Original Research Article

Empowering Women through IT: The Role of the IT Sector in Bangladesh

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Abstract

This observational-review article aims to provide a comprehensive understanding of the role of the Information Technology (IT) sector in empowering women in Bangladesh. The study synthesizes existing literature and secondary data to analyze the historical and current societal status of women in the country, with a specific focus on the IT sector. It explores how the IT sector has contributed to elevating women's social and economic status and identifies the challenges and barriers that women face in this domain. The article also offers policy recommendations at both the national and individual levels to further enhance the role of IT in women's empowerment. These recommendations include policy-level interventions, skill development programs, and awareness campaigns, among others. By addressing these key points, this study aims to contribute to the growing body of literature on women's empowerment in Bangladesh and offer actionable insights for policymakers, industry leaders, and individuals. The study acknowledges its limitations, primarily its reliance on existing literature, which may not capture the most current trends or localized experiences.
Keywords: Empowerment, Women, Information Technology, Bangladesh, Social Barriers, Policy Recommendations, Skill Development.

INTRODUCTION

In Bangladesh, the societal status of women has been a subject of intense scrutiny and debate for many years. Despite significant strides in educational attainment and employment, women continue to face numerous challenges that limit their participation in decision-making processes [1, 2]. These challenges are not just confined to traditional sectors but extend to various emerging fields like Information Technology (IT). However, the IT sector presents a unique avenue for empowering women, offering new employment opportunities and breaking down traditional gender stereotypes [3–5]. The IT sector in Bangladesh has shown remarkable growth over the past decade, which has also opened doors for women, providing them with access to education, training, and employment opportunities that were previously unavailable [6]. Yet, the sector is not without its challenges. Discrimination, lack of access to capital, and a dearth of mentors and role models continue to hinder women's progress in the IT

field [7, 8]. The empowerment of women is not just a social issue but also an economic imperative. Studies have shown that empowering women can lead to increased productivity, economic diversification, and income equality [9]. Moreover, the IT sector's potential to empower women extends beyond the workplace, influencing societal norms and contributing to gender equality [10]. Research also indicates that women's participation in the IT sector can have a multiplier effect, benefiting not just individual women but also their families and communities [11]. Educational institutions and Non-Governmental Organizations (NGOs) have also played a significant role in this empowerment journey. They offer specialized training programs and create awareness about the challenges women face, thereby equipping them with the necessary skills and knowledge to succeed in the IT sector [11–13]. This study aims to present an impactful observation of the past and present societal status of women in Bangladesh, explore how the IT sector has played a role in empowering women, and

discuss possible policies and steps that can be taken to further this cause. By addressing these key points, this study hopes to contribute to the growing body of literature on women's empowerment in Bangladesh and offer actionable insights for policymakers, industry leaders, and individuals.

METHODS

This observational mixed-method review article was conducted with the aim to comprehensively investigate the role of the IT sector in empowering women in Bangladesh. Data were sourced from multiple academic databases such as PubMed, Google Scholar, and JSTOR, focusing on peer-reviewed articles published between 2010 and 2023 in English. The study also reviewed various books, news articles and reports from reliable sources. The search strategy employed a combination of keywords including "women," "empowerment," "IT sector," and "Bangladesh," refined using Boolean operators. Two independent reviewers extracted data on each study's objectives, methodology, key findings, and limitations. The extracted data were then synthesized to provide an overview of the current status of women in the IT sector in Bangladesh, including challenges and future directions. The quality of the selected articles was assessed using PRISMA guidelines. As this is a review article, no ethical approval was required, and all data were sourced from publicly available articles with full credit given to the original authors.

LITERATURE REVIEW

History of Women Empowerment in Bangladesh

The traditional role of women in Bangladesh has been largely confined to the domestic sphere, with limited access to education and employment opportunities. Discrimination, illiteracy, and poverty have been persistent challenges for women in Bangladesh [14–16]. However, efforts have been made to empower women through various initiatives, including education programs, legal reforms, and economic opportunities. For instance, microfinance programs have been implemented to empower women, although these programs have shown mixed results, sometimes even increasing exposure to intimate partner violence among educated and empowered women [17, 18]. The readymade garments (RMG) sector has been a significant change agent, employing a large number of women and contributing to their economic empowerment [19]. Despite these advances, the structures of constraint that shape women's lives and relationships remain largely unaddressed.

Current Status of Women in Bangladesh

The current status of women in Bangladesh shows both positive and negative aspects. On the positive side, there has been an improvement in educational attainment and employment status. Women have increasingly been involved in income-generating activities, and micro-financing has played a role in uplifting the socio-economic empowerment of women [17- 20]. However, challenges remain, particularly in participation in decision-making and household positions. For instance, a study found that only 39% of women were members of microfinance programs, and their exposure to intimate partner violence was associated with microfinance program membership [18]. Another study highlighted that although microcredit programs have generated consciousness in areas like education and healthcare, they have not significantly moved the urban poor from survival mode to thrive [21].

The Ways in Which the IT Sector Has Been Empowering Women in Bangladesh

The IT sector in Bangladesh has been a burgeoning field, offering new avenues for women's empowerment [22]. While the sector is still male-dominated, there are emerging trends that suggest a positive impact on women. For instance, the IT sector has created new employment opportunities, particularly in software development, data analysis, and digital marketing, which are increasingly being filled by women [23, 24]. Although no specific studies focus on Bangladesh, research on women in the IT sector in other Asian countries suggests that women are making significant contributions to their country's progress, even compared to the status-quo of 10 years prior [25–28]. Access to education and training in IT has also been a game-changer. Online courses and bootcamps have made it easier for women to acquire the necessary skills, breaking down traditional barriers to education [29]. Moreover, the IT sector has been instrumental in breaking down gender stereotypes. Women entrepreneurs in tech are slowly gaining visibility, challenging the traditional roles assigned to women. The use of technology to address gender-based challenges, such as apps focusing on women's safety and online platforms for women's health, is an emerging trend that holds promise for further empowerment.

The Challenges That Women Still Face In the IT Sector

Despite the opportunities that the IT sector offers, women in Bangladesh still face several challenges that hinder their full participation and advancement. Discrimination remains a significant issue, often manifesting in the form of unequal pay, limited career advancement opportunities, and a lack of representation in leadership roles [30]. While no specific studies focus on Bangladesh, research on gender discrimination in the IT sector in other countries suggests that women often face a "glass ceiling," limiting their career progression [31, 32]. Another challenge is the lack of access to capital, which is particularly problematic for women entrepreneurs in tech. Traditional financial institutions often have stern requirements that many women find difficult to meet, thereby limiting their ability to start or grow their businesses. A study on women entrepreneurs in India found that access to finance was one of the most

significant barriers they faced [11]. Moreover, the absence of mentors and role models in the IT sector further exacerbates these challenges. Mentorship is crucial for career development, and the lack of female mentors in the IT sector can have a discouraging effect on aspiring women professionals. Research on mentorship in STEM fields indicates that women who have mentors are more likely to succeed in their careers [33].

The Role of Ngos in Promoting Women's Empowerment in the IT Sector

Non-Governmental Organizations (NGOs) have been instrumental in promoting women's empowerment in various sectors, including IT. While specific studies focusing on Bangladesh are limited, the role of NGOs in this context can be inferred from broader trends. For instance, NGOs have been active in providing training and support to women in the IT sector. They offer skill development programs, coding bootcamps, and mentorship initiatives aimed at equipping women with the necessary skills to thrive in the IT industry [34–36]. Moreover, NGOs play a vital role in raising awareness about the challenges that women face in the IT sector, such as discrimination and lack of access to capital. They often collaborate with governmental bodies and private organizations to conduct research and publish reports that shed light on these issues. For example, a study on financial inclusion for self-help groups in India discussed the role of NGOs in facilitating access to credit for vulnerable groups, including women [13]. NGOs also advocate for policy changes at both the governmental and organizational levels to create a more inclusive environment. They lobby for gender-sensitive policies, such as flexible working hours and parental leave, which can make the IT sector more accessible to women.

The Role of Educational Institutions in Promoting Women's Empowerment in the IT Sector

Educational institutions play a pivotal role in shaping the future of the IT sector, especially in terms of women's empowerment. While there are limited studies focusing specifically on Bangladesh, the role of educational institutions in this context can be inferred from broader trends. For instance, universities and colleges have been proactive in increasing the number of women studying IT through scholarships, mentorship programs, and awareness campaigns [37]. Efforts to provide training and support to women in the IT sector are also noteworthy. Educational institutions often collaborate with industry partners to offer internships, workshops, and career counseling services tailored for women. Although not specific to Bangladesh, a study on women micro- entrepreneurs in the country highlighted the importance of educational status in their development, indicating a potential area where educational institutions can make a difference [38]. Moreover, educational institutions are increasingly incorporating gender studies and equality training into their IT curricula, aiming to sensitize future professionals about the challenges women face in the sector. While the focus here is not specifically on Bangladesh, research on vulnerable segments of society in disaster risk reduction initiatives suggests that educational interventions can significantly impact social vulnerabilities, including gender-related issues [39].

The Role of Families and Communities in Promoting Women's Empowerment in the IT Sector

Families and communities serve as the foundational support systems that can either facilitate or hinder women's empowerment in the IT sector. While there are limited studies focusing specifically on Bangladesh, the role of families and communities in this context can be inferred from broader trends. For instance, families can encourage girls and women to pursue careers in IT by providing emotional and financial support. A study on the role of family support in women's entrepreneurship in India found that family encouragement was a significant factor in women's success [11]. Moreover, communities can play a role by creating a conducive environment for women to thrive in the IT sector. Community organizations and local leaders can organize workshops, training sessions, and awareness campaigns to educate people about the importance of women's participation in IT. A study on community support for women entrepreneurs in rural Bangladesh found that community acceptance and support were crucial for women's economic empowerment [40]. Additionally, families and communities can provide a safety net for women working in the IT sector, offering childcare solutions and sharing household responsibilities, thereby enabling women to balance work and family life. This is particularly important given that women often face the challenge of managing multiple roles.

Future Directions for the IT Sector at the National Level

As the IT sector in Bangladesh continues to grow, there are several avenues through which it can further contribute to women's empowerment. Promoting gender diversity in the workforce is one such avenue. While no specific studies focus on Bangladesh, research on gender diversity in the tech industry in other countries suggests that companies with diverse workforces are more innovative and profitable [41]. Supporting women entrepreneurs is another crucial area for future development. Government policies can play a significant role in providing women with the necessary resources to start and grow their businesses. For instance, a study on women entrepreneurs in India found that government support in the form of financial incentives and training programs was instrumental in their success [11]. Lastly, using technology to address gender-based challenges can have a transformative impact. Mobile apps and online platforms focusing on women's safety, health, and education are some of the ways technology can be leveraged for empowerment. A study on the use of

mobile technology for women's empowerment in South Africa found that access to mobile phones significantly improved women's access to information and services [42].

The Impact of the IT Sector on Gender Equality in Bangladesh

The IT sector in Bangladesh has been a catalyst for change, particularly in terms of gender equality. While specific studies focusing on Bangladesh are limited, the impact of the IT sector can be inferred from broader trends. For instance, the sector has created new employment opportunities for women, particularly in roles like software development, data analysis, and digital marketing. A study on women in the IT sector in India found that the sector had significantly increased the number of women in the workforce [11]. Moreover, the IT sector has also contributed to increasing the number of women in leadership positions. Companies are increasingly recognizing the value of diversity and are implementing policies to promote women to leadership roles. Research on gender diversity in leadership positions suggests that companies with diverse leadership teams are more innovative and profitable [41]. Additionally, the IT sector has been instrumental in breaking down gender stereotypes. The visibility of women in tech, both as employees and entrepreneurs, challenges traditional gender roles and paves the way for a more equitable society. A study on the role of women in the digital economy found that women's participation in the IT sector had a positive impact on breaking down gender stereotypes [42].

DISCUSSION

The role of the IT sector in empowering women in Bangladesh is a complex and multi-faceted issue that warrants comprehensive exploration. This review has delved into various aspects of this subject, from the historical background of women's empowerment in Bangladesh to the current challenges and future prospects in the IT sector. One of the most striking observations is the paradoxical nature of the IT sector's impact on women. While the sector has undoubtedly created new employment opportunities and facilitated access to education and training, it has also perpetuated certain gender stereotypes and inequalities. Discrimination in the workplace, unequal pay, and limited career advancement opportunities are some of the challenges that continue to hinder women's full participation in this sector. These findings echo the broader literature on gender discrimination in the IT sector, which suggests that women often face a "glass ceiling" that limits their career progression [11- 43]. Moreover, the lack of access to capital is a significant barrier for women entrepreneurs in the tech industry. Traditional financial institutions often have stringent requirements that many women find difficult to meet. This issue is not unique to Bangladesh and has been observed in other countries as well [11- 42]. Another critical observation is the absence of mentors and role models in the IT sector. Mentorship is crucial for career development, and the lack of female mentors can have a discouraging effect on aspiring women professionals. Research on mentorship in STEM fields indicates that women who have mentors are more likely to succeed in their careers [41- 44]. The review also highlights the need for targeted interventions to promote gender diversity in the IT workforce. Research has shown that companies with diverse workforces are more innovative and profitable [41]. Therefore, there is a strong business case, in addition to the moral imperative, for promoting gender diversity in the IT sector in Bangladesh. Furthermore, the role of technology in addressing gender-based challenges is an area that holds significant promise but is currently underexplored. Mobile apps focusing on women's safety and online platforms for women's health are some of the ways technology can be leveraged for empowerment [42, 43]. In conclusion, while the IT sector in Bangladesh has made significant strides in empowering women, there is still much work to be done. Addressing the challenges will require concerted efforts from various stakeholders, including the government, the private sector, and civil society. Future research should focus on evaluating the effectiveness of different interventions aimed at promoting gender diversity in the IT sector and leveraging technology to address gender-based challenges.

Limitations of the Study

This observational-review article primarily relies on existing literature and secondary data, which may not capture the most current trends or localized experiences in the IT sector's role in empowering women in Bangladesh. Additionally, the scope of the article is limited to the IT sector, thereby not providing a comprehensive view of other sectors that may also contribute to women's empowerment.

CONCLUSION

This study aimed to explore the multifaceted role of the IT sector in empowering women in Bangladesh. While the sector has made significant strides in offering new employment opportunities and breaking down gender stereotypes, challenges such as discrimination and lack of access to capital persist. The study highlighted the importance of multi-stakeholder involvement, including educational institutions, NGOs, and communities, in overcoming these barriers. Policy recommendations were also discussed, offering actionable insights for both national and personal levels to further women's empowerment in the IT sector. The IT sector holds immense potential for furthering gender equality in Bangladesh. However, to unlock this potential, concerted efforts from various stakeholders are essential. Future research could focus on empirical studies to quantify the sector's impact on women's lives, thereby providing a foundation for more targeted interventions. This study serves as a stepping stone towards leveraging the IT sector as a vehicle for

sustainable women's empowerment in Bangladesh, aiming to contribute to both academic discourse and real-world change.

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RECOMMENDATION

- **Policy-Level Interventions**: It may be beneficial for governmental bodies to collaborate with stakeholders in the IT sector to develop policies that are more inclusive for women. Consideration could be given to tax incentives for companies that actively recruit and retain female employees.
- **Skill Development Programs**: Educational institutions and NGOs might find it advantageous to collaborate on specialized IT training programs tailored for women. These could encompass both technical and soft skills, equipping women for a broader range of roles in the IT sector.
- **Awareness and Outreach**: I suggest that both the public and private sectors invest in awareness campaigns to challenge prevailing stereotypes about women in IT. These could be effectively disseminated through various channels such as social media, workshops, and community events.
- **Mentorship Programs**: Companies in the IT sector could consider establishing mentorship programs that pair experienced female professionals with newcomers. This approach may facilitate skill development, networking, and provide guidance in overcoming workplace challenges.
- **Work-Life Balance**: Implementing policies that support work-life balance, like flexible working hours and remote work options, could make the IT sector more appealing to women.
- **Research and Data Collection**: Ongoing research to monitor the effectiveness of these interventions is advisable. I recommend that such data be disaggregated by gender to offer a more nuanced understanding of the impact on women's empowerment.
- **Multi-Sectoral Approach**: While the focus of this study is the IT sector, exploring synergies with other sectors such as healthcare, education, and finance could offer a more holistic approach to women's empowerment.

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