

Women's empowerment in Bangladesh's RMG and Textile Sector: A comprehensive review of determinants and challenges

Md. Mamunur Rashid and Delwar Hossain *

Crown Institute of Business and Technology (CIBT), Dhaka, Bangladesh.

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Abstract

Women's empowerment in Bangladesh has been extensively discussed in relation to education, employment, political participation, and national development. The ready-made garment (RMG) and textile sectors employ millions of women and have been central to Bangladesh's economic transformation. However, employment alone does not guarantee empowerment. This paper conducts a systematic review of existing literature to identify the key determinants of women's empowerment among female RMG and textile workers in Bangladesh. Drawing on evidence from academic studies, policy reports, and development organization publications, the paper examines the roles of workplace safety, skill development, income control, decision-making agency, family support, digital literacy, and legal frameworks in shaping empowerment outcomes. The review finds that while RMG employment has provided economic opportunities, women workers continue to face significant barriers including unsafe working conditions, gender-based violence, limited income control, weak workplace voice, and restrictive social norms. The paper concludes with evidence-based recommendations for policymakers, factory management, and development organizations to strengthen women's empowerment in Bangladesh's textile and RMG industries.

Keywords: Women's Empowerment; RMG Workers; Bangladesh; Workplace Safety; Decision-Making Agency; Gender Equality

1. Introduction

Women's empowerment is a multidimensional concept encompassing economic, social, political, and psychological dimensions. It includes women's ability to make decisions, control resources, participate in social and economic life, move freely, express opinions, and live with dignity and safety. In Bangladesh, women's empowerment has been closely connected with education, employment, labor force participation, policy reform, and social change. Bangladesh has achieved remarkable progress in women's participation across various spheres of life, and women's contribution to family income has increased their value within households and society [4,15].

The country ranks 65th out of 156 countries in the Global Gender Gap Index 2021, having closed 72.6% of its overall gender gap, and ranks 7th globally in political empowerment [1]. However, these aggregate gains mask persistent challenges at the grassroots level, particularly in the industrial workforce.

1.1. The RMG Sector Context

The RMG and textile sectors are of paramount importance in the context of women's empowerment in Bangladesh. Bangladesh has become the second-largest apparel exporter after China, and women have historically played a crucial role in the apparel industry. According to a GIZ report, women were more than 80% of the apparel workforce until 1994, though their share declined to 53.65% in 2021 [1].

* Corresponding author: Delwar Hossain.

This decline indicates that employment alone cannot ensure empowerment. Women may participate in paid work but still face significant barriers such as low wages, unsafe workplaces, gender-based violence, lack of promotion opportunities, family restrictions, limited income control, and weak decision-making power. The GIZ report identifies work environment and family conditions as major reasons behind the decline of women workers in the garment sector [1].

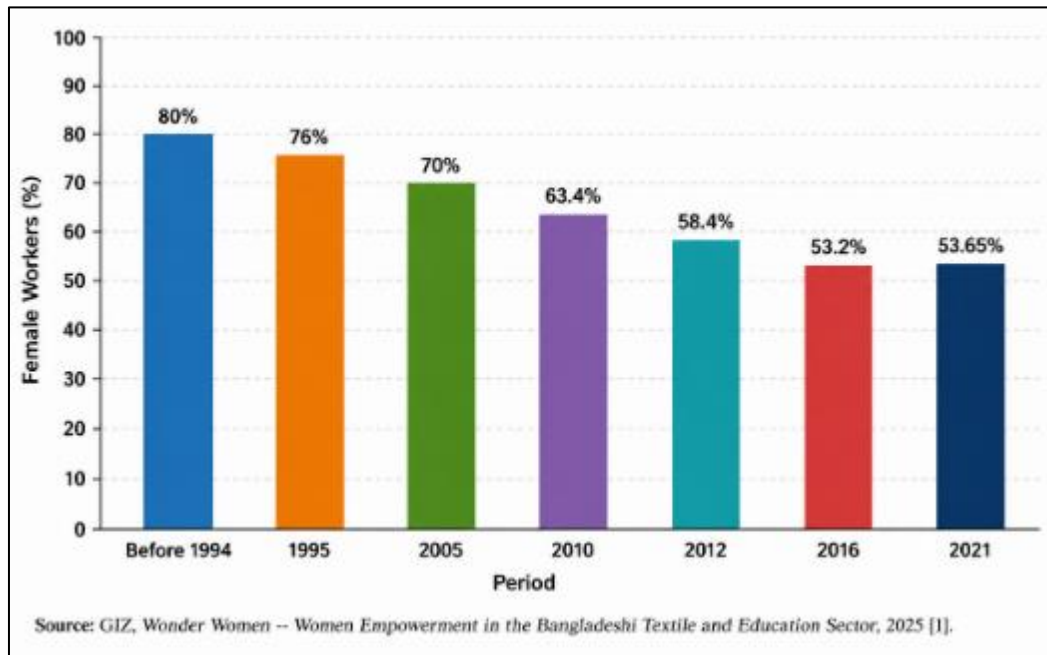


Figure 1 Female participation in Bangladesh's RMG workforce

Figure 1 illustrates the changing share of female workers in Bangladesh's RMG industry. Although women continue to constitute the majority of the workforce, their participation has declined over time, indicating the need for policies that improve retention, career advancement, and long-term empowerment.

1.2. Rationale

Several existing studies on women's empowerment in Bangladesh are qualitative, review-based, or descriptive. For example, Yeasmin's study on gender equality and women's empowerment in Bangladesh is qualitative and based on content analysis [4]. Akter's study on the changing pattern of women's empowerment in Bangladesh also used qualitative methodology and secondary sources [5]. Khan's feminist analysis provides important theoretical insights but is a desk review [2].

There is a need for a sector-specific review that synthesizes existing evidence on the determinants of women's empowerment among RMG and textile workers. This paper addresses that gap.

1.3. Statement of the Problem

Bangladesh has made significant progress in women's education, employment, and social participation. However, women's empowerment remains incomplete because many women still lack control over income, household decision-making power, workplace voice, safe working conditions, and opportunities for career development. Although RMG and textile employment has created economic opportunities for women, paid employment does not automatically create full empowerment [16].

Research reveals that despite women earning incomes, they often do not control how their earnings are spent, and their husbands' families frequently interfere in their financial decisions [11]. Furthermore, the RMG sector presents unique challenges. Studies on employee voice in the RMG industry reveal that despite established regulatory frameworks, rules are regularly ignored, and workers live in fear of expressing their concerns due to poverty, illiteracy, and limited survival options. The common form of employee voice is silence, occasionally interrupted with violent strikes [8].

There is a need to systematically review the evidence on what factors predict women's empowerment in this critical sector.

1.4. Objectives of the Study

1. To identify the key determinants of women's empowerment among female RMG and textile workers in Bangladesh
2. To examine the role of workplace safety and conditions in women's empowerment
3. To assess the impact of skill development and training on empowerment outcomes
4. To analyze the relationship between income control, household decision-making, and women's empowerment
5. To evaluate the influence of family support and social norms on women's empowerment
6. To identify legal and policy frameworks affecting women's empowerment in the sector
7. To provide evidence-based recommendations for stakeholders

2. Key Determinants of Women's Empowerment in the RMG Sector

2.1. Workplace Safety and Working Conditions

Workplace safety is a critical determinant of women's empowerment in the RMG sector. Following the Rana Plaza collapse in 2013, buyer-driven compliance initiatives (Accord and Alliance) were launched to improve workplace safety and labour conditions. Research shows that improved workplace safety protocols enhance job satisfaction, which in turn boosts labour productivity [9].

However, progress remains incomplete. The GIZ report notes that women workers in Bangladesh's garment industry face unsafe workplaces, inadequate wages, long working hours, unstable employment, and gender-based violence [1]. A study on the impact of compliance measures found that while formal employment has increased and international safety concerns have decreased, Bangladesh must continue strengthening its capacity to address compliance issues, particularly regarding workers' rights [9]. The challenges include establishing effective social dialogue and collective bargaining, enforcement of labour laws, and securing government commitment to workplace safety [9].

The Labour Act provisions for women include maternity leave, daycare facilities, separate toilets, and security arrangements. However, these provisions are often not fully implemented. The Bangladesh Labour Act (2006) stipulates that workplaces with more than 40 women should provide separate childcare facilities, but most factories fail to meet this requirement [6].

2.2. Skill Development and Training

Skill development is another important factor in women's empowerment. Workers with training and technical skills may have better job security, higher income, promotion opportunities, and stronger confidence. The GIZ report recommends specific skill-development programs in textile production and management, including technical training, management training, and leadership development [1].

Social upgrading in the RMG sector has resulted in better employability but reduced female participation, more demand for skilled workers, and improved workplace safety with safety committees and trainings. However, limited progress has been made in R&D and product development, suggesting that skill development for women remains incomplete [13].

The Asia Foundation has partnered with BGMEA to implement initiatives focused on health and safety training, community-based day-care facilities, and mid-level management training for female workers [10]. These partnerships represent important steps toward building women's capabilities in the sector.

2.3. Income Control and Economic Agency

Income generation alone does not guarantee empowerment. A woman may earn wages but may not have control over how her income is spent. Research on microfinance in Bangladesh reveals that loan access and control is gendered, and men often primarily control microloans despite being directed to women [11].

Nearly two-thirds (62%) of women in Matlab, Bangladesh have experienced some form of economic coercion over their lifetime, with more than 87% reporting being told how to spend money [11]. This illustrates the importance of

considering structural and normative elements of gender systems to understand women's experiences of economic agency.

Qualitative studies on RMG workers reveal that more than half of women workers reported having bank savings and assets. Married women provided almost an equal portion of total household expenditure from their salaries. These working women negotiate their role in the family and society, challenging the male breadwinning myth. However, the same study reveals that women face significant challenges, with married women reporting that their husbands' families often did not accept their marriages [14].

2.4. Decision-Making Agency and Workplace Voice

Participation in decision-making is central to women's empowerment. In the RMG sector, employee voice is often suppressed. Research reveals that despite established regulatory frameworks, rules are regularly ignored, and workers live in fear of expressing voice due to poverty, illiteracy, and limited survival options [8,15]. The lack of formal processes and mechanisms for lodging grievances means that the industry has witnessed spontaneous demonstrations, blockades, sit-ins, work stoppages, and destruction of factory property. The common form of employee voice is silence, occasionally interrupted with violent strikes [8]. Women's ability to express opinions and participate in workplace decisions is crucial for their empowerment. Studies on employee voice reveal that communication, recognition, productivity, and decision-making are key dynamics in the RMG sector. Workers who feel heard and valued demonstrate higher engagement and satisfaction, yet many women workers report feeling powerless in their workplaces [17].

2.5. Digital Literacy

Digital literacy is increasingly important in the modern workplace. The GIZ report states that digital skills help women access online educational materials, resources, and platforms; build confidence in using technology for learning and communication; and access digital financial services and mobile banking [1].

Facebook has partnered with UN Women Bangladesh to conduct training on digital citizenship and online safety, recognizing that the digital space has given a new dimension to gender-based violence [12]. Digital literacy is expected to be positively associated with income control and overall empowerment. However, access to digital resources remains uneven across geographic and socioeconomic groups in Bangladesh.

2.6. Family Support and Social Norms

Family support plays a critical role in women's empowerment. The GIZ report identifies family conditions as a major reason for the decline of women workers in the garment sector [1]. Women who receive family encouragement and support are more likely to be empowered. Research shows that social norms governing women's mobility, presence in public space, and control over their reproductive choices and sexual autonomy have been slow to change. These norms regulate women's behavior within families and workplaces, limiting their empowerment opportunities [2]. Women workers face barriers such as husbands' families not accepting their marriages, men's families interfering in financial matters, and traditional expectations of women's roles in the household [14]. These social constraints operate alongside economic pressures to limit women's agency.

2.7. Education

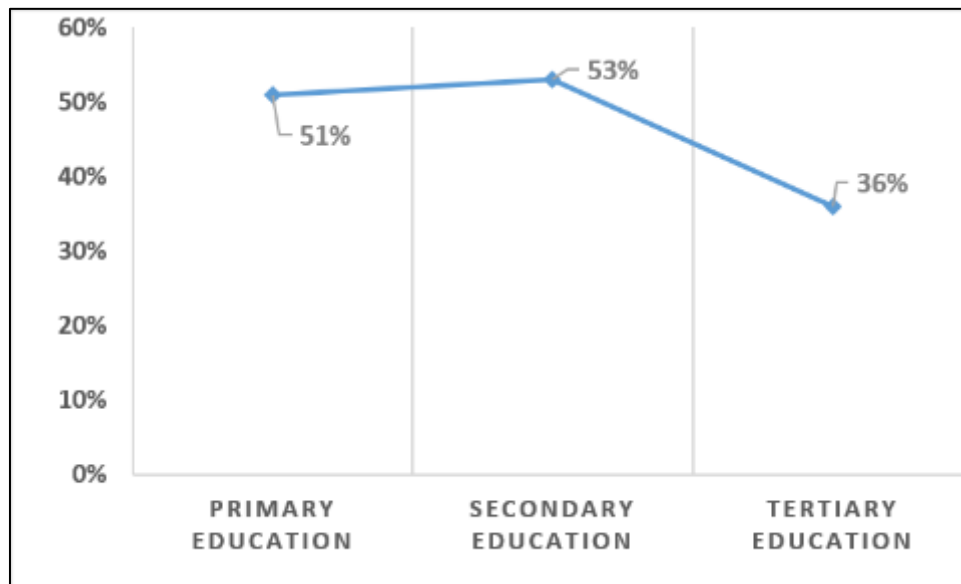
Education and vocational training are crucial factors affecting women empowerment. Years of schooling significantly predict empowerment, with higher education levels associated with higher empowerment scores [7]. The female stipend program in Bangladesh has been instrumental in improving girls' secondary education enrollment [4].

However, many RMG workers have limited education. The GIZ report shows that women workers in the textile and RMG sectors often lack formal qualifications [1]. While girls' enrollment in primary education is 51% and secondary is 53%, female enrollment in tertiary level is only 36%, indicating dropout challenges [1]. This education gap affects women's advancement opportunities in the sector.

Table 1 summarizes the major determinants of women's empowerment identified from the reviewed literature. It highlights the key factors influencing empowerment among female workers in Bangladesh's RMG and textile sector, including workplace safety, skill development, income control, workplace voice, digital literacy, family support, education, and legal frameworks. The table also indicates the expected contribution of each determinant to improving women's economic, social, and workplace empowerment.

Table 1 Major Determinants of Women's Empowerment in the RMG and Textile Sector

Determinant	Main Issues Identified	Expected Impact on Empowerment
Workplace safety	Unsafe conditions, harassment, inadequate facilities	Improves job satisfaction, security, and productivity
Skill development	Limited technical and leadership training	Better promotion opportunities and confidence
Income control	Family interference in financial decisions	Greater economic independence
Workplace voice	Weak grievance mechanisms, fear of speaking	Stronger decision-making and participation
Digital literacy	Unequal access to technology and digital finance	Better access to information and financial services
Family support	Restrictive social norms and family pressure	Higher autonomy and mobility
Education	Low tertiary education among women workers	Better career advancement opportunities
Legal & policy framework	Weak implementation of labour laws	Stronger protection of women's rights



Source: GIZ, Wonder Women -- Women Empowerment in the Bangladeshi Textile and Education Sector, 2025 [1].

Figure 2 Female Educational Enrollment in Bangladesh

The chart compares female enrollment rates across primary (51%), secondary (53%), and tertiary (36%) education. While enrollment is relatively high at the primary and secondary levels, the substantial decline in tertiary education highlights a continuing challenge for women's skill development, professional advancement, and long-term empowerment in Bangladesh's RMG and textile sector.

2.8. Legal and Policy Frameworks

Bangladesh has established legal frameworks to protect women's rights, including the Domestic Violence (Prevention and Protection) Act 2010, Child Marriage Prevention Act 2017, National Women Development Policy 2011, and Constitutional provisions for equal rights. The National Women's Policy provides that 10% of gazetted posts or those of similar status will be reserved for women and 15% of posts of class 3 and 4 employees will be reserved for women [6].

However, implementation remains weak. The GIZ report identifies the need for stronger law enforcement, comprehensive policies, and inclusion of women in decision-making processes [1]. The disconnect between policy and practice represents a significant barrier to women's empowerment.

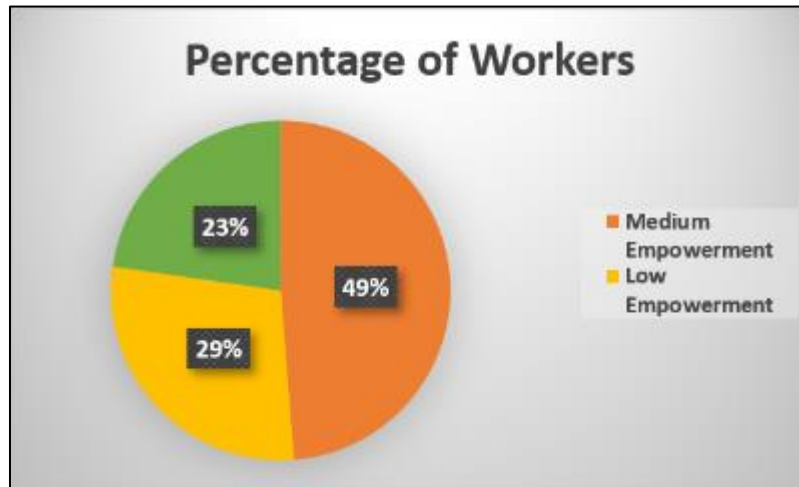
3. Findings from Existing Research

3.1. Women's Empowerment Measurement

Chowdhury et al. (2024) conducted a comprehensive study using 33 indicators across economic, socio-cultural, household, and psychological dimensions. Their exploratory factor analysis identified eight critical factors: economic independence, control over household financial decisions, household decision-making, reproductive decision-making, freedom of movement, media exposure, positive self-esteem, and negative self-esteem. This framework explained 72.66% of total variance and provides a robust foundation for measuring women's empowerment among RMG workers [7].

3.2. Empowerment Levels

Research on women garment workers reveals that the majority (48.75%) fall into the medium empowerment category. Factors such as age and wage value had significant positive relationships with empowerment, while marital status had a significant negative relationship [14]. This indicates that unmarried women tend to have higher empowerment levels than married women.



Source: "The role of garment workers on women empowerment under Dhaka city," Sher-e-Bangla Agricultural University, 2018 [14].

Figure 3 Distribution of Women's Empowerment Levels.

The pie chart illustrates the distribution of women garment workers according to their empowerment level. Nearly half of the workers (48.75%) were classified as having **medium empowerment**, while **28.50%** had **low empowerment** and **22.75%** achieved **high empowerment**. These findings indicate that although many women have attained a moderate level of empowerment through employment in the garment sector, a substantial proportion still experience limited empowerment, highlighting the need for targeted interventions to improve economic independence, workplace participation, and decision-making capacity.

3.3. Role of Education

Higher education levels are associated with higher empowerment scores [7]. However, many RMG workers have limited formal education. While girls' enrollment in primary education is 51% and secondary is 53%, female enrollment in tertiary level is only 36% [1]. This education gap affects women's advancement opportunities in the sector.

3.4. Workplace Conditions

Research on RMG working conditions reveals physical safety concerns, harassment and intimidation, lack of proper restrooms and facilities, long working hours with inadequate breaks, and exposure to harmful materials and chemicals [9]. The Asia Foundation-BGMEA partnership has emphasized health and safety initiatives, but progress is uneven [10].

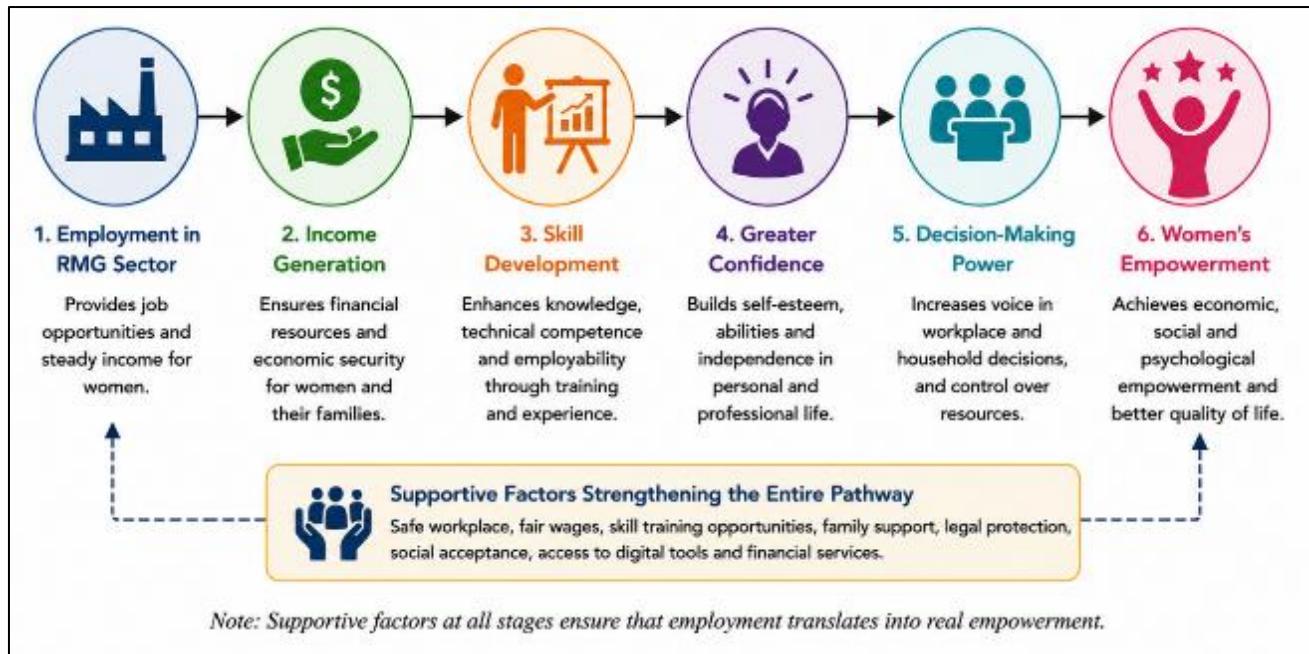


Figure 4 Pathway from employment to Women's Empowerment in the RMG and Textile sector

Figure 4 presents the pathway through which employment in the RMG sector contributes to women's empowerment. It demonstrates that employment generates income, promotes skill development, enhances confidence, strengthens decision-making capacity, and ultimately leads to greater empowerment. The figure also emphasizes that employment alone is insufficient unless accompanied by supportive conditions.

3.5. Financial Inclusion

Jahan's empirical study found that equal access to finance, equal pay, employment opportunities, safety and security at work, access to information, and access to innovation are important factors related to women's empowerment [3]. However, studies on microfinance reveal that loan access and control is gendered, with men often controlling microloans despite being directed to women [11].

4. Conceptual Framework

The conceptual framework of this study posits that women's empowerment among RMG and textile workers is influenced by a set of workplace, household, and individual-level factors. The dependent variable, Women Empowerment Index, is conceptualized as a multidimensional construct encompassing economic, social, workplace, and psychological dimensions. The independent variables include workplace safety and conditions, which capture physical safety, harassment, and working environment; skill development and training, reflecting access to technical and leadership development opportunities; income control, measuring women's ability to manage their earnings and financial resources; digital literacy, indicating access to and proficiency with technology and digital financial services; family support, representing encouragement and assistance from family members; workplace voice and decision-making agency, capturing women's ability to express opinions and participate in decisions at work; education level, reflecting formal schooling attainment; job position, indicating hierarchical status within the factory; monthly income, representing earnings level; and legal and policy frameworks, encompassing awareness and implementation of protective laws and regulations. The model assumes that women with safer workplaces, better skill training, stronger income control, higher digital literacy, greater family support, and more workplace voice will demonstrate higher empowerment scores across all dimensions.

The relationship between the independent variables and women's empowerment is influenced by several mediating and moderating factors that shape how workplace and household conditions translate into empowerment outcomes. Self-esteem and confidence serve as key mediating mechanisms, as women who develop greater self-worth through workplace experiences and skill acquisition are more likely to exercise agency in both professional and domestic spheres, while social norms and perceptions mediate empowerment by either reinforcing or challenging traditional gender roles that limit women's mobility and decision-making authority, and household decision-making dynamics act

as a mediator by determining whether women's economic contributions translate into actual influence over family matters. Additionally, three moderating factors condition the strength and direction of these relationships: marital status moderates empowerment pathways as married women often face greater family restrictions and male interference in financial matters compared to unmarried women, the number of children moderates empowerment by affecting women's time availability, mobility, and bargaining power within households, and location (urban versus rural) moderates empowerment outcomes through differential access to services, social networks, employment opportunities, and exposure to progressive gender norms.

4.1. Predictive Framework for Future Research

This review proposes a predictive framework to estimate the probability of higher women's empowerment among female workers in Bangladesh's RMG and textile industries. Future empirical studies can operationalize this framework using survey data and machine learning or multivariable statistical models.

4.1.1. Dependent Variable

Women's Empowerment Index (WEI)

The WEI can be constructed using validated multidimensional indicators including:

- Economic independence
- Household decision-making
- Workplace participation
- Freedom of movement
- Psychological confidence
- Digital inclusion

Following Chowdhury et al. (2024), the index may be categorized into:

- Low empowerment
- Medium empowerment
- High empowerment

4.1.2. Predictor Variables

The model considers the following independent variables:

Table 2 Independent Variables

Independent Variable	Expected effect
Workplace safety	Positive
Skill development	Positive
Monthly income	Positive
Income control	Positive
Education level	Positive
Digital literacy	Positive
Workplace voice	Positive
Independent Variable	Expected effect
Family support	Positive
Job position	Positive
Legal awareness	Positive
Age	Positive
Marital status	Mixed
Number of children	Negative

Predictive Equation

For future quantitative studies, women's empowerment may be estimated using logistic regression:

$$\log \left(\frac{P}{1-P} \right) = \beta_0 + \beta_1 \text{WS} + \beta_2 \text{SD} + \beta_3 \text{INC} + \beta_4 \text{IC} + \beta_5 \text{EDU} + \beta_6 \text{DL} + \beta_7 \text{WV} + \beta_8 \text{FS} + \beta_9 \text{JP} + \beta_{10} \text{LAW} + \varepsilon$$

Where,

- WS = Workplace Safety
- SD = Skill Development
- INC = Monthly Income
- IC = Income Control
- EDU = Education
- DL = Digital Literacy
- WV = Workplace Voice
- FS = Family Support
- JP = Job Position
- LAW = Legal Awareness

A positive coefficient indicates an increased likelihood of higher empowerment.

4.1.3. Machine Learning Extension

Future research may compare several prediction algorithms, including:

- Logistic Regression
- Random Forest
- Decision Tree
- Support Vector Machine (SVM)
- XGBoost
- Artificial Neural Network (ANN)
-

Model performance can be evaluated using:

- Accuracy
- Precision
- Recall
- F1-score
- ROC-AUC
- 10-fold Cross Validation

Feature importance analysis can identify the strongest predictors of women's empowerment.

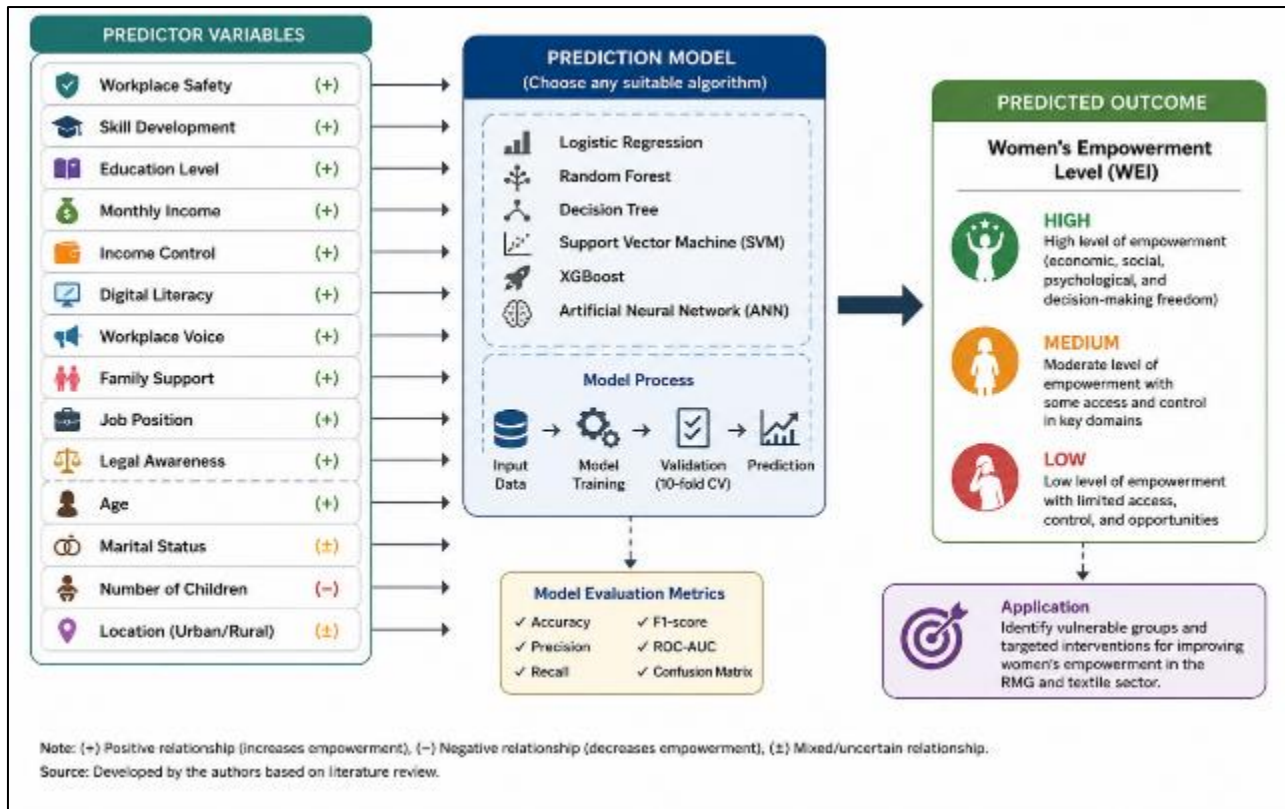


Figure 5 Proposed Prediction Model for Women's Empowerment

Figure 5 presents a proposed predictive framework for estimating women's empowerment among female workers in Bangladesh's ready-made garment (RMG) and textile sector. The model integrates multiple determinants identified from the reviewed literature, including workplace safety, skill development, education level, monthly income, income control, digital literacy, workplace voice, family support, job position, legal awareness, age, marital status, number of children, and location. These variables serve as predictor variables that collectively influence the level of women's empowerment.

The central component of the framework represents the prediction model, which can be implemented using conventional statistical techniques such as logistic regression or advanced machine learning algorithms including Random Forest, Decision Tree, Support Vector Machine (SVM), eXtreme Gradient Boosting (XGBoost), and Artificial Neural Networks (ANN). After data preprocessing and model training, the predictive performance can be assessed using standard evaluation metrics such as accuracy, precision, recall, F1-score, receiver operating characteristic–area under the curve (ROC–AUC), and cross-validation.

Based on the values of the predictor variables, the model classifies women workers into three empowerment categories: low, medium, and high. The predicted outcomes can support policymakers, factory management, non-governmental organizations, and development partners in identifying vulnerable groups, prioritizing interventions, and designing evidence-based policies to improve women's economic, social, and workplace empowerment in Bangladesh's RMG and textile industry. The proposed framework is intended as a conceptual guide for future empirical studies that seek to develop and validate predictive models using primary survey data.

Future empirical studies should validate the proposed prediction model using primary survey data collected from female workers in Bangladesh's RMG and textile industries. Statistical approaches such as ordinal logistic regression, multinomial logistic regression, Random Forest, XGBoost, and Artificial Neural Networks can be employed to estimate women's empowerment levels and identify the most influential determinants. Predictive modelling would enable policymakers and factory management to identify vulnerable groups and implement targeted interventions for improving women's empowerment.

5. Challenges and Barriers

5.1. Structural Barriers

The RMG sector presents structural barriers to women's empowerment. Women are concentrated in lower-skill positions with limited promotion opportunities. The textile industry is described as more technology-oriented and male-dominated, while apparel production is more female-dominated [1]. This gender segregation limits women's career advancement.

The decline in women's participation from 80% to 53.65% [1] suggests that structural changes in the industry are displacing women workers. Increased automation and skill requirements may further marginalize women without adequate training and education.

5.2. Normative Barriers

Social norms continue to restrict women's mobility, presence in public space, and control over their reproductive choices and sexual autonomy. These norms regulate women's behavior within families and workplaces, limiting their empowerment opportunities [2]. Women who challenge these norms face social sanctions and resistance from family members and communities.

Studies show that social upgrading has resulted in better employability but reduced female participation, suggesting that normative barriers persist even as economic opportunities expand [13]. Women workers face barriers including husbands' families not accepting their marriages and men's families interfering in financial matters [14].

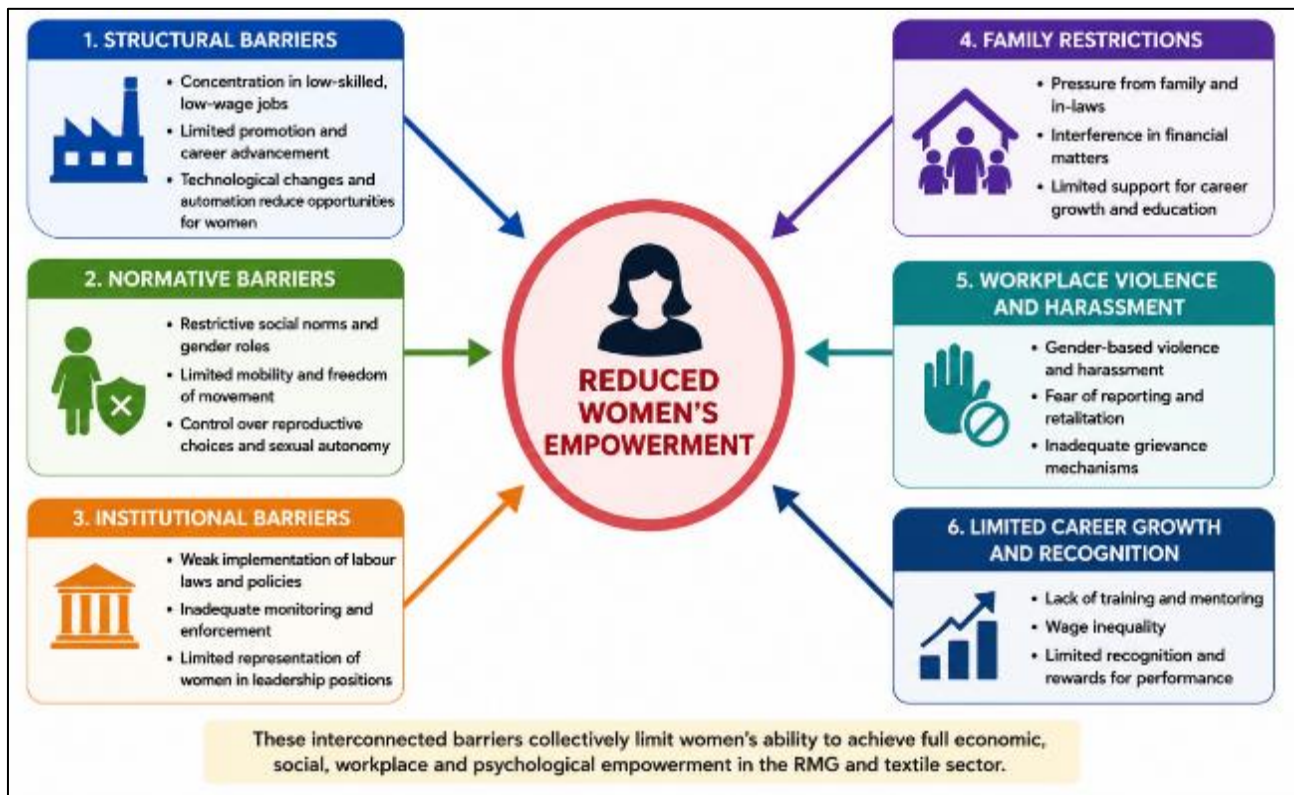


Figure 6 Major Barriers to Women's Empowerment

Figure 6 summarizes the principal barriers limiting women's empowerment in Bangladesh's RMG and textile sector. It illustrates how structural, normative, and institutional barriers, together with family restrictions, workplace violence, and limited career opportunities, collectively reduce women's ability to achieve full empowerment.

5.3. Institutional Barriers

Weak implementation of legal frameworks remains a significant barrier. The gap between policy and practice undermines women's rights. The Labour Act provisions for women are often not fully implemented, and monitoring and enforcement mechanisms are inadequate [6].

The Bangladesh Public Service Commission data shows that women's representation in senior positions remains low [6]. At the Secretary level, women hold only about 4% of positions, indicating the persistence of institutional barriers to women's advancement.

Recommendations

Based on the comprehensive review of literature and identified determinants of women's empowerment in Bangladesh's RMG and textile sector, this study offers targeted recommendations for four key stakeholder groups. For policymakers, it is imperative to strengthen legal implementation by ensuring full enforcement of Labour Act provisions including maternity leave, daycare facilities, and workplace safety standards [6], expand skill development through comprehensive training programs covering technical, management, and leadership competencies for women workers [1], promote financial inclusion by expanding women's access to digital banking and savings accounts with simplified procedures [12], enhance monitoring mechanisms to strengthen factory inspection and ensure accountability for non-compliance [9], support social dialogue by creating spaces for collective bargaining and worker representation in factory decision-making [8], and increase recruitment quotas from the current 10% to align with international commitments of 30% representation [6].

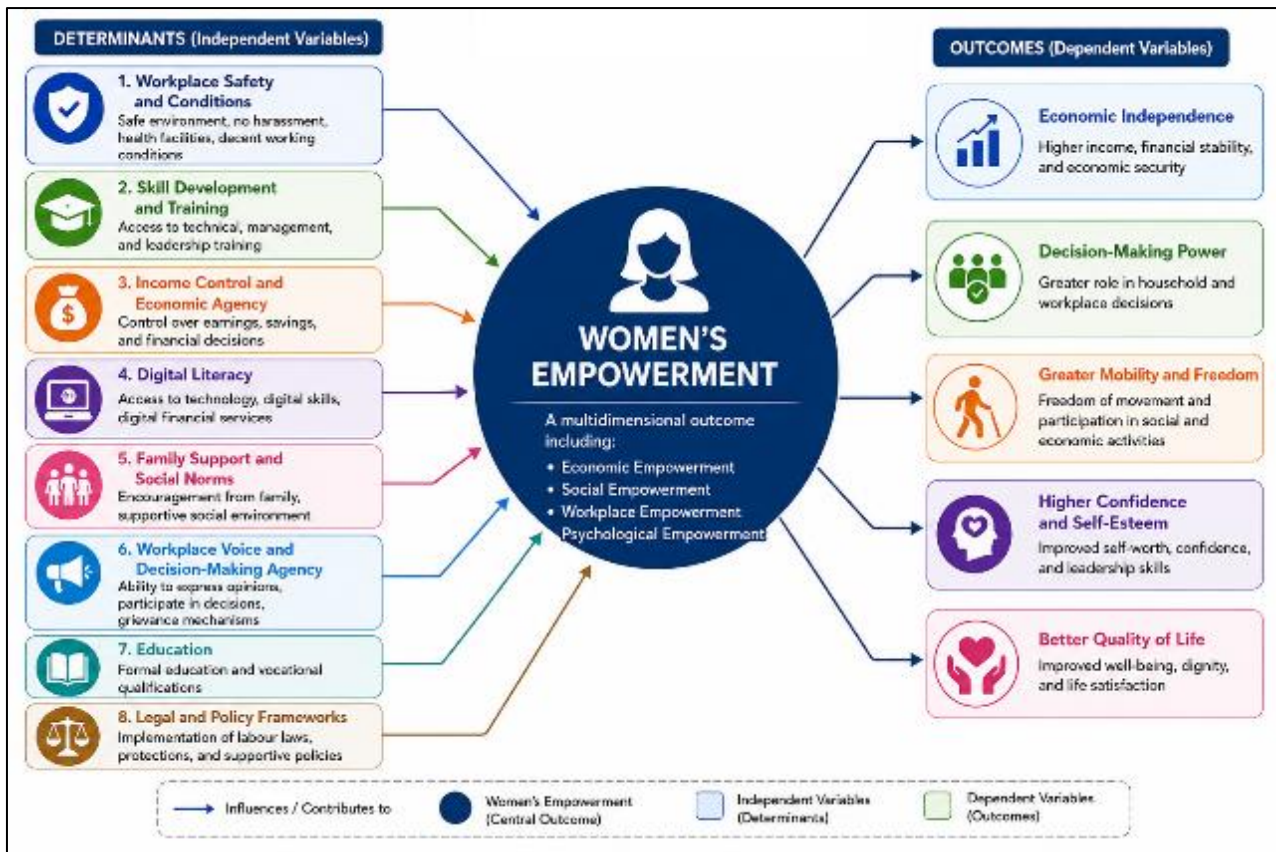


Figure 7 Conceptual Framework of Women's Empowerment

Figure 7 illustrates the conceptual framework of the study. It shows that women's empowerment is influenced by several interconnected determinants, including workplace safety, skill development, income control, digital literacy, family support, workplace voice, education, and legal frameworks. Together, these factors contribute to women's economic, social, workplace, and psychological empowerment.

Table 3 Key Challenges and Recommended Actions

Challenge	Evidence from Literature	Recommended Action
Unsafe workplaces	Incomplete compliance with labour standards	Strengthen inspections and enforcement
Limited promotion	Women concentrated in low-skilled jobs	Expand technical and leadership training
Weak income control	Male family members influence spending	Promote financial literacy and digital banking
Limited workplace voice	Fear of reporting grievances	Establish effective grievance mechanisms
Social norms	Restrictions on mobility and decision-making	Community awareness and gender equality programs
Weak legal implementation	Labour Act provisions often not enforced	Improve monitoring and accountability

Table 3 presents the major challenges faced by women workers in the RMG and textile sector alongside evidence-based recommendations drawn from the reviewed studies. It demonstrates how targeted interventions by policymakers, factory management, NGOs, and other stakeholders can address barriers such as unsafe working conditions, limited career advancement, weak financial autonomy, and inadequate implementation of labour laws [9].

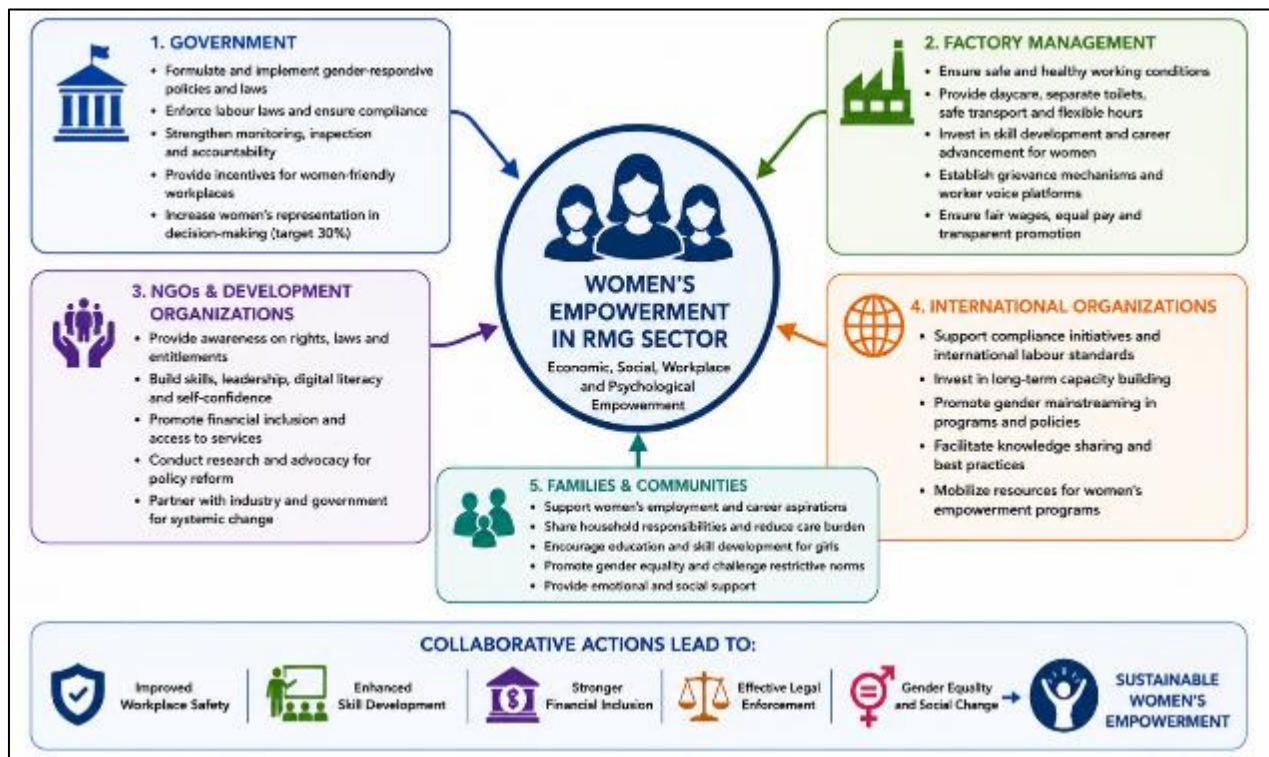
**Figure 8** Stakeholder Framework for promoting Women's Empowerment in Textile and RMG sector

Figure 8 illustrates the collaborative role of key stakeholders in promoting women's empowerment. It highlights how coordinated actions by the government, factory management, NGOs, international organizations, and families can improve workplace safety, enhance skill development, strengthen financial inclusion, ensure legal protection, and ultimately advance women's empowerment in the RMG and textile sector. For factory management, key actions include creating women-friendly environments through daycare facilities, separate toilets, safe transport, and flexible working hours, investing in regular skill development training and career advancement programs, ensuring comprehensive

workplace safety protocols and regular health check-ups [9], enabling worker voice through grievance mechanisms and complaint committees with women's representation [8], guaranteeing fair wages through equal pay for equal work and transparent promotion criteria and implementing flexible working arrangements for pregnant and nursing women as recommended in the Bangladesh Labour Act [6]. NGOs and development organizations should design targeted programs addressing identified barriers including skill gaps, workplace safety, and financial inclusion [1], conduct awareness campaigns to promote understanding of workers' rights and legal protections [12], strengthen women's leadership skills, digital literacy, and self-confidence through capacity building, establish partnerships with BGMEA, factories, and government agencies for systemic change [10], and engage in research and advocacy for policy reform and legal implementation [7]. International organizations should continue maintaining buyer-driven compliance initiatives that have improved workplace safety [9], invest in long-term solutions through institutional capacity building and sustainable sector development [13], and promote gender mainstreaming to ensure gender considerations are integrated into all sector programs. Collectively, these recommendations address the multifaceted nature of women's empowerment and recognize that sustainable progress requires coordinated action across all stakeholder levels, from policy formulation to factory-level implementation and civil society engagement.

6. Conclusion

This paper has reviewed existing literature on the determinants of women's empowerment among female RMG and textile workers in Bangladesh. The review reveals that empowerment in this sector is shaped by multiple interconnected factors including workplace safety, skill development, income control, decision-making agency, family support, digital literacy, education, and legal frameworks. While RMG employment has provided economic opportunities for millions of women, significant challenges remain. Despite increased employment opportunities, female workers continue to encounter unsafe workplaces, gender-based violence, restricted financial autonomy, and limited participation in workplace decision-making. The decline in women's participation from 80% to 53.65% indicates that employment alone does not ensure empowerment. The multidimensional nature of empowerment requires comprehensive interventions addressing economic, social, workplace, and psychological dimensions. The validated framework by Chowdhury et al. provides a useful measurement approach encompassing economic independence, household decision-making, freedom of movement, and self-esteem.

The findings from this review suggest that targeted interventions in workplace safety, skill development, income control, and workplace voice can significantly enhance women's empowerment. Collaboration among government, factory management, NGOs, and international organizations is essential for sustainable progress toward gender equality in Bangladesh's RMG and textile sector. The COVID-19 pandemic has further highlighted the vulnerability of women workers in the sector. Recovery efforts must prioritize women's empowerment to ensure that the sector contributes to gender equality as well as economic growth. Bangladesh's commitment to the Sustainable Development Goals, particularly Goal 5 on Gender Equality, provides a framework for continued progress.

Future research should focus on quantitative analysis of empowerment predictors among RMG workers and longitudinal studies examining how empowerment changes over time as a result of interventions. Comparative studies across different factories, regions, and sectors would provide broader insights into effective strategies for women's empowerment.

Compliance with ethical standards

Disclosure of conflict of interest

The authors declare no conflicts of interest.

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Author Contributions

- **Md. Mamunur Rashid:** conceptualization, methodology, formal analysis, writing—original draft preparation, project administration.
- **Delwar Hossain:** investigation, resources, data curation, software, visualization, writing—review and editing.

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