

Reducing the Mobile Internet Gender Gap for Women in Rural Bangladesh

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On my honor as a University Student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments

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Introduction

Corporate and governmental initiatives have led to the mobile internet becoming increasingly global in its accessibility and affordability. However, a significant gender gap remains. In rural Bangladesh, for example, the ability of women to access the internet, as well as maintain their personal privacy and safety, is significantly more difficult than their male counterparts. Rural Bangladesh, in large part, has maintained patriarchal values and social norms that lead to gender inequality throughout its communities. Such regions experience extremely high rates of gender-based violence, with two out of every five women experiencing some form of gender-based violence in their life (Solotaroff, 2014). Sociocultural norms have led to men exercising near-exclusive control of a family's property, including phones, computers, and any other technology in the household. Coupled with the patriarchal control men exert over women in these communities, access to technology and the mobile internet by women in rural Bangladesh, without the permission of a male, has remained nearly impossible.

The research question I will be investigating is: what is the current state of patriarchal norms in rural Bangladesh and how does that impact the state of internet access, privacy, and safety for women in those communities? Before providing recommendations that address the challenges posed by the prevailing sociocultural characteristics in rural Bangladesh, an understanding of the region's existing gender gap in internet accessibility is required. Part of this understanding is identifying the network of relevant actors within rural Bangladesh and the manner through which their interactions inhibit women's access to the mobile internet.

Although access to the internet has improved in Bangladesh in recent years, far fewer women than men have benefited from this modernization and development as patriarchal norms have adapted to the modern technological world. In rural Bangladesh, shared devices are the most common way for people, especially women, to access the internet. Women's privacy needs on these shared devices and the

internet are important in understanding why the gender gap in the internet for Bangladesh is occurring. Namely, retaliation and abuse are common deterrents for women when it comes to the internet.

Considering the current state of gender equity on the internet, this paper explores how to move Bangladesh towards gender equity online. The timeliness of this topic is highlighted by international initiatives such as the United Nation's sustainability goal of "achieving gender equality and empowering all women and girls," (Google, 2019, page 3). A gender-equitable internet will allow women to become more independent, provide more diverse sources of knowledge and insight, impact their local and global communities, and increase GDP growth (Shanahan, 2022, page 5). Overall the importance of closing the gender gap when it comes to the Internet continues to grow as the opportunities and resources that come with the internet continue to expand.

First I explain the patriarchal nature of rural Bangladesh so that the relationships and situations of the women can be depicted in the context of the societal norms of the area. Second, I give an overview of Technofemist Theory which is used to explore the relationships in rural Bangladeshi communities that have led to a mobile internet gender gap. Third, I discuss the background of mobile internet use in rural Bangladesh, as well as other low and middle income countries to show the impact closing the gender gap, would have on the country. Fifth, I explain the societal structure of rural Bangladesh in the context of their extreme patriarchal views. Sixth, I identify the essential actors in the network. They include daughters, wives, husbands, mothers-in-law, and women whose marriages have ended by widowhood or divorce. Finally, I evaluate women's mobile internet use in rural Bangladesh in light of the lens of the local actors and the effect that the network of these actors has had in leading to the mobile internet gender gap.

Methodology

Discussion of Sources

The majority of sources used in this paper are case studies that document the implementation of different technologies in rural Bangladesh. They consist of interviews of women, both married and unmarried, and other community members to understand how new technology has been used and perceived by the Bangladeshi communities. These sources come from published research papers and validate how the different actors in rural Bangladesh react to technology which this paper then extends to the mobile internet.

Research indicates that accessing rural communities and gathering empirical data from women in patriarchal societies is difficult (Sultana et al., 2018, page 2). As discussed, Bangladesh is a male-dominated culture, and this dictates the people women are allowed to talk to, including researchers. Since there is such difficulty in gathering research on rural women's lives in Bangladesh, there is a need to analyze past research to identify the actors and common experiences relating to the mobile internet.

Around 61% of Bangladesh's inhabitants live in rural areas, making this discrepancy in research on rural Bangladesh even more of an issue since the majority of Bangladesh's citizens live in rural areas (World Bank, 2021). Rural Bangladesh consists of households that live in extreme poverty with a median monthly household income of approximately \$80 US dollars (Sultana et al., 2018, page 4). The other sources explained below are used for the theory for sociotechnical analysis of the mobile internet gender gap.

Technofeminist Theory

Technofeminist Theory involves accounting for the effects had by the main actors, in addition to the roles had by marginalized actors (Wajcman, 2004). One of the main marginalized actors in this network is women whose marriages ended by widowhood or divorce. Such women are considered outcasts in their

communities and are often overlooked in policymaking considerations. However, by exploring the actions and relationship these women have with the mobile internet, new opportunities for mobile internet use are revealed. Using Technofemist Theory, I explore how the mobile internet gender gap in Bangladesh is both a consequence of gender relations and a source of gender relations (Wajcman, 2004).

The Technofeminist Theory lens helps me to analyze the interactions of the different actors with the mobile internet. One way Technofemist Theory does this is by revealing the unintended consequences that come from mobile internet accessibility. By bringing common barriers to women's internet use to light, ways to improve mobile internet development in rural Bangladesh are also found (Bardzell, 2010, page 1308). I also used generative contributions when suggesting solutions for the mobile internet gender gap. This approach “leverages feminism to understand design contexts (e.g., “the home” or the “workplace”), to help identify needs and requirements, discover opportunities for design, offer leads toward solutions to design problems, and suggest evaluation criteria for working prototypes” (Bardzell, 2010, page 1308). It is important to explore both the current relationship between actors in the network that leads to a gender gap in mobile internet in rural Bangladesh and include feminism in the creation of future solutions to the mobile internet gender gap.

Another important aspect of the Technofemist Theory is how it foregrounds the needs of the research participants in all recommendations and analyses. It is important to maintain an “empathic relationship with research participants focused on understanding their experiences” (Bardzell, 2017, page 682). When exploring actor relationships in a network, feminism acts as a natural ally, helping bring forward marginalized actors “due to its central commitments to issues such as agency, fulfillment, identity, equity, empowerment, and social justice” (Bardzell, 2010, page 1). There is a complexity to relationships in this network that can not be explained just by scientific research alone. This paper uses marginalized actors' viewpoints and experiences revolving around the mobile internet to help complete the connections in the network.

Reintroducing Feminism in non-Western Viewpoint

When analyzing the mobile internet gender gap specifically in rural Bangladesh we must acknowledge the differences in how feminist approaches to improving the lives of women differ in Western societies versus rural Bangladesh. As explained earlier in this paper, Bangladesh is a patriarchal society, and most women in Bangladesh do not see a need to change the social structures in place. Coming from a Western perspective, our view of feminism is providing women with opportunities for empowerment and providing opportunities for independence. Women in rural Bangladesh do not seek this large change in their societal role. In fact “proposing to make significant changes to their roles could actually end up endangering them” (Sultana et al., 2018, page 1).

It is easy to view the challenges facing the women of rural Bangladesh through the lens of our Western values and see these women as powerless victims that need rescuing (Sambasvian, 2019, page 4). We have to be sure not to impose our own values on solutions or analysis that is done, which reflects the failed colonial domination techniques Westerns continue to attempt in South Asia (Sambasvian, 2019, page 4). The present-day areas that feminist researchers have found to help the women in Bangladesh are “#metoo, caste solidarity, anti-violence, anticensorship, and LGBTQ+ rights” (Sambasvian, 2019, page 4). The mobile internet gender gap and other gender-based challenges women face in Bangladesh are not necessarily issues that can be fixed to Western standards. This paper does not aim to apply Western ideology of technology standards, instead, it aims to use the unique interactions in Bangladesh’s patriarchal society to inform new practices and techniques for closing the gender gap in the mobile internet.

Background of Mobile Internet

The mobile internet, the internet accessed through a mobile device, has the potential to provide economic opportunities and increase well-being for the people of rural Bangladesh. In low and middle income countries (LMIC), which includes Bangladesh, it is most common to access the internet

exclusively with a mobile device (Shanahan, 2022, page 16). Contrary to most Western society households, LMIC households do not have computers. Mobile devices are also commonly shared amongst family members, which increases access to the internet but decreases the privacy and independence that most Western society users value in their mobile devices.

Although the information is being accessed on mobile devices, LMIC users are still able to use the internet to make their lives easier and to enhance their marketable skills. Mobile internet access has been proven to be an important tool for sharing information, supporting livelihoods, and providing virtual access to healthcare and education (Lindsey, 2020, page 1). Mobile internet infrastructure is less of an issue than in the past in regard to mobile internet access. By 2020, 97% of Bangladesh's population was covered by 4G networks (Carboni, 2022, page 18). Since mobile devices are the main way the internet is accessed for LMICs, the next step to increasing access to the mobile internet is to increase access and affordability of mobile devices.

Overall the mobile internet, when easily and equitably accessible, provides an innovative avenue through which LMIC users to better the economy of their countries by taking away the barrier of limited technology literacy. There is plenty of talent in countries like Bangladesh, they just do not have the same technological resources and education as Western societies to participate as effectively in the global economy. With the more widespread use of the mobile internet, LMICs “have an opportunity to lessen the impact on their economies of geographical distance and to participate more fully in the global information economy (Cogburn, 2003, page 83). While there has been a global push to increase mobile internet access in LMICs which has been successful, there still remains a gender gap.

The gender gap in mobile internet accessibility and use is leaving LMICs like Bangladesh behind other countries both economically and socially. In 2022 there are still more than “372 million women in LMICs still do not own a phone, compared to 239 million men” (Shanahan, 2022, page 16). This 7% gender gap results in LMICs missing out on an “additional USD 700 billion in GDP growth” (Shanahan, 2022, page 5). Other than economic reasons, increased equality in mobile internet use will better the well-being of women.

Patriarchy in Bangladesh

Bangladesh is a predominantly Sunni Muslim country with patriarchal views that dictate the day-to-day lives of women. In Bangladesh, the male members of the family and community are seen as superior to the female members. This concept, especially at the household level has remained resistant to change regardless of the improvements in female equality made at a national level (Solotaroff et al., 2019, page 5). When a child is born they are celebrated if they are a male and seen as a liability if they are a female. In Bangladesh's patriarchal society, "girls are first subordinate to boys as sisters and to men as daughters, and later, after marrying, as wives or daughters-in-law" (Solotaroff et al., 2019, page 5). This is reflected in the patrilineal inheritance seen throughout Bangladesh. Property and assets are passed down through the male line, even if a woman made money herself, it all belongs to and gets passed down by the males in the family unit (Heintz et al., 2018, page 267). Part of the patrilineal inheritance is that "women shift from fathers' to husbands' lineage upon moving from natal to marital homes" (Solotaroff et al., 2019, page 6). The patrilineal inheritance leads women to be fully dependent financially on first their father and then their husband, making them an economic liability (Heintz et al., 2018, page 268).

Since Bangladesh is predominately Sunni Muslim, the practice of Purdah is common, especially in rural areas. Purdah is the seclusion of women from unrelated men by covering women's faces and sometimes the entire body. It can be as drastic as "physical segregation of the sexes within buildings and restricting women's ability to travel unless accompanied by a male family member" (Britannica, 2008). This forces most Bangladeshi women into reproductive and homemaking roles, both of which are unpaid. In this male-dominated culture, even smaller decisions like physical appearance, household duties, and being allowed to leave the house are made by the males of a household. However large life-changing decisions like schooling and when and who they will marry are also made by men without the consent of the women (Sultana et al., 2018, page 3).

The patriarchal norms of Bangladesh lead men and their power over women to drastically impact research, technology access, and economic progression in Bangladesh. The extent of the role men play in

Bangladeshi woman's decisions and mobile internet use will be explored further in this paper in order to address the gender gap in mobile internet.

Essential Actors

Daughter

Women in Bangladesh go through a few roles in their life, but they all begin as daughters. Girls are born into their families and immediately seen as less than compared to their male siblings. As mentioned earlier, the patriarchal nature of Bangladesh means girls are an economic liability to their families, therefore they are married off at a young age. The male dominance in the household also means decisions like when a daughter starts and ends their education are also up to the males in the family. Studies show that “girls’ education is not a priority in these communities and our participants generally possessed very low levels of literacy and education” (Sultana et al., 2018, page 3). If a daughter goes to school her experience there is filled with hardships that make it easier in families' minds to just get married earlier.

It is common for young girls to experience some type of nonconsensual sexual experience while in school. An example of this is “eve-teasing”, which is when men or boys whistle, block a girl's path, make socially unacceptable proposals, or touch them (Sultana et al., 2018, page 4). The main concern for families about this nonconsensual harassment is not the emotional or physical damage that happens to their daughter, but instead, that it could ruin her reputation in the eyes of the community. One woman in rural Bangladesh said: “At school, a group of boys targeted [my daughter]. They used to stand in front of her school's gate. They used to make comments about her. We chose to stop her school . . . Finally, we found a husband for her. Now she can study if her husband wants her to” (Sultana et al., 2018, page 4).

Daughters are then usually removed from school to attempt to save their reputation. They often face harassment and abuse from their husbands after being married. The median marriage age for girls in

rural Bangladesh is 14.5 years, which means often times girls are not even making it through a middle school education before getting married off by their families (Sultana et al., 2018, page 4). We see the impact of this emphasis on daughters getting married instead of getting educated impact their literacy and comfort with technology throughout their life.

Wife

Seen as the most important role a woman can have, being a wife and homemaker is the role of most Bangladeshi women after adolescence. The expectation after being married off by their birth family is for the woman to move into her husband's family's home. Homes are multi-generational and house multiple family units, so a newly married woman will be leaving her home and moving in with her husband's parents and grandparents. A wife is "expected to accept her husband's family as her own and fully devote herself to running the household" (Sultana et al., 2018, page 4). They have to bear children, care for their inlaws and husband, and complete chores that allow the household to run successfully. There is an isolation that comes with having to leave their family and caring for strangers in their lives. The women are also no longer called by their own names, another isolating factor. They are called "bride of [husband's name]" or "mother of [child's name]" which is unique to the wives and is not the same for men of the family. One woman was asked her name and she replied "It has been a long time since I recalled my name. Nobody calls me by my name nowadays. . . I feel like I'm losing myself and becoming someone else . . . It feels empty when you are you, but not you" (Sultana et al., 2018, page 5). When married into a family the women are seen as an outsider's daughter to the in-laws, and she is deemed less important than the immediate family members (Sultana et al., 2018, page 4). Starting as a daughter, females in rural Bangladesh are seen as less than the males in their families, but after marriage, females move even lower in familial importance as an in-law of their husband's families.

So in the patriarchal society of rural Bangladesh, women's needs are first seen as less important as a daughter in a family, and then when they are married their importance becomes even less.

Even though wives are treated as outsiders in their in-law's families, this is the norm in rural Bangladesh so they make their own support networks. These support networks include the other “daughters-in-law, aunts, and female elders within the extended family” who all have similar experiences and hardships in the family they married into (Sultana et al., 2018, page 4). Unfortunately, a lot of the need for a support network comes from the domestic abuse women receive from their husbands and in-laws. Women talk to their in-law family support group because they are disconnected from their birth families, and have to receive permission from their husbands to visit or talk to their birth family, which adds to the isolation they experience. Women do not go to the police or other outside authorities or fight with their husbands because there is too high a risk of being sent back to their birth family. Being sent back or divorced because their husband no longer wants them is the biggest risk to a woman’s primary value in Bangladesh: a patriarchal family unit (Sultana et al., 2018, page 8). The social stigma surrounding this makes women obey their husbands and in-laws even if they are being abused emotionally or more commonly physically rather than receiving the shame of being divorced.

Since women are married at such a young age, their education is limited, as mentioned earlier. Bangladeshi communities disapprove of women “expressing independent desires, goals, or choices” (Solotaroff et al., 2019, page 6). This emphasis on being a part of a patriarchal unit and being a good wife rather than pursuing independent careers and aspirations other than motherhood is very different from Western society’s modern expectations for women. However, we must remain in the lens of Bangladesh’s patriarchal societal views, and understand this is not something most women want to change either. The goal of closing the mobile internet gender gap is not to cause a feminist revolution, instead, it is to work inside of these patriarchal bounds to make women’s lives easier and safer. The responsibility women have to care for their children, the elderly, sick, and even run informal micro businesses will be easier as women gain more access to mobile technology.

Husband

The husband is the head of the household, and this means that all decision-making and responsibilities of family behavior fall on the husband. The role of being a male in a family means they have to make sure their wives do not cause any trouble and act appropriately in public. They enforce the purdah rules for their wives as well as make decisions about what a woman is allowed to do (Solotaroff et al., 2019, page 7). Husbands often choose to punish their wives and daughters if they dishonor their family or disobey, but the decision of what punishment is fair is entirely up to the husband (Sultana et al., 2018, page 5). The husband also controls the family finances. This includes any money a woman may earn if they are allowed to work at all. They also make decisions about what to buy with the money (Sultana et al., 2018, page 5).

Since husbands control the decisions of women, they also have a direct role in women's role with technology. The women of rural Bangladesh need their husband's approval to learn and use mobile technology. To reduce the gender gap, husbands need to be convinced that their wives and daughters using the mobile internet will help make their life better. They also have to be convinced that the mobile internet will not put their wives and daughters in the position to talk to people they are not supposed to, like other men, since purdah rules extend to the internet.

Mother-in-Law

The mother-in-law is superior to the women who marry into their family. In-laws also hold the responsibility of maintaining the reputation of their family, and this, similar to the husbands, includes punishment and restrictions on what wives can and can not do (Solotaroff et al., 2019, page 5). Mothers-in-law dictate who a woman who married into their family can communicate with, including communication with the women's birth families (Sultana et al., 2018, page 4). The goal of a mother-in-law is to uphold their family name's honor. Although they hold more power than their daughters-in-law and daughters, the women who are mothers-in-law still struggle with the same issues of

domestic abuse and minimal education that the other women struggle with. They too can benefit from mobile internet, but often do not want to put their families in a position to be questioned by the community.

Women who are divorced or widowed

Although not common, there are some women who become single after their marriages end from divorce or the death of their husbands are sent back to their birth families. Since rural Bangladesh puts such importance on the patriarchal family unit, having their marriage end is one of the worst things to happen to a woman. It is also very difficult for these women to provide for themselves because “even when women have the same qualifications, employers prefer to hire men” (Sultana et al., 2018, page 6). Studies also show that women make much less money for doing the same work as men (Sultana et al., 2018, page 6). Since the male-dominated culture of rural Bangladesh puts so much value on marriage rather than education, when women lose that marriage status they often do not have marketable skills, especially in technology. This is where we see the gender gap in the mobile internet really takes its toll on these women. If they can have the technology opportunities that come with having access to the mobile internet, then they do not have to depend on the success of marriage to survive.

Discussion

Rural Bangladesh is comprised of communities that use patriarchal ideals to provide order and social norms to their people. However, these ideals have proven adaptable in ways that continue, in the modern day, to restrict the way women are able to progress technologically. The domestic abuse and other problems that these women face can not be remedied by giving them access to the mobile internet alone. In the words of one woman, “If my husband beats me, I am sad after that. If you design for me and my sadness, it won’t help. It does not matter much if there is some [artifact] to cheer me up. If my husband is again dissatisfied with me he will beat me again and no device can help me at that point” (Sultana et al.,

2018, page 7). The societal burdens these women endure do not have a simple fix that providing technology will solve. That ideal of a feminist rebellion is inherently a Western ideological fixture, and not something the women in Bangladesh desire. However, the goal of this paper is to bring forward details of the relationships between actors in rural Bangladesh to highlight how choices made and the structure of the relationships impact the mobile internet gender gap.

Even though not all the problems women in rural Bangladesh face are connected to the mobile internet, there can still be improvements in well-being by closing the gender gap. A study showed that mobile internet use is positively correlated with overall well-being, which includes social connection, health, income, physical vulnerability, economic vulnerability, life evaluation, and feelings (Carboni, 2022, page 5). For example, access to the mobile internet allows women to easily connect with both healthcare resources and providers in a manner inaccessible to many living in rural communities. As such, women will no longer fear that their private and personal health concerns will become subject to oversight and scrutiny by their husbands or fathers. As a result, women will experience more prompt and targeted healthcare and, subsequently, better health outcomes. As for economic well-being, the mobile web is a crucial component driving forward the economic empowerment of women in Bangladesh (Solartoroff, 2019). Notably, access to the mobile internet allows women to connect with non-governmental organizations and donors in more direct and meaningful ways than ever before. Further to this point, women in rural Bangladesh lack access to reliable sources of financing and income that will contribute to their continued economic empowerment and integration into local and regional economics. Lack of access to the mobile internet that will allow for constructive interaction with non-governmental organizations and financing groups with a mandate for women's economic empowerment is a significant hurdle to the achievement of this objective. As such, the ability to access the mobile internet will contribute directly to facilitating the advancement of women's health and economic opportunity and integration in rural Bangladesh.

By detailing the relationships and actors in this paper, the hope is that efforts to increase mobile internet use by women can be adjusted to better serve the women in these communities in ways that meaningfully increase their well-being.

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