corporation and Dalberg Global Development Advisors, 2012, pp. 29-30). In order to absorb and exploit the benefits of Internet use, the government, local communities or non-governmental organization (NGO) should provide girls and women with ICT-related education and training so that their knowledge and skills can be developed and enhanced. Different training programmes should be available and learner-centred to suit different needs, such as beginners computer class, advanced computer class, career developing trainin, and career enhancement training (Women Centre of Peel, 2018). For example, Feminist Approach to Technology (FAT) was established in 2007 in New Delhi, India with an aim to increase women's access to technical resources so that they had broader career choices (Intel Corporation and Dalberg Global Development Advisors, 2012, p. 38). FAT hosts a community tech center that has female-only staff to provide underprivileged girls with training and guidance when they learn and experiment with computers and the Internet (Intel Corporation and Dalberg Global Development Advisors, 2012, p. 38). Another example was that a new Women's Resource Center was established by Rural Education and Development (READ) Global in Bihar to provide a 6-month computer training for women to acquire basic computer skills that could help them find higher paying jobs (Greene, 2016). Also, telecentre is a public access point where people have access to computers and the Internet that enable them to get information and receive training and education (Mukerji, 2008, pp.1-2). For example, women reported that the acquisition of computer skills at the Baduria ICT Centre in West Bengal helped increase their confidence in approaching the job market and gain more respect at both the family and community levels (United Nations, 2005, p.8). The availability of basic ICT infrastructure, a stable electricity supply, a convenient location, competent teachers and trainers, and regular computer maintenance can ensure smooth and efficient operation of telecentres. Telecentres can facilitate women's participation more effectively by having women-trainers and providing women-only training environments (United Nations, 2005, p.8). Meanwhile, they can enhance women's learning experience by simplifying and adapting training materials into local contexts and translating the materials into local languages (United Nations, 2005, p.8). Capacity building through ICT can enable the ability of girls and women to use computers, the Internet and mobile technologies at their own pace and in whatever manner they see fit. It can also enable girls and women to integrate into their daily lives and even create positive impacts to local communities and economic development such as driving Gross Domestic Product (GDP) and income growth

(Intel Corporation and Dalberg Global Development Advisors, 2012, p.30). In recent years, Google has partnered with local philanthropy Tata Trusts to launch a campaign known as Helping Women Get Online (Purnell, 2016 October 3). The campaign sends thousands of bicycle-riding female tutors to their own and neighbouring villages in order to provide rural women with free access to Internet-enabled devices like tablets and smartphones and basic Internet skills training (Parbat, 2016 June 8). Over 2 million rural women have benefited from the campaign (Parbat, 2016 June 8) and their lives have been improved by learning to "search online for information about government benefits, crop prices, health tips, recipes, agricultural techniques, cattle deworming and how to keep animals healthy" (Dhillon, 2016 December 5).

Women's Right to Internet Privacy and Freedom of Expression

"Rights of women in cyber space are as important as rights of women in physical space" (Halder and Jaishankar, 2012, p.55). Women have the right to safe and protected cyber life (Halder and Jaishankar, 2012, p.62) and this can be achieved by protecting their rights to digital privacy and freedom of expression. Right to privacy is "universal and applicable to both women and men on an equal basis" (Mendel et al., 2012, p.10). Freedom of expression is also "a fundamental right, and its preservation requires vigilance by everyone" (The United Nations Broadband Commission for Digital Development, 2015, p.3). The rights to privacy and freedom of expression are closely linked (Mendel et al., 2012, p.95). Respect for privacy of online communications is a prerequisite for trust by those who engage in communicative activities (Mendel et al., 2012, p.95), "which is in turn a prerequisite for the exercise of the right to freedom of expression" (Mendel et al., 2012, p.95). At present, "online gender-based abuse and violence assaults basic principles of equality under international law and freedom of expression" (DigitalWatch Observatory, 2017). It also jeopardizes women's right to privacy. The large-scale cyber abuses faced by girls and women must be addressed with sufficient legal recourse (Padte and Kovacs, 2013). Women deserve to have "equal treatment for legal protection against cyber crimes" (Halder and Jaishankar, 2012, p.62). Both the Indian Penal Code (IPC) and the Information Technology (Amendment) Act, 2008 (hereafter the 2008 IT Act) provide sections that protect women against online harassment. Section 503 of IPC protects women against criminal intimidation such as rape threats online whereas Section 509 of IPC protects women against acts of sexual harassment that intend to insult the modesty of a woman (Padte, 2012). For example, a male student in 2001 "was convicted under section 509 for making vulgar remarks about female classmates on a website called Amazing.com" (Padte and Kovacs, 2013). As regards the 2008 IT Act, Section 67 punishes those who publish or transmit obscene material in electronic form with an imprisonment of up to three years and a fine of up to five lakh rupees whereas (Padte and Kovacs, 2013). Section 66A of the 2008 IT Act punishes those who send any information or message by means of a computer resource or a communication device for the purpose of causing annoyance, insult, enmity, ill will, criminal intimidation, inconvenience, obstruction, danger, or injury with imprisonment for a term which may extend to three years and with fine (Padte and Kovacs, 2013). For example, two men were arrested under Section 66A for making vulgar remarks to sexually harass singer Chinmayi Sripada on Twitter (Roy, 2012 November 6). However, these laws have not been widely applied to protect women who experience online abuse due to several reasons. Firstly, many women lack the knowledge of these provisions and hence they seldom resort to legal sanctions (Padte and Kovacs, 2013). Secondly, women's access to justice was negated by the "prevailing attitudes in society and of

the duty bearers characterised by gender bias and discrimination" (The United Nations Broadband Commission for Digital Development, 2015, p.42). The problem of 'victim blaming' leads to some women being reluctant to engage with law enforcement because "such engagements often result in women being disbelieved or, worse, blamed for the harassment they face, both online and offline" (Padte and Kovacs, 2013).Thirdly, there is opposition to Section 66A of the 2008 IT Act because its vague framing leaves huge scope for interpretation and thereby potentially creating situations where the powerful are protected and a higher degree of censorship is enforced by the state to protect its interests (Padte and Kovacs, 2013).

The legal sanctions of the IPC and the 2008 IT Act have a deterrent effect and the courts have the ability to "enforce compliance and punitive consequences for perpetrators" (The United Nations Broadband Commission for Digital Development, 2015, p.3). But the introduction and implementation of legislation alone is not enough to protect women's rights to privacy and freedom of expression. It also "requires a broad-based societal action, engaging all stakeholders" (The United Nations Broadband Commission for Digital Development, 2015, p.3). Firstly, to ensure that women can get protection under the IPC and the 2008 IT Act, the government needs to raise awareness of girls and women on these laws through advertising campaigns and media coverage. Secondly, the government, the private sector, NGOs or women's groups can provide legal assistance for women who experience cyber abuse through 24/7 helpline, legal awareness training, workshops and legal aid centres. Thirdly, the government can consider amending the 2008 IT Act in order to make it clearer to use. Fourthly, prevention is important to eliminate cyber abuses (The United Nations Broadband Commission for Digital Development, 2015, p.3). The government can learn from international experience in launching public awareness campaign to educate citizens about combating and preventing cyber abuse. This can help "[b]ring visibility and positive public consciousness to the issue" (The United Nations Broadband Commission for Digital Development, 2015, p.28) and eliminate prejudices and other practices that are based on stereotyped roles for men and women or the idea of the superiority or the inferiority of either of the sexes (The United Nations Broadband Commission for Digital Development, 2015, p.27). For example, the Canadian government launched anti-cyberbullying public awareness campaign called Stop Hating Online to "raise awareness among Canadians of the impact of cyberbullying and how this behaviour amounts to criminal activity" (Government of Canada, 2014) and provide citizens with a comprehensive resource that included "information, advice and tools needed to identify, prevent and stop cyberbullying" (Government of Canada, 2014). Fifthly, active participation of industry as digital gatekeepers is also important to combat cyber abuses (The United Nations Broadband Commission for Digital Development, 2015, p.3). Providers of social media sites should develop clear guidelines that take sufficient action to address cyber abuses against women. Due diligence and duty to report abuse should be promoted (The United Nations Broadband Commission for Digital Development, 2015, p. 28). Staff should be trained to be more responsive to complaints on cyber abuses (The United Nations Broadband Commission for Digital Development, 2015, p. 31). Different types of tools should be developed to make online abuse and harassment easier and prevent unwanted communications (Strickland and Dent, 2017, p.21). These can include establishing a report link that let users directly report online abuse to the platform, block or mute the person who has uploaded abusive content, and unsubscribing accounts which produce or share offensive material (Strickland and Dent, 2017, p.21). Takedown procedures should be established for harmful materials that include violence against women content (The United Nations Broadband Commission for Digital Development, 2015).

Women's Right to Mobile Phone Ownership

Social norms are an underlying barrier to girls' and women's access to and use of mobile phones in India (GSMA, 2015b, p.58). But studies have shown that mobile phone ownership can empower women in different ways. A previous study found that women's mobile phone ownership in India "significantly decrease[d] tolerance for wife beating and husband's control issues, and increase[d] women's autonomy in mobility and economic independence" (Lee, 2009, p.18), which reflected "higher women's status or greater gender equality" (Lee, 2009, p.11). Another study showed that the use of low-costs mobile phones as learning and business tools by 325 illiterate and semiliterate women farmers in Tamil Nadu, Theni District, Southern India could enhance their literacy levels through sending cost-free text messages (UNESCO, 2015, pp.107-8), facilitate continuous self-directed and collective learning among farmers (UNESCO, 2015, p.53) and "vertical and horizontal knowledge transfers related to the women's goat-rearing enterprises" (UNESCO, 2015, p.38) that consequently "enhance[d] their livelihood opportunities and skills" (UNESCO, 2015, p.94) and increased their voice and participation in their households and communities (UNESCO, 2015, p.75). The Self Employed Women's Association (SEWA), which was a trade union comprised over 1 million women members working in the informal sector in India, enhanced agricultural workers' ability to do crop planning, make informed harvesting decisions, and increased their incomes by sending them SMS messages with up-to-date spot and future commodity prices for each market (The GSMA Development Fund et al., 2010, p.39). Over the past few years, some creative methods have been adopted as solutions to overcome the social norm barrier that limits women's mobile phone ownership (UNESCO, 2015, p.89). For example, women in the goat-rearing project in Theni District "carried their mobile phone in a small pouch called a surukku pai, which is associated with women's identity and objects in the Indian culture" (UNESCO, 2015, p.89). The piloted combo SIM plan introduced by Uninor, which was the youngest telecom operators in India, was another example to increase SIM ownership among rural women (GSMA, 2015b, p.61). The marketing campaign promoted the idea that when two paired SIMs were sold together, one of the SIMs would be used by a woman while the other would be used by her husband or another male household member (GSMA, 2015b, p.61). Uninor offered various talktime benefits to incentivize local people to subscribe the combo SIM plan (GSMA, 2015b, p.61). One of the benefits was that "if the 'male' SIM [was] refilled then the 'female' SIM automatically receive[d] an equivalent free refill (and vice versa)" (GSMA, 2015b, p.61).

FUTURE RESEARCH DIRECTIONS

At present, the problem of gender digital divide is serious in India. However, actions to bridge gender digital divide are insufficient and a human right based approach to bridge gender digital divide has not been strongly advocated in the nation. This may be due to the fact that the status of females is undermined in this male-dominant society. In recent years, the government has made effort to bridge gender digital divide. But there is still much room for improvement. Future research directions can examine whether the adoption a human right based approach can effectively bridge gender digital divide or whether best practices for bridging gender digital divide overseas can be applied into India.

CONCLUSION

In conclusion, gender digital divide is a serious problem that deserves an in-depth investigation. The adoption of a human rights based approach to bridge gender digital divide requires strong political will and the government's long-term commitment to implement gender-responsive ICT policy. Besides, it requires an elimination of prejudice in society and an increased public awareness regarding the benefits of empowering women through the use of ICT. Looking forward, it is anticipated that more females can access the Internet and mobile technologies and hence their status and livelihoods can be improved.

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KEY TERMS AND DEFINITIONS

Cyber Abuse: Any harassment that is carried out using the internet, mobile technologies, or other digital devices.

Diktat: A harsh decree imposed on society without popular consent.

Gender Digital Divide: The inequalities between men and women in terms of access to information and communications technologies.

Literacy Rate: The percentage of the population that is able to read and write.

Moral Panic: Public fear in response to a condition or an issue which is perceived as a threat to societal values.

Social Norms: Unspoken rules of behaviors that are considered acceptable in a group or society.

Telecentre: A public access point where people have access to computers and the internet.