

ISSN 1563-5023 (print) 2664-4622 (online)

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Bangladesh Journal of Public Administration



Volume 33, Number 1, 2025

Volume 33, Number 1, 2025

ISSN: 1563-5023 (print)

2664-4622 (online)

Bangladesh Journal of Public Administration



Bangladesh Public Administration Training Centre
Savar, Dhaka, Bangladesh

Bangladesh Journal of Public Administration

Volume 33, Number 1, 2025
ISSN 1563-5023 (Print) / 2664-4622 (Online)

Double-blind Peer Reviewed Journal
@ 2025

Bangladesh Public Administration Training Centre
Savar, Dhaka, Bangladesh

Rate of Subscription (Print version)

Bangladesh: Tk. 180 per issue, Tk. 360 per year
Foreign: US \$ 15 per year (including air postage)

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Understanding Citizen Attitudes Toward Municipal Taxation and Revenue Mobilisation: A Case Study of Narsingdi Municipality

Md Shoaib Hassan^{1*}

ABSTRACT

Municipalities in Bangladesh face persistent challenges in generating sufficient internal revenue, leading to dependence on central government transfers. Although national policies encourage widening the municipal tax base, adopting progressive assessments, and increasing fees and rents, the success of such reforms ultimately depends on citizen acceptance. This study examines public perceptions of the existing municipal taxation system in Narsingdi Municipality and investigates the factors influencing support for greater tax liability. Using survey responses from 200 adult residents and applying descriptive analysis and multiple linear regression, the study assesses how tax justice, trust in authority, and perceived service quality shape public attitudes toward revenue enhancement measures. The findings reveal predominantly negative perceptions of tax fairness, institutional trust, and major municipal services. While residents show mixed support for tax increases, there is notable acceptance of progressive taxation and higher rents on municipal properties. Regression results indicate that only the perceived level of municipal services significantly predicts support for greater tax liability, whereas tax justice and trust in authority do not. These results suggest that improving visible service delivery is critical for strengthening fiscal legitimacy and advancing internal revenue enhancement policies in urban local governments.

Keywords: Revenue Enhancement, Tax Justice, Trust in Authority, Level of Service, Greater Tax Liability.

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1. INTRODUCTION

The legal foundation for local government in Bangladesh is provided by Section 59 of the Constitution, which mandates the establishment of elected bodies in every administrative unit of the country, with their functions determined by law. Furthermore, Section 60 grants these local government entities the authority to levy taxes for local purposes, formulate budgets, and manage their financial resources. Despite having such a legal basis for taxation, the Urban Local Governments in Bangladesh are suffering from low tax collection, insufficient revenue from their own sources, over over-dependency on government funds (Mamun & Chowdhury, 2022). To overcome this situation, recommendations such as widening the tax base, exploring new items of tax, rate, fees, charges, and other revenue sources, improving self-revenue sources, and developing LGIs self-sufficient in revenue collection have been proposed by the donor agency and the Ministry of LGRD (A. Mahmud, 2023). But, as the ULGs are composed of the elected officials, like the rural local governments (Union Parishad), the candidates may promise a populist manifesto which can undermine the very own objectives of local government- self-sufficiency in revenue (Rahman et al., 2016). There is a lack of political will to assess and collect the holding tax properly. Such an example includes the Gazipur Mayoral Election 2023, where an independent candidate promised to waive one of the major sources of municipal revenue- the holding tax (The Business Standard, 2023).

The primary reason for the low collection and poor assessment of local taxes is the direct conflict between efficient revenue generation and the political self-interest of elected representatives. Efforts to decentralize the tax structure and utilize revenue sources in Bangladeshi ULGs are often “dismissed for absence of political commitment”. The reluctance stems directly from the “negation of the local political authorities to utilize the revenue sources” due to the fear of “loss of popular support” (Tanny, 2021)

Strong public opposition to a certain policy can lead to protests, lobbying, and legal challenges, making implementation of the policy difficult. Understanding and addressing the concerns of the populace is crucial before implementing any economic policy (Hudson et al., 2019).

To implement the policy of internal revenue enhancement, an investigation is required about public perception of the existing taxation system and their support for greater tax liability. Therefore, this research aims to assess the existing taxation system by the parameters of tax justice, trust in authority, and level of service. It also investigates public support for greater tax liability and tries to explain on

which factors of the taxation system this support actually depends. The objectives of the research are as follows:

- To investigate the public support for greater tax liability.
- To identify whether there is a correlation between public support for greater tax liability and their perception of tax justice, trust in authority, and level of service.
- To assess the existing municipal taxation system based on the public perception

2. LITERATURE REVIEW

Municipal taxation and local revenue generation have received renewed attention in developing countries as cities struggle to balance fiscal autonomy with citizen trust and service delivery. Recent evidence from global and South Asian contexts highlights three interrelated themes—property tax reform and design, linkages between service quality and tax compliance, and governance innovations in municipal finance.

2.1 Property Taxation and Local Revenue Reform

According to the *International Monetary Fund* (Grote, 2024), well-designed property tax systems remain the most reliable source of autonomous municipal revenue, yet developing countries face chronic undervaluation, weak cadastre systems, and political interference. The World Bank (Awasthi et al., 2021) similarly finds that Indian urban local bodies under-collect property tax due to outdated assessment rolls and discretionary exemptions, recommending mass valuation and digital tax mapping to enhance fairness and transparency. The *Centre for Policy Dialogue* (Bhattacharya, 2023) emphasizes identical problems in Bangladesh—low coverage, manual collection, and lack of fiscal incentives—calling for modernized valuation and e-payment mechanisms under the Local Government Division’s digital revenue initiative.

2.2 Service Delivery and Citizen Support for Taxation

Evidence consistently shows that citizens’ willingness to pay taxes depends on visible and reliable municipal services. A randomized study in Pakistan’s Punjab province demonstrated that improved administrative performance and citizen engagement can substantially raise property-tax compliance (London School of Economics and Political Science et al., 2016). The *International Growth Centre* (Khan et al., 2022) further confirmed that perceived service quality strongly predicts residents’ tax morale across Pakistani cities. Broader cross-country research by the *Overseas Development Institute* (Miller et al., 2021) concluded

that public finance reforms succeed only when expenditure transparency and service delivery improvements accompany revenue measures. In Bangladesh, (Biswas et al., 2024) found that higher satisfaction with Pourashava digital services leads to greater trust and willingness to pay user charges, reinforcing the service-compliance linkage observed elsewhere.

2.3 Governance, Technology, and Behavioural Dimensions

Recent work connects digital governance and behavioural economics to municipal taxation outcomes. The World Bank (2021) shows that post-COVID fiscal shocks pushed municipalities worldwide to adopt digital billing and e-receipt systems, enhancing both accountability and resilience. Globally, citizen satisfaction surveys analysed by Uddin (2022) in Economies reveal that responsiveness, fairness, and communication quality explain variations in service satisfaction more than income levels. Complementary behavioural studies (Torgler & Schneider, 2007) indicate that trust, moral norms, and perceived reciprocity shape tax compliance, though these effects weaken when service quality is poor.

2.4 Synthesis

Across the literature, a common conclusion emerges that municipal fiscal sustainability depends less on new tax instruments and more on institutional credibility and service performance. While classical canons of taxation stress fairness and ability to pay, contemporary evidence underscores service quality and digital governance as primary drivers of voluntary compliance. For Bangladesh, integrating these lessons—modern valuation, transparent expenditure reporting, and citizen-centric e-services—could substantially enhance municipal revenue legitimacy.

3. THEORETICAL FRAMEWORK

3.1 Classical Principles of Taxation

Classical tax theory provides an important normative foundation for understanding fairness and efficiency in taxation systems. One of the earliest and most influential contributions in this regard is the work of Adam Smith, who articulated four canons of taxation—equity, certainty, convenience, and efficiency—in *The Wealth of Nations* (Smith, 1976). These principles continue to inform modern public finance discussions by emphasizing that taxes should be imposed fairly, predictably, and in a manner that minimizes administrative burden.

Among these principles, horizontal equity suggests that individuals with similar

economic capacity should contribute equally to public finances. Closely related to this idea is the ability-to-pay principle, which states that the tax burden should correspond to the taxpayer's economic capacity. In municipal contexts, these principles are often operationalized through property or holding taxes based on the assessed value of land and buildings.

Another important concept derived from classical tax theory is the benefit principle, which suggests that individuals should contribute to public revenue in proportion to the benefits they receive from public services. At the municipal level, this principle is particularly relevant because local governments provide tangible and visible services such as drainage, waste management, street lighting, parks and playgrounds, and civil registration services. When residents perceive that municipal services correspond to the taxes they pay, the legitimacy of the local tax system is strengthened.:

While classical taxation principles provide a normative benchmark for evaluating fairness and proportionality in taxation, contemporary public finance research emphasizes that citizens' attitudes toward taxation are also shaped by behavioural, institutional, and governance factors. Consequently, this study integrates classical taxation principles with modern theoretical perspectives—including tax morale theory, fiscal contract theory, political economy of decentralization, behavioural public finance, and institutional trust models—to better understand how citizens evaluate municipal taxation systems.

Within this broader theoretical framework, three key dimensions emerge as central to citizens' evaluation of municipal taxation: tax justice, trust in authority, and the perceived level of municipal services. These dimensions collectively shape public attitudes toward municipal revenue policies and influence residents' willingness to support greater tax liability.

3.2 Tax Morale Theory

Modern research on taxation increasingly relies on tax morale theory, which refers to the intrinsic motivation of individuals to pay taxes beyond purely economic incentives or enforcement mechanisms. Tax morale reflects the extent to which individuals perceive paying taxes as a civic responsibility and a moral obligation (Torgler & Schneider, 2007)

Studies show that tax morale is influenced by perceptions of fairness, government legitimacy, and the effectiveness of public institutions. When taxpayers believe that tax systems are fair and that public authorities use tax revenue responsibly,

voluntary compliance tends to increase (Frey & Torgler, 2007). Conversely, low trust in government institutions and perceptions of corruption weaken tax morale and increase resistance to taxation. In municipal settings, this implies that residents' willingness to support increased tax liability depends not only on economic capacity but also on their perception of fairness and legitimacy within the local tax system.

3.3 Fiscal Contract Theory

Another influential perspective in public finance is fiscal contract theory, which conceptualizes taxation as part of a reciprocal relationship between citizens and the state. According to this theory, taxation forms an implicit contract in which citizens agree to provide financial resources to the government in exchange for public services, accountability, and representation (Mick Moore, 2004)

Within this framework, the willingness of citizens to pay taxes depends largely on whether they perceive that the government fulfils its obligations in delivering public services and maintaining transparency. When citizens observe that tax revenues translate into tangible improvements in infrastructure and services, the fiscal contract is strengthened and voluntary compliance increases. Conversely, when public services are inadequate or poorly managed, the fiscal contract weakens, leading to resistance to taxation.

This perspective is particularly relevant for municipal governance, where the relationship between tax contributions and service delivery is more visible and immediate than at the national level.

3.4 Political Economy of Fiscal Decentralisation

The political economy of fiscal decentralization provides another important theoretical lens for understanding municipal taxation. Fiscal decentralization theory suggests that local governments are better positioned to provide public goods efficiently because they are closer to citizens and better understand local needs. However, political incentives often influence local tax policies.

Research indicates that elected local officials may avoid imposing or collecting taxes due to fears of electoral backlash. As a result, local governments frequently depend on intergovernmental transfers rather than mobilizing their own revenue sources (Besley & Persson, 2013). In many developing countries, political competition and populist electoral promises discourage effective tax enforcement. Consequently, even when municipalities have legal authority to levy taxes, political considerations may limit their willingness to implement revenue-enhancing policies.

3.5 Behavioural Public Finance

Recent developments in behavioural public finance further enrich the understanding of taxpayer behaviour by incorporating insights from psychology and behavioural economics. Behavioural approaches argue that individuals do not always behave as purely rational economic actors; instead, their decisions are influenced by social norms, perceptions of fairness, and trust in institutions.

Research in this field demonstrates that transparency, communication, and visible public services can significantly influence citizens' willingness to comply with taxation (Luttmer & Singhal, 2014). When taxpayers perceive government authorities as responsive, accountable, and equitable, they are more likely to support tax reforms or increased tax liabilities. Conversely, poor service delivery and administrative opacity can reduce compliance even when tax policies are economically justified.

3.6 Institutional Trust and Local Governance

Closely related to these perspectives is the concept of institutional trust, which refers to citizens' confidence in government institutions to act competently, fairly, and in the public interest. Institutional trust plays a crucial role in shaping tax compliance and fiscal legitimacy.

Empirical studies indicate that when citizens trust public institutions and believe that tax revenues are managed responsibly, they are more willing to comply with taxation and support revenue policies (Torgler & Schneider, 2007). In contrast, low levels of trust can undermine tax compliance even when tax rates are moderate.

In the context of municipal governance, trust in local authorities becomes particularly important because municipal governments directly interact with citizens through service provision and tax collection.

3.7 Conceptual Integration

Drawing on these theoretical perspectives, this study conceptualises citizen attitudes toward municipal taxation as the outcome of three interrelated dimensions:

Tax Justice – rooted in classical taxation principles and fairness norms.

Trust in Authority – derived from institutional trust theory and tax morale research.

Level of Municipal Service – linked to fiscal contract theory and the reciprocal relationship between taxation and service delivery.

Together, these factors influence public support for greater tax liability within municipal governance systems. By integrating classical taxation principles with modern theories of fiscal behaviour and governance, the study provides a comprehensive framework for analysing how citizens evaluate municipal taxation systems in developing-country contexts such as Bangladesh. The following figure shows the theoretical diagram of this study:

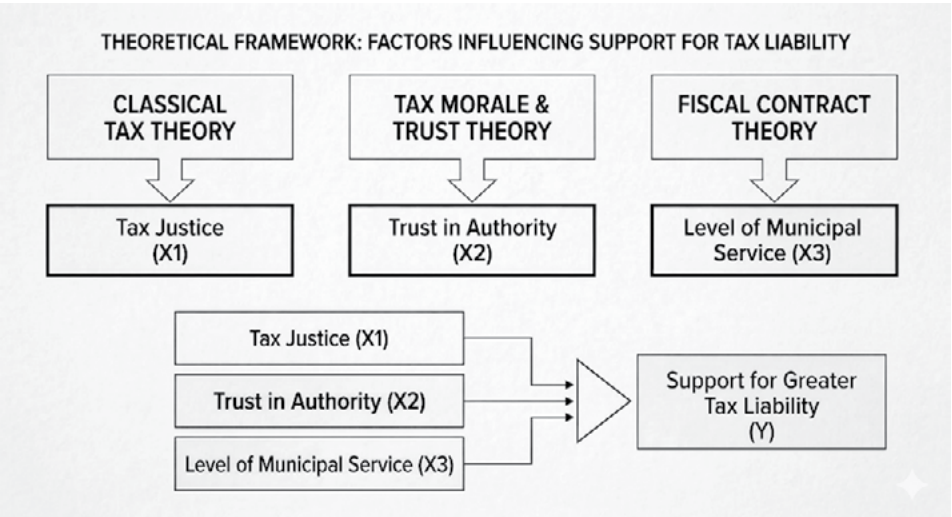


Fig. 1: Theoretical Framework

4. METHODOLOGY

This chapter outlines the methodological approach adopted to examine the factors influencing public support for greater tax liability in Narsingdi Pourashava. A structured and systematic framework was followed to ensure the reliability, validity, and analytical clarity of the findings. The methodology begins by defining the key variables under investigation, including tax justice, trust in authority, and the level of municipal services, which form the basis of the study’s conceptual model. It then details the study area, sampling procedures, data collection techniques, and the rationale for using Likert-scale measurements. Finally, the chapter explains the statistical methods employed—descriptive statistics and multiple linear regression—to analyse the relationships among the variables and to determine the extent to which each factor predicts public support for greater tax liability. This methodological design ensures that the study generates evidence-based insights grounded in rigorous empirical analysis.

4.1 Independent Variable:

4.1.1 Tax Justice (X1)

Tax justice is the perceived fairness of the municipal tax system. It is based on the idea that everyone should contribute to the tax system in proportion to their ability to pay. Tax Justice is a condition in which the distribution of tax imposition in meeting the needs of public spending has paid attention to and applied every aspect, dimension, and principle of taxation based on the principle of justice. In this research, the following aspects have been covered under the umbrella of tax justice: -

- Fairness of the current municipal taxation system.
- Services received in proportion to the tax that has been paid.
- Fairness in imposing property tax on the annual value of land and buildings.
- Fairness in determining rates and fees.

4.1.2 Trust in Authority (X2)

Trust in Authority can be defined as public opinion at the level of individuals and community groups that sees the tax authority working properly and actually carrying out their function as one of the actors in the provision of public goods. In this context, the authority is 'Narsingdi Municipality', where people will describe their perception about the competency, transparency, and accountability of the authority. The following aspects have been covered under the variable 'Trust in Authority': -

- Belief that the municipal authority is competent to do their jobs.
- Belief that municipal authority treats everyone fairly in tax imposition.
- Positive experiences with municipal authority in the past.
- Belief that the municipality prepares its budget in a way that serves the community best.
- Belief that the taxpayer's tax is utilized in the best way.

4.1.3 Level of Municipal Service (X3)

The level of service in the context of municipal services is the quality and quantity of services that the municipality provides to its residents. It can be measured in a variety of ways, including the number and type of services provided, the quality of the services provided, the accessibility of the services provided, and the cost of the services provided. According to the Local Government Act 2009,

the municipality is entitled to provide a number of services to the residents. The satisfaction level of the following municipal services has been measured as these are the most significant: -

- Drainage facilities.
- Waste management.
- Birth and Death Certificate.
- Street Lighting.
- Park and Playground facilities.

4.2 Dependent Variable (Y)

In this study, the dependent variable is Public Support for greater tax liability. Public support for greater tax liability is the degree to which people are willing to pay more taxes. The following aspects have been taken into account to measure the Public Support for Greater Tax Liability: -

- Support for tax on new items.
- Support for an increase in tax rate of existing items.
- Support for progressive assessment of tax on land and buildings.
- Support for an increase in fees (i.e., Birth and Death Certificate)
- Support for an increase in rent of municipal property (i.e., auditorium, community centre)

4.3 Study area and sample size

The total population of the Narsingdi Pourashava is 180,711 as per the Population and Housing Census-2022. The number of people above the age of eighteen who have voting right to vote is 99,798. The municipality also belongs to “A Category Pourashava” based on the revenue collection. While taking into account the perception of residents, only the population above the age of eighteen was selected, as adolescents are not capable enough to fully understand and respond to the complex question (Steinberg, 2005). Based on the Sliven Formula, the sample size was 400 with a 5% margin of error.

Out of 400 questionnaires distributed, 200 were retained. In Bangladesh, tax is sensitive information to share. This is why the response rate is 50%. Non-response bias was minimized through proportionate sampling from all wards. The respondents were informed, and no identifiable information was collected; the participation was voluntary and confidential.

4.4 Data collection and analysis

The main data of this research were obtained through a questionnaire survey. Questionnaires were distributed among the residents of Narsingdi, which includes a set of queries measuring residents' perception of tax justice, trust in authority, level of municipal service, and their support for greater tax liability. To test the validity of the response, the consistency of the respondent's answers was checked. The respondents with an illogical and inconsistent answer were dropped from the dataset. A simple random sampling method was used to select participants for this study.

To understand the public perception on each variable, the questions will be in a statement fashion, and whether someone is Strongly Disagree =1, Disagree = 2, Neutral = 3, Agree = 4, Strongly Agree = 5 with the statement. In case of understanding public satisfaction, each respondent will be asked about their satisfaction with a particular service, ranging from Highly satisfied =5, Satisfied = 4, Neutral = 3, Dissatisfied = 2, and Highly Dissatisfied = 1. Although Likert data are ordinal, multiple studies (Norman, 2010; Carifio & Perla, 2008) argue that parametric tests are robust for Likert scales with ≥ 5 points, especially when the sample size exceeds 100. In addition to statistical significance testing, 95% confidence intervals (CIs) and standardized effect sizes were computed to enhance interpretability.

4.4.1 Descriptive Statistics:

In this study, descriptive statistics were used to provide a comprehensive overview of the typical scenario, variation in opinion, and most widely held opinion about tax justice, trust in authority, level of service, and support for greater tax liability.

4.4.2 Multiple Linear Regression:

Regression assumptions were tested: variance inflation factor ($VIF < 5$) confirmed no multicollinearity; Breusch-Pagan test showed homoscedastic residuals ($p > 0.05$); and normality of residuals was verified using the Shapiro–Wilk test. The following regression equation was used to model the relationship between support for greater tax liability and tax justice, trust in authority, and level of municipal services:

Support for greater tax liability = $b_1 \times \text{tax justice} + b_2 \times \text{Trust in authority} + b_3 \times \text{Level of municipal service} + e$

5. FINDINGS

To understand the public perception on tax justice, each respondent was asked four questions which give an account of their opinion about proportional tax burden, service received in proportion to the tax paid, rate of municipal taxation, and fairness in imposing holding tax. The questions were formed in a statement fashion, and whether someone Strongly Disagree =1, Disagree = 2, Neutral = 3, Agree = 4, Strongly Agree = 5 with the statement. To acquire insight into public satisfaction about the major services of municipalities, people were asked about their level of satisfaction with those services on a Likert scale, where, 1= Very Dissatisfied, 2= Dissatisfied, 3= Neutral, 4= Satisfied, 5= Very Satisfied. The following table comprehensively demonstrates the findings of the data collected from the field survey:

Table 1: Public Perception on Tax Justice

Indicators	Sub-indicators	Mean	SD	Median	Mode
Tax Justice	Holding tax is imposed fairly	2.37	0.91	2	2
	The tax rate is justified	2.60	0.88	2	2
	Receive services in proportion to tax paid	1.91	0.98	2.5	1
	Tax is imposed proportionally	2.54	1.12	2	2
Trust in Authority	The municipality is efficient and capable	2.03	0.82	2.0	2
	The municipality is efficient and capable	2.03	0.82	2.0	2
	The municipality treats everyone equally while imposing taxes	2.17	1.20	2.0	1
	Have a Positive experience with the municipal authority	2.49	1.15	2.0	2
	The municipality prepares the most suitable budget for the citizens	2.34	0.97	2.0	2
	The municipality spends the collected tax in the best possible manner	1.77	0.77	2.0	2
	Level of Service	1.95	0.82	2.0	2
	Drainage facilities	1.90	0.69	2.0	2
	Waste management	1.95	0.82	2.0	2
	Birth certificate	2.81	0.92	3.0	3
	Park and Playground	2.07	0.64	2.0	2
	Street lighting and passenger canopy	2.31	0.87	2.0	2

5.1 Public Perception on Tax Justice

In response to the fair imposition of holding tax, the mean value of 2.371 suggests that most of the participants are aligned with the 'Disagreement' side of the scale. In the current municipal tax system, the holding tax is one of the sources of internal revenue collection. Municipalities conduct an assessment and reassess holding taxes at five-year intervals and interim assessments throughout the year to impose holding tax based on the annual value of land and buildings. And here, the municipal residents have the perception that the municipality is not imposing the holding tax in a correct manner. The standard deviation being low (0.910) suggests that the responses don't vary on a large scale.

To ensure justice in taxation, the tax rate should be such that it is not oppressive and doesn't put an extra burden on people. The mean value of 2.6 indicates that the respondents are slightly leaning towards the 'Disagree' side of the scale in response to the justification of the current tax rate. Which means, according to their perception, the current municipal tax rate is not justified.

Another aspect of tax justice is that the taxpayer should receive the service in proportion to the tax they pay to the authority. Here, the mean value of 1.914 indicates that there is a notable dissatisfaction or disagreement among the municipal residents regarding the perceived link between the amount they pay and the service they receive from the municipal authority. And here the mode value is 1, which indicates that Strongly Disagree with the statement is the most frequently occurring response in the dataset.

To ensure justice in taxation, everyone should be imposed the amount of tax which is proportional to their income or ability to pay. In the case of proportional tax burden, the value of mean 2.542 suggests that the respondents, on average, are more aligned to the 'Disagree' side of the scale. This suggests that, as a group, the surveyed individuals do not believe that the municipality imposes tax on the people in proportion to their ability to pay or income.

The following bar chart comprehensively demonstrates the public perception about several aspects of tax justice: -

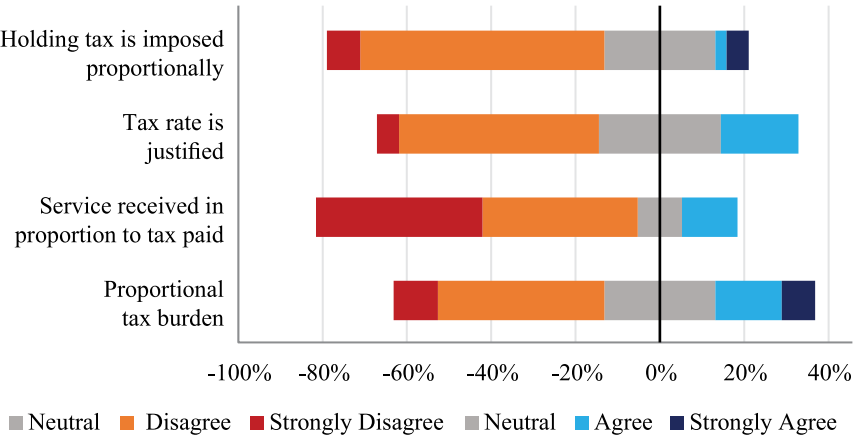


Fig. 2: Public Perception of Tax Justice

5.2 Trust in Authority

For a fair tax system, the taxpayer must have trust in the authority. In this study to measure the public trust in authority, several statements were made, and people were asked to provide their level of agreement with the statements.

The data table here demonstrates that in all aspects, people have a distrust of the authority. They don't believe that either the authority is efficient or capable. In every aspect, the median and mode value is 2, which shows that the most frequently occurring response and the central tendency is that people generally disagree with the fact that the municipality is trustworthy in any aspect.

5.2.1 Lack of Equality

Equality is a fundamental principle of modern taxation, which requires the rich to pay more taxes and the poor to pay less (Smith, 1976). Because the amount of tax should be in proportion to the ability of the tax taxpayer. It is the fundamental concept to bring social equity and justice in the country. But here the equality is not only about the taxation but also whether the authority treats everyone equally while providing services and engaging the public in decision-making.

The respondents were asked about their range of agreement with the statement that 'Municipality treats everyone equally'. The mean value in this case is 2.17, which can be interpreted as the people in general disbelieve that the municipality treats everyone equally. The mode value 1 provides another insight into the scenario,

which can be interpreted as the most frequently occurring response is a strong disbelief about the equal treatment of the municipality.

5.2.2 Public perception of the authority's expenditure of taxpayers' money

Taxpayer money is an ongoing debate that revolves around the crucial interplay between the authority's revenue and its expenditures. So, the people were asked about their range of agreement with the statement that 'Municipality spends the collected tax in the best possible manner'. The mean value here is 1.7714, which means people are strongly leaning toward the disagreement side of the scale. There is a widespread distrust among the municipal residents that their taxes are actually being spent in the best possible manner.

5.2.3 Experience with the authority

From birth registration to a death certificate, the municipal residents need to go to the authority office. Also, the municipal authority approves the building permit and trade license. People also need to go there while paying the tax and rent.

Given this context, people were asked about their experience with the authority. There was a statement that 'Experience with municipal authority is good'. The questionnaire was designed to understand the public's range of agreement with the statement.

Here, the mean value of 2.4875 indicates that most of the people are slightly aligned with the 'disagreement' side of the scale. From there, it can be concluded that most of the residents don't receive a decent experience from the authority. In that case, the standard deviation (1.147) is comparatively wider than the other aspects. It illustrates that, comparatively, there is a widespread response about the experience with the authority among the people.

The following bar chart comprehensively shows the public perception about the different aspects of trust in Authority: -

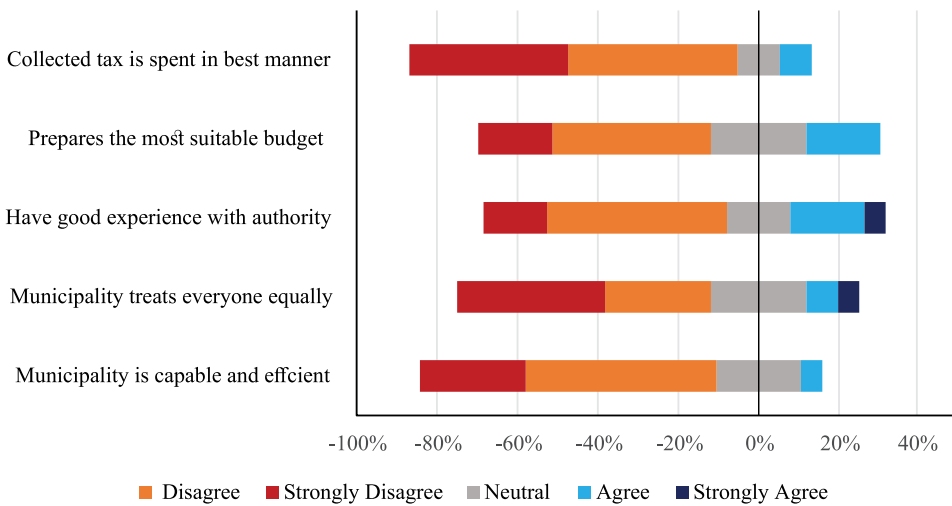


Fig. 3: Trust in Authority

5.3 Public Perception on the Level of Service

5.3.1 Drainage facility and waste management

Drainage facilities and waste management are the two most frequent services that the municipal residents get from the authority. In both drainage and waste management, the mean values are 1.9048 and 1.9523, respectively. This indicates that most of the residents are dissatisfied with these services. The mode value in both cases is 2, which demonstrates that ‘Dissatisfied’ is the most frequently occurring response from the people.

5.3.2 Birth Registration

Among these major services, birth registration is the only one about which people don’t have a negative perception. The mean value of 2.8095 indicates that public satisfaction is slightly leaning towards the neutral side of the scale. The mode value here further shows that most people have a neutral position about their satisfaction with the birth registration service. The standard deviation being moderate (0.9169) suggests that the degree of variation in opinion is also moderate.

5.3.3 Park and Playground

The park and playground facility is a crucial element for a liveable, healthy urban area. The Narsingdi Municipality has a ‘Municipal Park’ and some designated

khass land to provide recreational facilities to the residents. According to the direct observation, the ‘Municipal Park’ is not well-maintained, and there is a lack of cleanliness and park furniture. There are some open spaces owned by the municipality that are mainly used for street food and temporary shops. While asking about the public level of satisfaction with Park and Playground facilities, their response also reflects the findings of direct observation.

The mean value of their level of satisfaction is 2.071, which indicates that overall, people are dissatisfied with the park and playground facilities. The standard deviation being low also demonstrates that the degree of variation in opinion is not widespread.

5.3.4 Street Lighting and Passenger Canopy

Like other services provided by the municipality, people are also ‘Dissatisfied’ about street lighting and passenger canopy service. The mean value 2.309 indicates that most of the people are aligned with the ‘dissatisfied’ side of the scale.

Overall, the public satisfaction with these major services can be shown by the following bar chart:

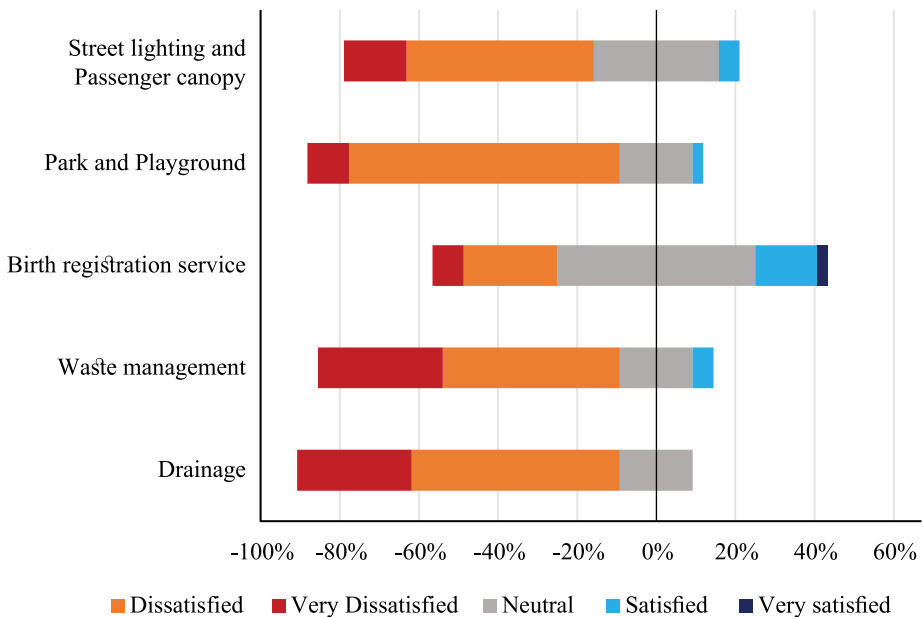


Fig. 4: Perception of Level of Service

5.4 Public Support for Greater Tax Liability

To be self-sufficient in finance, the municipality needs to increase its internal revenue through a wide municipal tax, progressive tax assessment, an increase in tax rate, and an increase in rent of vested property (A. Mahmud, 2023). But to do that, it requires support from the people who actually pay the tax. The policy for greater tax liability has long been advocated by the Local Government Ministry and the Donor Agency. But the public perception about this is yet to be analysed. The following descriptive statistics demonstrate public support for embracing a greater tax liability:

Table 2: Public support for greater tax liability

Aspects	Mean	Mode	Standard Deviation
Support for tax on new items	2.48	4	1.094
Increase in tax rate	2.38	2	1.050
Support for progressive taxation	3.31	4	0.961
Increase the charge for birth and death registration	2.11	2	0.932
Support for an increase in the rent of vested property	3.02	4	1.097

5.4.1 Support for tax on new items

To increase the internal revenue of the municipality, one of the ways is to impose tax on new items. In general, people are usually reluctant about tax on new items if there is no sufficient justification. The valid response of 200 people shows the mean value of 2.48, which indicates that the public opinion about tax on new items slightly leans towards the ‘Disagree’ side of the scale. But the most frequently occurring response shows that there are a large number of people who actually support the idea of a tax on new items. But, as the standard deviation is 1.094, it is clear that in the existing population, there are some people who are strongly resistant to the idea of a tax on new items.

5.4.2 Support for an increase in tax rate

In that case, the mean value 2.38 indicates that, in aggregate, public opinion is leaning towards the ‘Disagree’ side of the scale. It is understood that people in general are not in favour of a policy to increase the existing tax rate. Mode value 2 further demonstrates that while asking about their opinion, ‘Disagree’ is the most frequently occurring response.

5.4.3 Public support for progressive taxation

Currently, the municipality collects holding tax and land tax, two major sources of its internal revenue, in a fixed manner (Local Government Act, 2009). But to increase internal revenue, one of the ways is to collect holding and land tax in a progressive manner, which is also advocated by both donor agencies and the Local Government Ministry. But implementing such a policy will put more burden of tax burden on the people as the property value in Bangladesh frequently increases. So, it requires public support while implementing such measures.

Here, the mean value 3.31 demonstrates that public support for progressive taxation is leaning to the 'Neutral' side of the scale. The value also indicates that public opinion about progressive taxation in aggregate is close to the 'Agree' side of the scale. The mode value here is 4, which means that 'Agree' is the most frequently occurring response here. The standard deviation being moderate suggest that the degree of variation in opinion is not that widespread.

Here, the scenario indicates that the public is not antagonistic to the idea of progressive taxation and is even close to the agree side. It shows their rationalistic approach towards progressive taxation, where they are flexible to the greater tax burden over the course of time. As their property and land value increase, they are also in favour of contributing more to the internal revenue of the municipality.

5.4.3.1 Public support for an increase in birth and death certificate fees

The municipal authority provides the service of birth registration and death certificates, for which people actually pay their most visits to the authority office. Their perception of experience with the authority largely depends on this service. As it is necessary to increase municipal internal revenue, one of the ways to accomplish this is to increase the rate of birth and death certificate fees. Here, the mean value 2.11 suggests that the public opinion in aggregate is leaning towards the "Disagree" side of the scale. It is further confirmed by the fact that most people don't have a good experience with the authority, as mentioned in the previous section.

5.4.3.2 Support for an increase in the rent of vested property

The municipality collects rent from the vested property, like auditorium, market, haat-bazar, open space, etc., which is one of their sources of internal revenue. The selected Narsingdi Municipality rents its auditorium for different purposes and also collects ijara (Lease) from the cattle market during Eid al-Adha. During the survey, people were asked about their range of agreement with the decision to increase the rent of the auditorium and cattle haat. The valid response of 200

individuals provides the mean value 3.02, which indicates that, in aggregate, the public opinion towards the increase in rent of vested property is 'Neutral'. The mode value being 4 indicates that there is a significant population that is in favour of an increase in rent.

Since people respond differently to each aspect, we need to look at the following bar chart, which demonstrates a comprehensive scenario: -

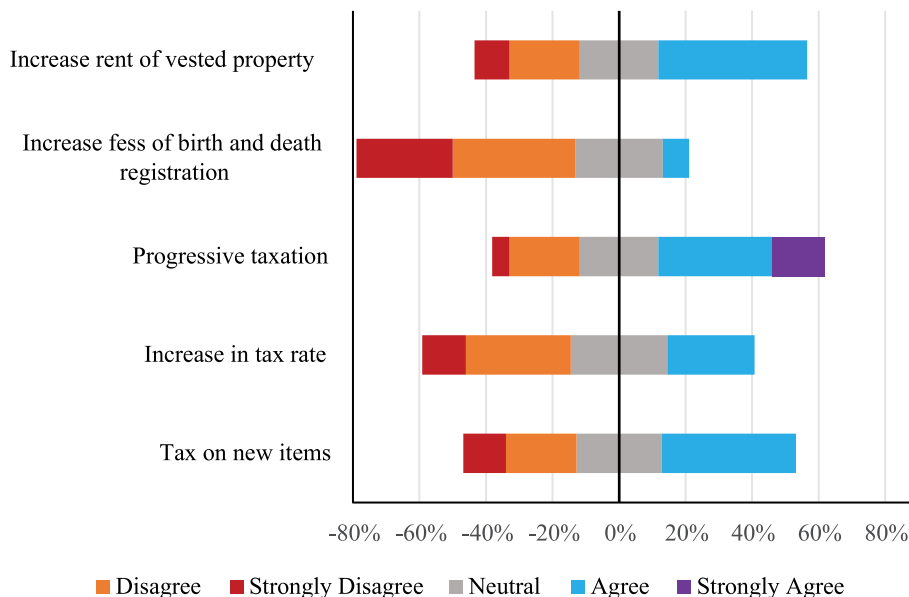


Fig. 5: Public Support for Greater Tax Liability

5.5 Support for greater tax liability depends on what?

To implement the policy of revenue enhancement, the utmost necessary thing is that it requires public support, who will actually bear the liability. But the support for greater taxes depends on what? In the theoretical review, it was established that public support for greater tax liability largely depends on tax justice, trust in authority, and the perceived level of service.

Now the following multiple regression analysis can provide an insight into how the dependent variable (support for greater tax liability) is correlated with three independent variables (tax justice, trust in authority, level of service): -

Table 3. Multiple Linear Regression

	Coefficients	Standard Error	t Stat	P-value
Intercept	1.481932	0.539885	2.744905	0.009979
Tax Justice	0.088953	0.20587	0.432083	0.668672
Trust in Authority	0.0114	0.232957	0.50478	0.617281
Level of Service	0.580053	0.194626	2.980349	0.005558

$$R^2 = 0.234, \text{ Adjusted } R^2 = 0.159, F(3,195) = 3.15, p = 0.039$$

5.5.1 The association between perceived tax justice and support for greater tax liability:

The regression table shows that the association between perceived tax justice and support for greater tax liability is not statistically significant, as the p-value is 0.6686, which exceeds 0.05. The coefficient value of 0.088953 further indicates that the relation between these two variables is nearly non-existent. The regression here demonstrates that public perception of tax justice has almost nothing to do with their support for greater tax liability.

5.5.2 The association between trust in authority and support for greater tax liability

The coefficient value for trust in authority is 0.0114, which indicates a very weak correlation between the two variables. Moreover, the P value here is 0.617281, which exceeds 0.05, demonstrating that this correlation is not statistically significant as well.

Here, it is evident that public support for greater tax liability is not statistically significantly dependent on their trust in municipal authority. Therefore, trust in authority doesn't have a significant role in explaining public support for greater tax liability.

5.5.3 The association between the level of service and support for greater tax liability

The regression table indicates that public support for greater tax liability is associated with the level of service. This outcome is also consistent with prior studies, which suggest residents are more likely to support tax increases when they believe that the government is using tax revenue to provide high-quality services.

However, the coefficient value is 0.580053, which suggests a moderate correlation

between these two variables. It means if there is a one unit of change in the level of service, public support for greater tax liability is expected to change 0.580053 (in that case level of agreement).

Although the model explains 23% of the variance, this is acceptable in perception-based social research where unobserved behavioural factors often remain outside the model.

Although only the Level of Service variable reached statistical significance, the magnitude of its effect is also practically meaningful. A standardized effect size of 0.58 suggests that improvements in visible municipal services—such as drainage, waste management, and street lighting—can exert a substantial influence on taxpayers' willingness to accept higher tax burdens. This indicates that service delivery functions not merely as a statistical predictor but as a central mechanism shaping fiscal legitimacy in local governance. On the other hand, the small effect sizes of Tax Justice and Trust in Authority demonstrate that even if statistically significant, they would have a limited practical impact on policy outcomes.

6. DISCUSSION

6.1 The existing scenario and Revenue Enhancement Policy

The analysis reveals that many residents perceive the existing municipal tax regime as burdensome when municipal services remain unsatisfactory; yet there is no uniform rejection of progressive taxation in principle. This reflects a broader structural challenge for local governments in Bangladesh: municipalities often face severe resource scarcity, limited administrative capacity, and declining infrastructure — all of which undermine effective service provision (Ferdous & Das, 2022). Inadequate and irregular service delivery erodes citizens' fiscal legitimacy and undercuts support for municipal taxation (Mahmud, 2021; Bhuiyan & Islam, 2023).

Consequently, proposals to broaden tax bases, increase rates, or raise user fees often meet resistance when the population perceives services as inadequate or non-responsive. This study's respondents signalled that such revenue-enhancement measures would only be acceptable if accompanied by credible, visible improvements in service quality. The pattern is consistent with findings from other parts of Bangladesh, where basic services (sanitation, water supply, waste management, lighting, etc.) are poorly maintained or delivered, and municipal authorities struggle to mobilize own-source revenue through taxation (Ferdous & Das, 2022; Bhuiyan & Islam, 2023). Thus, the structural fiscal

dilemma confronting local authorities becomes evident: while expanding revenues is imperative for urban growth and growing demand, without corresponding improvements in service provision, attempts to raise taxes risk eroding public support and legitimacy.

6.2 Service Quality as the Foundation of Tax Support

The regression results indicate that perceived service quality is the strongest predictor of support for increased municipal tax liability, while factors such as abstract notions of equity or institutional trust appear weak or insignificant. This empirical result aligns with several recent studies in the Bangladeshi context. For example, in a nationwide survey of city corporations, citizens' satisfaction levels were low overall; among the various dimensions of service delivery, responsiveness — namely, the speed and accuracy of municipal services — had the most substantial effect on overall citizen satisfaction (Mahmud, 2021).

Consistent with this pattern, a case study of Pabna Municipality and a comparative study of three Pourashavas revealed widespread dissatisfaction with basic services, particularly sanitation, waste management, road maintenance (drainage), and water supply; poor infrastructure, lack of equipment, and severe financial and human resource constraints were cited as major obstacles to service delivery (Ferdous & Das, 2022; Md. Bhuiyan & Islam, 2023). This suggests that in real-world, resource-constrained Bangladeshi municipalities, the visible quality and reliability of municipal services constitute the most salient factors influencing residents' willingness to pay taxes or user fees.

Moreover, the link between service quality and fiscal compliance has been documented in large-scale empirical work: using data from 286 municipalities across Bangladesh, one working paper finds that greater access to municipal services is strongly associated with lower levels of tax evasion (Abdallah & Ashraf, 2018). By reducing informal evasion, quality service provision can enhance actual revenue mobilisation — reinforcing the idea that delivering visible public goods strengthens the tax–service contract.

Taken together, these findings support the conclusion that in Bangladesh's urban local government context — characterized by weak institutions and constrained resources — improvements in public service delivery provide the most viable foundation for building public support for higher local taxation. In other words, municipal authorities seeking to augment revenue should invest first in improving service quality rather than relying solely on raising tax rates or expanding the tax base.

6.3 Implications for Policy and Governance — Moving Beyond Just Tax Reform

The implications for policy and local governance are clear. Municipal authorities (pourashavas, city corporations, etc.) should prioritize service delivery reforms — investing in infrastructural maintenance, strengthening administrative capacity, ensuring reliability and timeliness of services, and improving transparency and responsiveness. Such efforts are likely to generate citizen satisfaction and build fiscal legitimacy, thereby forming a stable base for revenue enhancement through taxes or user fees.

Recent empirical evidence suggests that improvements in service delivery — especially in the dimensions of accuracy, accessibility, timeliness, and the overall service environment — significantly increase citizen satisfaction with local government services (Islam, 2024). This indicates that strategic investment in service process reforms may yield more public support than simplistic fee hikes. For municipalities similar to the one studied, combining revenue mobilisation strategies with robust service-improvement plans, institutional strengthening, staff training, and community outreach is likely to be the most sustainable and politically feasible path forward.

The primary limitations of this study are its reliance on public perception, which may not reflect objective reality, and the potential for responses to be influenced by political preferences and social contexts. Methodologically, the use of multiple linear regression with 5-point Likert-scale data presents concerns, as such data are ordinal. However, this approach is supported by literature indicating that scales with five or more points can be treated as continuous, and parametric tests are robust to minor violations of normality (Carifio & Perla, 2008; Norman, 2010). Future research could enhance robustness by employing ordinal models.

7. CONCLUSION

Despite having an overall dissatisfaction about the level of municipal services, lack of trust in authority, and lack of perceived justice in taxation, the policy of municipal internal revenue enhancement suggested by both the donor agency and the Ministry of Local Government still possesses a ground to be implemented by introducing progressive taxation and an increase in rent of vested property. However, the exhaustive analysis in the previous chapter demonstrates that justice in taxation and people's trust in authority should be elevated, and the level of municipal services should be improved, as it has a statistically significant positive correlation with public support toward the policy of revenue enhancement.

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APPENDIX

This appendix includes the detailed regression outputs and diagnostic checks that support the results discussed in the main paper. The full tables are provided here for clarity and transparency.

Regression Statistics

R Square	0.233547
Adjusted R Square	0.159374
Standard Error	0.598243
Observations	200

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	3	3.380691	1.126897	3.148683	0.038888
Residual	195	11.09474	0.357895		
Total	198	14.47543			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	P-value
Intercept	1.481932	0.539885	2.744905	0.009979
Tax Justice	0.088953	0.20587	0.432083	0.668672
Trust in Authority	0.0114	0.232957	0.50478	0.617281
Level of Service	0.580053	0.194626	2.980349	0.005558

DECLARATION

I declare that this research is my own original work and has not been submitted elsewhere. All sources have been properly acknowledged. I also confirm that I have no financial or personal conflicts of interest that could have influenced the conduct or reporting of this study.



Technology Acceptance among Students and Teachers in Bangladeshi Universities: Insights from Pabna University of Science and Technology

Nishat Tabassum^{1*}

ABSTRACT

Adoption of technology by students and teachers is a critical factor in improving the quality and effectiveness of higher education in developing countries. This study, conducted at Pabna University of Science and Technology (PUST), Bangladesh, employs a mixed-methods approach to identify factors influencing technology adoption. Quantitative data were collected from 650 students via a structured web survey, and qualitative insights were gathered from In Depth Interviews with 10 teachers. The findings indicate that students broadly accept technology, citing perceived usefulness and ease of use; they report that technology enhances learning, improves academic performance, and provides valuable study materials. Teachers likewise recognize the pedagogical benefits and express willingness to integrate technology, but inadequate resources, limited training, and resistance from some teachers constrain full adoption. The research also reveals disparities in technological facilities across faculties, with the Faculty of Humanities and Social Sciences most severely affected. The study concludes that stronger institutional support, ongoing training and workshops, and targeted infrastructural development are necessary to advance technology supported teaching and learning, and that these insights can inform policymakers planning for quality education.

Keywords: Technology, Technology Acceptance Model (TAM), Learning, Teaching, Bangladesh.

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1. INTRODUCTION

The National Information and Communication Technology (ICT) Policy was first enacted in Bangladesh in 2002, and subsequently revised in 2008 and 2009. On 5 August 2015, the government made important changes to the document, incorporating multiple important concepts and plans of action (Aziz, 2020; Hossain & Rahman, 2021). The Digital Bangladesh Vision 2021 was formally declared in 2009. To realize the long-term goal of transforming Bangladesh into a developed and prosperous nation by 2041, the government aims to establish a knowledge-based economy, referred to as ‘Smart Bangladesh,’ in response to the evolving global landscape (Chowdhury, 2022). Technology plays an essential role in universities, improving education, research, and administrative procedures (Shammah, 2023). A smart classroom, equipped with projectors, interactive whiteboards, and audiovisual aids, enhances the quality of teaching and learning. Reading materials can be shared with students via Google Classroom, Moodle, or Blackboard by teachers. Classes can be conducted via Google Meet and Zoom meetings. Universities can employ software applications to facilitate various administrative tasks such as admissions, generating semester results, monitoring attendance, and managing student records. Universities have the ability to incorporate a modern library management system that enables the monitoring of books, self-checkout capabilities, and efficient inventory management (Nakata, 2015). Therefore, it is clear that in order to keep up with the rapid speed of the globe and the Fourth Industrial Revolution, it is essential for universities in Bangladesh to adopt technology in full swing. The traditional educational system has undergone significant alterations due to the COVID-19 pandemic. As a result of the COVID-19 pandemic, educational institutions in Bangladesh saw a prolonged closure, necessitating the adoption of online classes in the education system. Both students and faculties embraced online education, stepping outside their comfort zones. After the pandemic, physical classes started in a full swing and now it is really essential to explore the technology acceptance among the students and teachers of the universities of Bangladesh which they embraced during the pandemic. It is not possible anymore to stay solely in the traditional method of teaching in the universities and so both teachers and students have to adopt technology because after passing the Digital Bangladesh phase, we have come now to Smart Bangladesh phase. The aim of this study is to explore the acceptance of technology among the teachers and students of Pabna University of Science and Technology (PUST), one of the science and

technology universities of Bangladesh. PUST is distinguished by a diverse academic disciplines' environment, ranging from science and engineering to faculties of business, humanities and social science. The diversity can contribute to a comparative analysis of how a similar institution's different academic domains perceive and integrate the use of technology. As the Smart Bangladesh is the national agenda of the country, studying technology acceptance in PUST has relevant implications for policy, infrastructure establishment, and faculty training in other science and technology universities across the country. This study has involved a diverse group of participants, including both male and female students as well as faculty members of Pabna University of Science and Technology (PUST).

1.1 Statement of the problem

Bangladesh has made notable progress in digital infrastructure and technology integration in higher education, yet genuine adoption by teachers and students remains inconsistent, especially in science and technology universities like PUST. Although technology enhances access, learning quality, and resource availability, many still face limited technical skills and insufficient access to modern devices, affecting effective digital tool use (Sadam & Mamun, 2024). Despite its importance for academic success and employability, empirical evidence on the factors shaping technology acceptance in universities is limited. This study investigates the current state of technology use among educators and students at PUST, identifying key drivers and barriers to adoption, and offering insights to improve technology integration in higher education.

1.2 Research objectives

The primary objectives of this research are —

- To identify the factors that influence the level of acceptance of technology among university students and faculty members.
- To assess the proficiency of the university's students and faculty in utilizing technology.
- To assess students' and teachers' perceptions of technology's impact on performance.

1.3 Research questions

The study seeks to answer the following research questions:

- What are the factors that influence the acceptance and behavior of

university students towards technology?

- How do faculty members perceive and use technology?

1.4 Rationale of the study

Bangladesh now has 53 public universities, of which 13 are focusing on science and technology for education of the high-end human resource. However, they also offer courses in arts and social sciences and business studies (Ahmed, 2022). Pabna University of Science and Technology (PUST), founded in 2008, now has 5 faculties, 21 departments, about 172 faculty members and almost 5,000 students. Its vision is to promote innovation and research to support the national and international development of the 21st century. As a leading science and technology university, PUST strives to nurture professionals with high practical skills as well as humanistic values. Due to its technological orientation, it is important to measure the degree of technology acceptance among students and teachers.

2. LITERATURE REVIEW

In their study, Luan and Teo (2009) examined Malaysian university students and teachers to assess their embrace of technology. The researchers employed the Technology Acceptance Model (TAM) as the theoretical framework for their investigation. They discovered that perceived usefulness, perceived ease of use, and attitude towards computer use are influential factors in determining the intention to adopt technology.

Salloum et al. (2019) extensively studied the Technology Acceptance Model (TAM) and its potential in assessing e-learning acceptance. They demonstrated in their study that a literature review of 120 studies found that computer self-efficacy, subjective/social norm, perceived enjoyment, system quality, information quality, content quality, accessibility, and computer playfulness were the most common external factors. The Technology Acceptance Model (TAM) was expanded to analyze the acceptance of e-learning among students in five universities in the UAE. The study revealed that various factors have a significant impact on the perceived ease of use of e-learning systems. Specifically, system quality, computer self-efficacy, and computer playfulness were found to be influential. Additionally, the study found that information quality, perceived enjoyment, and accessibility positively contribute to both the ease of use and usefulness of the system. In a study conducted by Jung et al. (2008) at a Swedish University, business students

were surveyed to assess their acceptance of e-learning. The researchers utilized the technology acceptance model (TAM). The study revealed that the perceived usefulness of e-learning significantly influences a student's acceptance of it.

The study conducted by Ratna and Mehra (2015) examined students' attitudes and actions towards e-learning, utilizing the Technology Acceptance Model (TAM) within a course framework. The study, conducted using Davis's scale, presented accurate findings on the various factors that impact the acceptance of e-learning in India. The findings indicate strong correlations between perceived ease of use, usefulness, attitude, behavioral intention to use, and actual use. The relationships between perceived usefulness, attitude, ease of use, and behavioral intention to use e-learning are significantly influenced by various factors.

In a study conducted by Chowdury et al. (2018), the focus was on investigating the integration of ICT in higher education teaching and learning in Bangladesh, specifically among the students and teachers of the University of Dhaka. Their research revealed that the integration of ICT in higher education teaching-learning is not being effectively implemented. This study has identified several factors that hinder the successful integration of ICT in education. These include teachers' limited knowledge and skills, insufficient time for class preparations, inadequate equipment and internet access, and a lack of technical support.

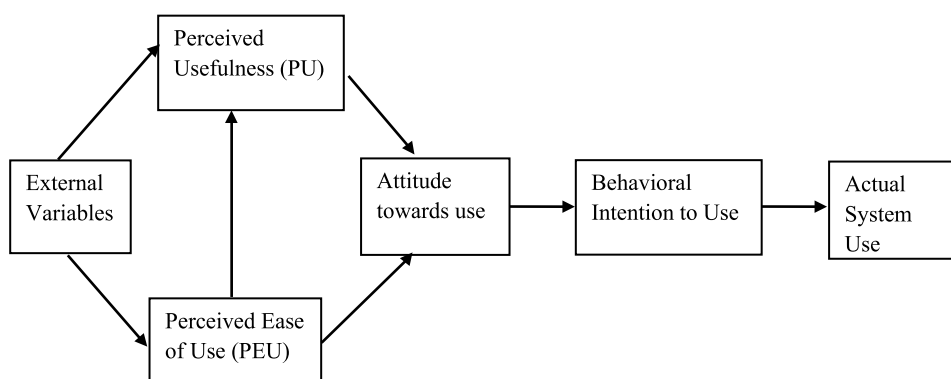
In a recent study, Tamal et al. (2022) examined the attitudes towards e-learning among 694 university students from Daffodil International University in Bangladesh amidst the COVID-19 crisis. The researchers aimed to gain insights into the level of acceptance of e-learning during this challenging period. The findings of this study indicate that the level of acceptability towards e-learning among students was insufficient. Many students expressed dissatisfaction with their e-learning experience due to a lack of technological skills, limited familiarity with the platform, complexity, low productivity, and inefficiency. A study was conducted by Islam (2024) at the undergraduate level to investigate the challenges associated with the use of technology at Kurigram Government College, situated in the northern border region of Bangladesh. He investigated the factors contributing to the lack of technology use in undergraduate classes, identifying inadequate training in PowerPoint slide preparation, senior teachers' reluctance to embrace technology in favor of traditional teaching methods, issues such as load-shedding, slow internet speeds, and insufficient internet facilities as significant barriers.

In their study, Ali et al. (2019) illustrated the manifold advantages of incorporating technology into the classroom. They disclosed that it enhances students' engagement, retention of knowledge, fosters individual learning, and promotes teamwork. In addition, technology enables pupils to acquire practical life skills. The study also revealed that incorporating technology in the classroom is advantageous to educators as well. Utilizing virtual lesson plans, grading tools, and online exams can significantly enhance time efficiency for teachers. Technology can facilitate more engagement in the learning process, a goal that is often challenging to accomplish with traditional methods of teaching.

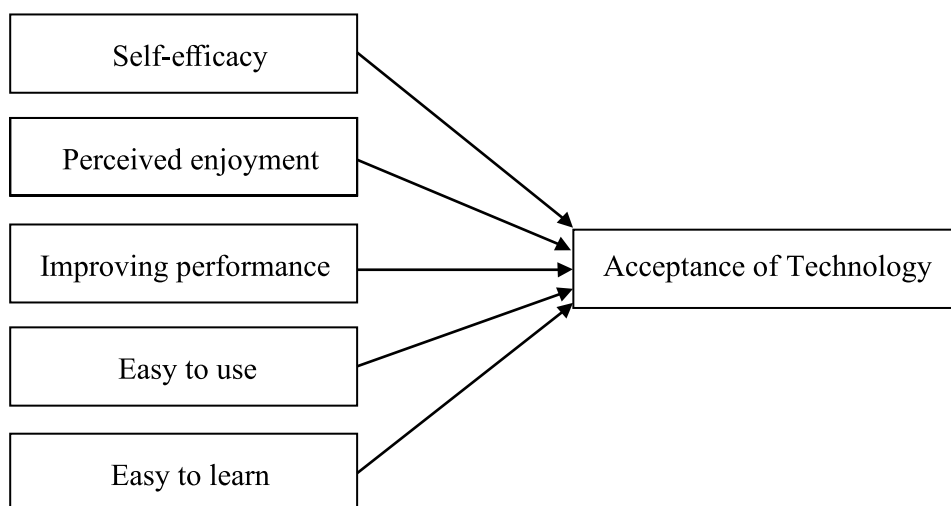
While most studies within the context of Bangladesh and other developing countries have focused on the technology adoption issue from a student or teacher perspective, none have given attention to both within the same institutional environment. This one-sided perception omits consideration of how students (users of technology) and teachers (technology facilitators) perceive the issue. So, this research attempts to explore and compare students' and faculty's technology acceptance in a holistic manner on digital adoption in higher education. Most of researches on technology acceptance in Bangladesh has been undertaken inside urban or private universities where facilities have better availability. In addition, public regional universities like Pabna University of Science and Technology (PUST) have not yet drawn research attention despite notable infrastructural and administrative problems. Thus, this research focuses PUST in order to bridge this contextual gap and represent the reality of technology adoption in regional universities.

3. THEORETICAL FRAMEWORK

This study used the Technology Acceptance Model (TAM) to explore the technology acceptance among the students and teachers of Pabna University of Science and Technology (PUST). Technology acceptance refers to an individual's psychological condition regarding their deliberate or intentional usage of a specific technology. The Technology Acceptance Model (TAM), created by Fred Davis in 1986, posits that human attitudes towards technology are shaped by two key factors: perceived usefulness and perceived ease of use. Perceived usefulness refers to the extent to which we believe that a technology can enhance our performance or assist us in achieving our objectives. Perceived ease of use refers to the degree to which we expect that using a technology would be smooth and straightforward (Davis, 1989).



This study used self-efficacy, perceived enjoyment, improving performance, easy to use and easy to learn as independent variables on which the technology acceptance of the students and teachers of PUST depend. The following is the proposed model for this study.



4. RESEARCH METHODOLOGY

4.1 Research Design and Approach

The study used a cross-sectional research design to collect data from a large population at a single point in time, making it both cost-effective and suitable for assessing the current level of technology acceptance. A mixed-method was applied, combining quantitative surveys with students and qualitative interviews with teachers. The quantitative data offered measurable patterns of technology use, while the qualitative insights revealed teachers' attitudes and institutional

challenges that numbers alone could not capture. Together, these methods ensured triangulation, improved validity, and provided a more comprehensive understanding of technology acceptance at PUST.

4.2 Sample Design and Size

For the quantitative part, stratified random sampling was used to ensure proportional representation across the five faculties (Business Studies, Engineering and Technology, Humanities and Social Science, Life and Earth Sciences, and Sciences). Each faculty served as a stratum, and students were randomly selected within each group. The final sample included 650 students—130 from each faculty—allowing balanced representation and meaningful cross-faculty comparisons.

For the qualitative part, 10 faculty members (6 Lecturers and 4 Assistant Professors) from various departments were selected through convenience sampling. Since qualitative research prioritizes depth over breadth, this sample size was sufficient to reach thematic saturation, where additional interviews were unlikely to generate new insights.

4.3 Data Collection Method

4.3.1 Web survey

To collect quantitative data, a web survey was conducted in which a questionnaire has been sent via the internet to the students of PUST and they responded to this survey over the World Wide Web.

4.3.2 In-Depth Interview

To collect qualitative data, In-Depth Interviews were taken from the teachers of PUST.

4.4 Data Collection Instrument

4.4.1 Questionnaire

A closed-ended web questionnaire was used to collect quantitative data from PUST students. Based on the Technology Acceptance Model (TAM), it included constructs such as Perceived Usefulness, Perceived Ease of Use, Self-Efficacy, and Perceived Enjoyment. A simple 3-point Likert scale (Agree, Neither, Disagree) was chosen to accommodate varying levels of digital literacy, minimize response fatigue, and capture broad agreement patterns in a large online survey. A pilot study was conducted beforehand to ensure the questionnaire's clarity, reliability, and validity.

4.4.2 Interview Protocol

In this study, an interview protocol was formulated and utilized to conduct the In-Depth Interviews with teachers at PUST. The interview protocol encompassed open-ended questions that were specifically constructed around the fundamental constructs of TAM, i.e., perceived usefulness, perceived ease of use, self-efficacy and behavioral intention to use technology. This structure provided opportunities for teachers to share their personal and professional experiences while keeping focus on the theoretical foundation of the study. The open-ended design allowed participants to share specific examples related to institutional barriers, structural limitations, and resistance to change, as well as make recommendations for improvement, which would have been difficult to capture through closed-ended questions in the interview protocol.

Table 1: Overview of data collection method, Instrument, sample size & sampling technique

Data Collection Method	Sample Size	Sampling Technique	Data Collection Instrument
Web survey	650 Students	Stratified random sampling	Close-ended questionnaire
In-Depth Interview	10 Teachers (six Lecturers and four Assistant Professors)	Convenience sampling	Interview protocol

4.5 Data Analysis

Data from the student survey was analyzed using IBM SPSS Statistics 20. Frequency distributions, percentages and graphical presentations were used to summarize the student responses for clarity and to identify major trends. Descriptive statistics were deemed to be adequate as the focus of the research was to describe and explore the level of acceptance of technology use, rather than causal relationships. Interview data from teachers were analyzed through thematic analysis that revealed emerging themes such as “infrastructural constraints”, “teachers’ resistance” and “training requirement”. Thematic analysis is appropriate as it allows the flexibility to interpret themes based on qualitative data and contributes further understanding of the quantitative results.

5. RESULT

5.1 Demographic Profile

The demographic analysis (Table 2) illustrates that a total of 650 students from Pabna University of Science and Technology (PUST) participated in the study, comprising 54% male and 46% female respondents. Representation across all five faculties—Business Studies, Engineering and Technology, Humanities and Social Science, Life and Earth Science, and Science—was evenly distributed at 20% each, ensuring cross-disciplinary balance. The majority of participants were undergraduate students, with 41.8% enrolled in the first year, followed by 27.7% in the second year, 19.5% in the fourth year, and 10.9% in the third year. Most respondents were aged between 21 and 23 years (58.6%), followed by 18–20 years (28.0%) and 24–26 years (13.4%). The demographic structure reflects a youthful and diverse academic population, offering a representative foundation for assessing technology acceptance trends within the institution.

Table 2: Demographic Profile of Respondents (N=650)

Category	Frequency	Percentage (%)
Gender		
Male	351	54.0
Female	299	46.0
Faculty		
Business Studies	130	20.0
Engineering and Technology	130	20.0
Humanities and Social Science	130	20.0
Life and Earth Science	130	20.0
Science	130	20.0
Academic Year		
Honors 1 st Year	272	41.8
Honors 2 nd Year	180	27.7
Honors 3 rd Year	71	10.9
Honors 4 th Year	127	19.5
Masters	—	—
Age (years)		
18–20	182	28.0
21–23	381	58.6
24–26	87	13.4

Source: Field work, November 2024

5.2 Devices for Learning

As shown in Figure 1, the majority of students at Pabna University of Science and Technology (PUST) rely primarily on smartphones for their academic activities (87.7%), followed by laptops (47.9%) and desktop computers (11.9%). This distribution reflects the widespread accessibility and affordability of mobile devices compared to other digital tools in Bangladesh's higher education context.

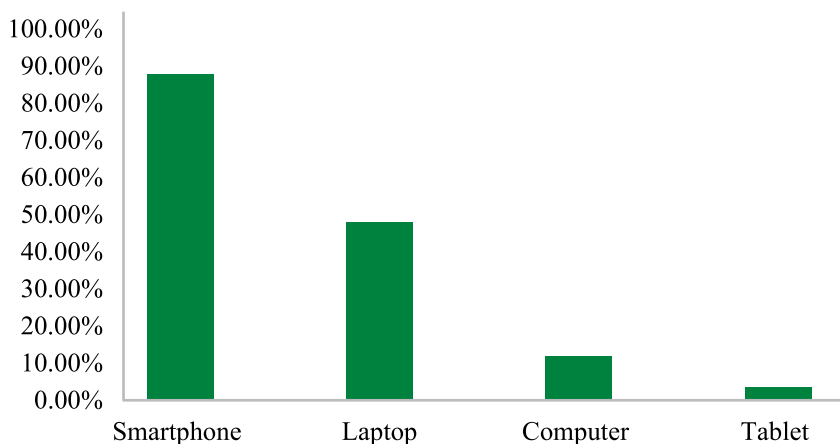


Figure 1: Devices used by the students for learning (Source: Field Work, November, 2024)

5.3. Usefulness of Technology

Table 3 highlights students' perceptions of the usefulness of technology in their learning processes. Across all faculties, the overwhelming majority of students demonstrated strong agreement that technology enhances their academic experience, performance, and engagement. Students from the Faculty of Life and Earth Science exhibited the highest levels of agreement, with 96.1% acknowledging that technology enhances learning and 95.4% confirming that it contributes to improved academic performance. Similarly, 96.2% of respondents from the Faculty of Engineering and Technology agreed that technology provides valuable academic resources.

These findings suggest that technology serves as an integral enabler of independent and resource-driven learning, consistent with earlier studies that emphasize the role of digital tools in promoting active learning and self-directed study (Raja & Nagasubramani, 2018). Additionally, a large proportion of students agreed that visual aids—particularly PowerPoint slides and multimedia presentations—increase their attention and participation in class. The results collectively

underscore that the perceived usefulness of technology is high among students, reflecting their recognition of technology as a key driver of learning efficiency, information accessibility, and academic success.

Table 3: Perceived usefulness of technology in enhancing students’ learning and academic performance (%)

Faculty	Using Technology Enhances Learning Experiences of Students	Technology for Better Academic Performance	Technology for Valuable Resources for Studies	Classes using slides increases attention
Faculty of Business Studies				
Agree	93.1	90.0	94.6	85.3
Neither agree nor disagree	6.1	6.2	3.8	10.8
Disagree	0.8	3.8	1.6	3.9
Total	100.0	100.0	100.0	100.0
Faculty of Engineering and Technology				
Agree	93.9	93.8	96.2	78.5
Neither agree nor disagree	3.8	4.6	3.1	14.6
Disagree	2.3	1.6	.8	6.9
Total	100.0	100.0	100.0	100.0
Faculty of Humanities and Social Science				
Agree	90.8	93.8	96.1	86.1
Neither agree nor disagree	6.9	5.4	2.3	13.1
Disagree	2.3	.8	1.6	0.8
Total	100.0	100.0	100.0	100.0
Faculty of Life and Earth Science				
Agree	96.1	95.4	93.8	87.6
Neither agree nor disagree	1.6	3.8	4.6	9.2
Disagree	2.3	.8	1.6	3.2
Total	100.0	100.0	100.0	100.0
Faculty of Science				
Agree	90.0	90.0	91.5	66.1
Neither agree nor disagree	7.7	7.7	5.4	18.5
Disagree	2.3	2.3	3.1	15.4
Total	100.0	100.0	100.0	100.0

Source: Field Work, November, 2024

5.4 Ease of Use and Attitude Toward Technology Adoption

The Global System for Mobile Communications Consumer Survey 2023 indicates that in Bangladesh, there exists a 20 per cent gender gap in mobile ownership and a 40 per cent gender gap in mobile internet adoption (Islam, 2024). A study found that male students usually demonstrate a greater level of confidence and self-efficacy in their use of digital technology when compared to female students (Hossain et al., 2023). The restricted access to digital technology stands as a significant barrier that hinders women's opportunities to cultivate their confidence and self-efficacy in utilizing technology. Traditional gender roles are indeed observed to influence the engagement with technology. Male members are granted access to digital devices, and many families prioritize this aspect. However, these families often do not extend the same priority to women's access to digital devices, as there is a perception that women might misuse the devices or could face societal judgment (Jahan, 2023; Jahan & Zahan, 2021). Furthermore, our society is influenced by deeply rooted stereotypes that depict technology as a male-dominated domain. This perception undoubtedly undermines women's confidence and dissuades them from acquiring digital skills.

As shown in Table 4, both male and female students at PUST demonstrated similarly high confidence and positive attitudes toward technology use. Over 85% of respondents in both groups agreed that learning new technologies is easy and that digital tools enhance their academic work. Female students reported slightly stronger beliefs in technology's role in future career success (96.7%) compared to males (93.1%), suggesting the gender gap in digital adaptability is narrowing. Overall, these findings indicate strong technological self-efficacy and a favorable behavioral intention toward technology adoption among students.

Table 4: Ease of use of technology and students' attitudes toward technology utilization (in %)

Gender	Agree	Neither Agree nor Disagree	Disagree
Finding it easy to learn new technology for study			
Female	88.7%	9.0%	2.3%
Male	89.4%	8.5%	2.1%
Using technology in coursework is straightforward and uncomplicated			
Female	77.3%	15.4%	7.3%
Male	71.5%	18.5%	10.0%

Confident in his/her ability to use various technological tools for learning			
Female	86.7%	10.0%	3.3%
Male	88.0%	8.5%	3.5%
Enjoying to use technology for academic work			
Female	92.3%	6.0%	1.7%
Male	91.4%	6.6%	2.0%
Feeling positive about integrating technology into learning process			
Female	90.3%	8.7%	1.0%
Male	90.2%	8.3%	1.5%
Having the belief that technology will be essential for future career success			
Female	96.7%	2.7%	0.6%
Male	93.1%	5.4%	1.5%

Source: Field Work, November, 2024

5.5 Behavioral Intention to Use Technology

As shown in Table 5, most PUST students demonstrate strong behavioral intentions to adopt technology in their learning. About 90.2% intend to increase technology use, 89.1% plan to recommend it to peers, and 86.5% actively seek new digital tools. These patterns align with the Technology Acceptance Model (TAM), which emphasizes perceived usefulness and ease of use as key drivers of intention. Consistent with Tables 2 and 3, students’ positive perceptions of technology directly support their willingness to adopt and promote technology-enhanced learning.

Table 5: Behavioral Intention to use technology

Statement	Agree	Neither Agree nor Disagree	Disagree
Intending to use more technology in studies moving forward	90.2%	8.2%	1.6%
Planning to recommend the use of technology to their peers for educational purposes	89.1%	9.5%	1.4%
Seeking out actively new technological tools that can aid their academic success	86.5%	11.2%	2.3%

Source: Field Work, November, 2024

5.6 Availability and Accessibility of Central Laboratory Facilities

As shown in Figures 2 and 3, students at Pabna University of Science and Technology (PUST) reported significant challenges related to central laboratory infrastructure. A considerable proportion of respondents disagreed that the

central lab has a sufficient number of computers or adequate seating capacity. These findings indicate a resource–capacity gap within the university’s ICT infrastructure, which may hinder equitable access to digital tools—particularly for students who rely on institutional computing resources.

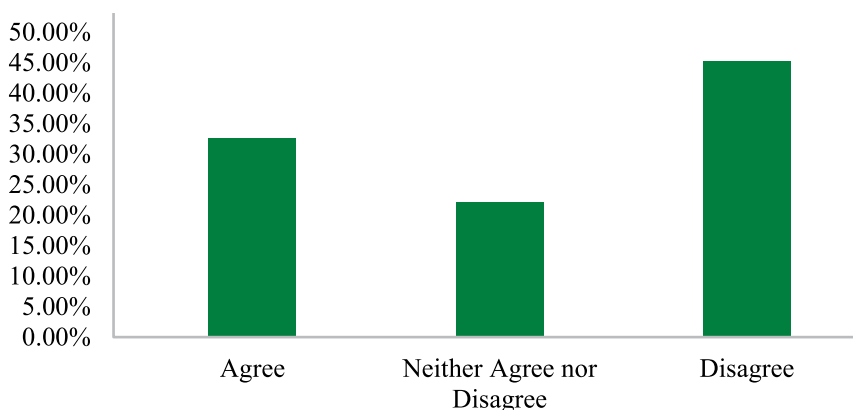


Figure 2: Availability of sufficient computers in the university central lab (Source: Field Work November, 2024)

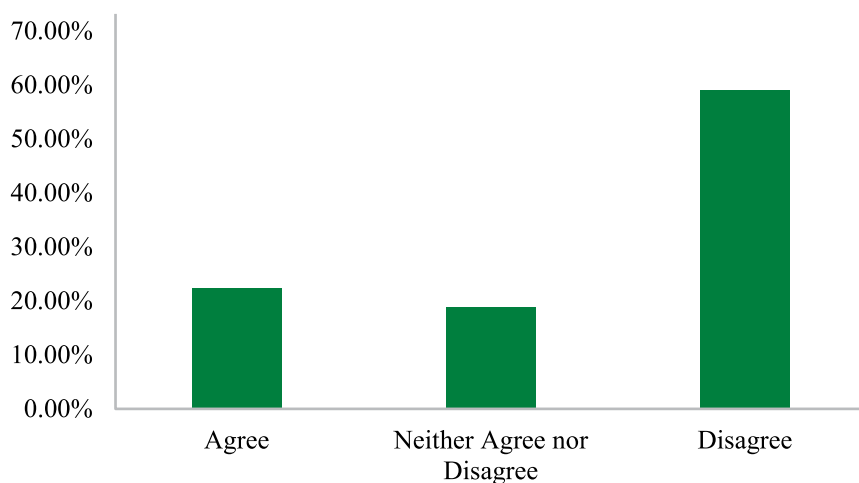


Figure 3: Adequacy of seating arrangements in the university central lab (Source: Field Work, November, 2024)

5.7 Technological Infrastructure and Learning Support

As illustrated in Figure 4, only 22.4% of students at Pabna University of Science and Technology (PUST) agreed that the university’s existing technological infrastructure effectively supports their learning experience. The majority of respondents expressed neutral or negative views, indicating perceived inadequacy

in institutional ICT facilities. This finding underscores a critical infrastructural gap that may hinder the integration of digital tools in teaching and learning. The result aligns with national challenges in higher education, where limited investment in ICT infrastructure constrains digital transformation efforts.

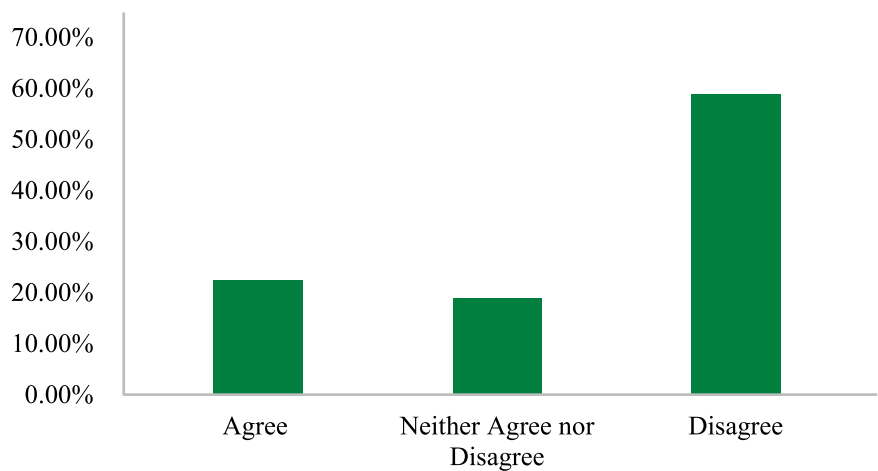


Figure 4: University’s technological infrastructure supports effective learning experiences (Source: Field Work, November, 2024)

5.8 Departmental Technological Infrastructure

As shown in Table 6, students’ perceptions of departmental infrastructure differ notably across faculties. Engineering and Technology (65.1%) and Business Studies (49.9%) report the highest availability of classroom technologies—computers, projectors, and microphones—along with greater use of slides and computers in teaching. In contrast, Humanities and Social Science and Science students show lower satisfaction, with many indicating insufficient equipment and limited faculty promotion of technological tools. Across all faculties except Science, most students agree that traditional book-based teaching fails to sustain attention, underscoring the need for more interactive, technology-enhanced instruction. Overall, the results highlight clear disparities in technological readiness and pedagogical integration across faculties.

Table 6: Students' perceptions of departmental infrastructure and technology integration (in %)

Faculty	Computer, projector & microphone available	Faculty members use slides	Books/sheets fail to hold attention	Teachers encourage tech use
Faculty of Business Studies				
Agree	49.9	44.0	49.0	49.7
Neither agree nor disagree	23.9	20.8	16.2	15.7
Disagree	26.2	33.5	34.8	34.6
Total	100.0	100.0	100.0	100.0
Faculty of Engineering and Technology				
Agree	65.1	66.5	42.2	50.6
Neither agree nor disagree	15.1	10.4	16.8	9.4
Disagree	19.8	23.1	41.0	40.0
Total	100.0	100.0	100.0	100.0
Faculty of Humanities and Social Science				
Agree	15.4	23.5	53.7	13.4
Neither agree nor disagree	20.4	24.8	22.9	27.6
Disagree	64.2	78.1	23.4	59.0
Total	100.0	100.0	100.0	100.0
Faculty of Life and Earth Science				
Agree	29.2	31.3	55	28.8
Neither agree nor disagree	26.9	23.2	22.6	25.2
Disagree	43.9	45.5	22.4	46.0
Total	100.0	100.0	100.0	100.0
Faculty of Science				
Agree	26.2	27.9	28.4	28.6
Neither agree nor disagree	14.0	20.8	21.8	25.2
Disagree	59.8	51.3	49.8	46.2
Total	100.0	100.0	100.0	100.0

Source: Field Work, November, 2024

5.9 Acceptance and use of technology

Ease of technology and its benefits

In an inquiry regarding the comfort of using technology, out of a total of 10 teachers interviewed, 7 stated that they feel comfortable using technology, while 3 expressed that they do not feel as comfortable with it. The perception of

university teachers in Bangladesh regarding the effectiveness of using technology is varied and multifaceted. While certain teachers exhibit a level of comfort in utilizing technology, others perceive it as ineffective. The underlying cause may stem from insufficient familiarity or a lack of confidence in utilizing digital tools (Shelly & Kamal, 2022). An assistant professor from Electrical, Electronic, and Communication Engineering noted, “I am comfortable using technology. In engineering, engaging with modern technologies is essential.” A chemistry lecturer stated, “I am very comfortable using technology; it allows me to incorporate 3D models and animations, helping students visualize complex concepts and saving time in class.” A Public Administration lecturer commented, “I am comfortable using technology, but lack of modern equipment in my department limits its use. Generations like Gen Z and Gen Alpha can grasp concepts more easily when technology is used.” These responses suggest that while faculty generally value technology for enhancing teaching, practical constraints and varying confidence levels affect its adoption.

Online classes

The question arises regarding the comfort level of conducting classes online. An assistant professor from the Faculty of Engineering and Technology has expressed that he finds online classes to be quite comfortable, noting that they facilitate the creation of flexible schedules. However, certain faculty members experience discomfort with online classes. They believe that loadshedding can happen at any moment, resulting in the loss of internet connectivity. Moreover, students often fail to respond adequately, which hinders the setting up of an engaging classroom environment in online classes. They expressed a preference for taking classes in person, as this allows for the creation of an engaging classroom environment. Additionally, they indicated a desire to incorporate technology within the physical classroom setting.

Result preparation

In a discussion regarding the process of result preparation through online methods, a lecturer expressed, “In my view, the online approach to result preparation remains quite challenging. Occasionally, technical issues may emerge, leading to delays in the preparation of results. Furthermore, there are instances when it becomes tiresome to input numbers twice”. An assistant professor from the Faculty of Engineering and Technology stated a distinctly different viewpoint. He mentioned that he was quite exhausted from preparing results manually, so he now finds relaxation in preparing results due to the online-based system.

Using PowerPoint presentations in the class

In discussing the significance of PowerPoint presentations in the educational context, a lecturer from the Chemistry Department remarked, “Conventional teaching from textbooks often hinders students’ understanding of complex concepts. Using slides allows incorporation of images, diagrams, and charts, making learning more engaging and helping students maintain focus”. Another lecturer from the Faculty of Humanities and Social Sciences shares this same perspective. She believes that when faculty members teach directly from textbooks and sheets, students are unable to engage with the material, resulting in a lack of interest in the lessons. Utilizing slides in the classroom allows educators to present students with captivating images and videos, thereby enhancing the lesson’s engagement and interest level. However, she also indicated that, regrettably, not all departments at PUST are equipped with modern technologies in their classrooms. Despite the desire to utilize PowerPoint presentations during class, they are unable to do so because of insufficient infrastructure. These insights highlight the pedagogical value of PowerPoint presentations, tempered by infrastructural limitations.

Technology integration in teaching practices

A faculty member from the Faculty of Engineering and Technology commented, “Integrating technology into teaching is highly beneficial for students. Using visual aids and sound systems helps sustain students’ focus, improves comprehension, reduces physical exertion for educators, and familiarizes students with contemporary research and developments in the discipline.” Similarly, a faculty member from the Faculty of Humanities and Social Sciences stated, “The integration of technology in teaching provides clear advantages for both students and teachers. It enhances student performance, fosters creativity, helps maintain students’ attention, and allows educators to deliver more engaging and effective classes.” These perspectives underscore that technology not only supports learning but also improves teaching efficiency and classroom dynamics.

Resistance from teachers

A faculty member from the Faculty of Science at PUST remarked on the technology acceptance and use among teachers, noting that it is undeniable that some educators are resistant to adopting and utilizing technology to a greater extent. The traditional method of teaching is preferred by them, as they are hesitant to incorporate technology into the teaching process. It is evident that they predominantly highlight the disadvantages associated with the use of technology. Recently joined teachers exhibit a high level of technological proficiency,

motivating students to increasingly embrace and utilize technology in response to the requirements of the digital workplace.

Training

The teachers emphasized the importance of offering training or support to university teachers for the effective integration of technology in their teaching practices. Many teachers have an inadequate knowledge in understanding various types of technologies and their applications in the teaching process. Additionally, some teachers exhibit reluctance towards the integration and utilization of technology in their teaching practices. They may feel a decrease in confidence or motivation when it comes to utilizing digital tools, perceiving them to be disruptive or redundant. It is essential that, through training and workshops, teachers are made to understand the importance of integrating technology into their teaching practices. The teachers further stated that they had not been provided with any training or support from PUST regarding the use of technology into their teaching practices.

Negative experiences while using technology

In discussing the negative experiences teachers have encountered with technology in their teaching practices, a faculty member from Urban and Regional Planning noted, "One significant challenge that could impede the learning process is the availability of specialized software related to the subject matter. Certain software can be prohibitively expensive when seeking to acquire the licensed version. Consequently, students are compelled to utilize the unlicensed version, which frequently limits the available options for those technologies. Another issue has been identified regarding the availability of instruments for laboratory work. The administration follows an extensive procedure for the procurement and disbursement of electronics or hardware necessary for our students' lab work." A faculty member from the Faculty of Science expressed his negative experiences, stating, "I have faced poor internet connection and frequent load-shedding, which disrupts the continuous use of technology in the class."

Another faculty member from the Faculty of Humanities and Social Sciences stated that, "We have not had access to the plagiarism software iThenticate for approximately three months. Furthermore, during the process of preparing results or engaging in tasks on the PC, we experience load-shedding, which results in significant distress for us."

6. CONNECTION OF FINDINGS WITH TAM

The results of this study can be well explained using the Technology Acceptance

Model (TAM), wherein users' acceptance of technology depends mainly on two constructs—Perceived Usefulness (PU) and Perceived Ease of Use (PEU)—that impact their Behavioral Intention to Use (BIU) or actual usage decisions.

The results of the survey indicated high consonance between respondents' views and the TAM. Most students believed that technology makes them learn better, offers a useful study material, and stimulates class participation with the highest Perceived Usefulness (PU). Teachers also stressed that technology allows them to present difficult subjects more clearly and assessment tasks more easily. These results validate that when individuals perceive concrete academic or professional advantages, their acceptance grows as TAM states.

Students and teachers were confident in using digital tools, this also indicated that Perceived Ease of Use (PEU) positively influences their attitudes toward technology. Ease of learning new applications and tools favored their frequent use and was especially prominent among younger faculty members and technology-savvy students. Nevertheless, limited lab facilities, poor and unreliable internet connectivity and lack of training have decreased PU for some of respondents; this indicates the role played by external variables on both PU and PEU.

It was also discovered that while both students and many teachers had high intention to use the technology, lack of institutional support and infrastructure preparedness inhibited actual usage of the system. This is consistent with TAM's claim that behavioral intention does not necessarily lead to usage in the absence of favorable external conditions.

7. DISCUSSION

Bangladesh aims to achieve the status of a developed nation by the year 2041. To facilitate this transformation in Bangladesh, it is essential to develop a skilled workforce in the fields of science, technology, engineering, and mathematics (STEM). The science and technology universities of Bangladesh focus on cultivating highly skilled professionals in STEM fields, equipping them to foster innovation and tackle the national challenges faced by Bangladesh. The vision of Pabna University of Science and Technology is to foster the generation of new ideas and to engage in innovative research within the fields of science and technology. This initiative is directed by graduates who are highly skilled, trained, efficient, and experienced, with the aim of serving both the nation and the global community in the 21st century.

Findings from this study show that the attitude of students and teachers at PUST towards technology in general is positive, thus verifying that the core constructs

of TAM—Perceived Usefulness (PU) and Perceived Ease of Use (PEU)—are key factors influencing users' decision to adopt digital tools. The findings help contribute to the increasing literature on technology acceptance in higher education among developing countries particularly considering ongoing shift of Bangladesh from Digital Bangladesh to Smart Bangladesh.

The findings are in line with earlier studies carried out in Bangladesh and other developing nations. Similar to Chowdhury et al. (2018) that reported inadequate infrastructure and poor teacher training as two most prominent barriers to integration of ICT in higher education, this study revealed poor lab facilities, unstable internet and lack of institutional support as major obstacles. Islam (2024) and Tamal et al. (2022) similarly observed that although learners were willing to use technology, limited ability and problems with connectivity impeded the effectiveness of e-learning. These findings have been reinforced in the present study, which demonstrates that even in a Science and Technology university where technological literacy may be assumed to be high, infrastructural and policy-level deficiencies persist.

Unlike some international studies, namely Luan and Teo (2009) in Malaysia and Ratna and Mehra (2015) in India, which indicated that perceived usefulness and ease of use were significant predictors of behavioral intention across all faculties, PUST recorded differences between faculties. Significant differences were observed in technology acceptance between students of the Faculty of Business Studies and the Faculty of Engineering and Technology compared with those from the Faculty of Humanities and Social Science. This disparity may indicate that institutional prioritization and resource allocation can affect acceptance rates, which is also supported by Salloum et al. (2019) in the UAE context.

The results also have broader implications for higher education in Bangladesh. The enduring infrastructure and training gaps even in a specialized science and technology university point to the need for more focused interventions around universities if the national drive towards Smart Bangladesh is to be achieved. Policymakers and University Grant Commission (UGC) should prioritize investment for ICT infrastructure, enhancing teacher digital literacy and student access programs. Academia and ICT industry collaboration can also be a means of innovation and to bridge the distance between technology potentiality and its use in classroom.

8. RECOMMENDATION

The results of this study indicated that a considerable proportion of both students and teachers recognized the usefulness of technology and its user-friendliness. However, the manner in which the infrastructural development of universities and departments ought to progress is not currently being realized. Several issues require attention and resolution.

- Some teachers integrate technology effectively, while others resist due to lack of confidence and skill, indicating a need for training programs and workshops.
- Modern students are highly tech-savvy, and visual aids (images, videos, diagrams) significantly enhance comprehension and retention. However, simply relying on downloaded slides limits pedagogical effectiveness. Educators need to design interactive, contextually relevant lessons that actively engage students and connect digital content to real-world applications.
- Only the Faculties of Business Studies and Engineering and Technology have well-established technology-based teaching frameworks; other faculties require upgraded classrooms with projectors, computers, internet access, and whiteboards.
- Central labs should have sufficient computers, seating, and robust internet connectivity.
- Teachers should guide students in using emerging technologies to strengthen learning.
- Humanities and Social Sciences Faculty must receive equal priority alongside science and technology faculties.
- Educators require access to plagiarism software and other essential teaching tools.
- Load-shedding and interruptions must be addressed to ensure uninterrupted technology use in classes.
- Result-preparation systems should be improved to avoid delays in semester final results.
- Universities should develop ICT policies aligned with Smart Bangladesh Vision 2041, covering online teaching, assessments, e-learning platforms, and data protection.

- A permanent ICT monitoring team could regularly evaluate technology deployment, user satisfaction, and propose improvements.

5. CONCLUSIONS

The significance of embracing and utilizing technology within the university environment is paramount for enhancing learning experiences, fostering classroom engagement, and equipping both students and educators to face the challenges of the future. The aim of this study was to investigate the level of technology acceptance by students and instructors at Pabna University of Science and Technology (PUST), applying the Technology Acceptance Model (TAM) as a theoretical model. The findings show a positive attitude of students as well as teachers toward the use in academics. The most important point identified is that PU has the primary effect on technology acceptance-students perceive that technology enhances learning quality, material facilities, and academic productivity. PEU also has a positive effect on acceptance since most of the respondents consider digital tools to be easy to learn and use. Nevertheless, the study also demonstrates significant barriers to the necessary translation of positive attitudes into practice. These are poor ICT infrastructure, unreliable internet access, deficient computer lab facilities and a lack of systematic training for teachers. The variation in use across faculties also indicates that institutions have a powerful role to play in the process through resource allocation and support structures. Overall, while the level of digital awareness and acceptance among PUST is high, there are structural and faculty-based barriers that prevent effective integration of technologies in the teaching-learning process. Further comprehensive research with methodical rigor and wider participation can resolve the limitations of the study. This research can draw attention to the educationists, policymakers and researchers.

Declaration

Funding: Research and Technology Transfer Cell (RTTC) of Pabna University of Science and Technology (PUST) funded this research for the financial year 2024-25.

Conflict of Interest: The author declares that there is no conflict of interest.

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Fabric of Inequality: The Struggles of Ready-Made Garment Workers in Bangladesh

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ABSTRACT

The Ready-Made Garment (RMG) is considered as a key contributor of economic growth of Bangladesh, providing jobs to over 4 million workers and a bulk of them are women. The sector – despite its role in driving economic expansion and alleviating poverty – is characterized by low wages, long working hours, unsafe conditions and limited workers' rights. Centered only on secondary data from journals, reports, newspapers and credible websites, the paper looks into the continued struggle of garment workers for socio-economic and work place rights. Using a desk review and two case studies, the study highlighted unethical labor practices and hazardous working conditions in RMG sector. The data show that global brands, factory owners, and regulatory bodies are involved in the chain of exploitation and gender inequity in this industry. The research highlights the critical importance of better labor standards, fair pay and effective enforcement to protect workers safety and dignity. The insights generated by the research could stimulate policymakers to ensure justice and equality in the RMG sector.

Keywords: Ready-Made Garment, Labor rights, Wage constraints, Gender inequality, Workplace safety, Bangladesh.

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1. INTRODUCTION

Bangladesh's transition from an agro-based economy to an industrializing one marks a critical phase in its economic development (Kumar & Kumar, 2024). Since independence in 1971, agriculture served as the country's principal economic sector and the primary livelihood source for most citizens (Islam et al., 2022). However, in recent decades Bangladesh has progressively shifted from an agro-focused, aid-reliant economy toward a more trade-driven structure (Ahmed et al., 2023). The rapid expansion of the export-oriented ready-made garments (RMG) industry has played a pivotal role in driving this structural transformation (Rahman et al., 2017). Bangladesh's RMG sector is a global powerhouse. Today it is the world's second-largest garments exporter, behind only China (Economics Observatory, 2025). Remarkably, the industry has come to account for roughly 80–84% of Bangladesh's export earnings (WEF, 2024). Over the past four decades, export value from RMG sector has lifted from a few million dollars in the early 1980s to nearly \$47 billion by 2023 (Nasrin et al., 2025). This export boom was blazed by pro-market reforms of the 1980s and 1990s that welcomed foreign investment into textile manufacturing (Rahman & Al-Hasan, 2019; WEF, 2024). Garments manufacturing now employs on the order of four million workers in Bangladesh. Roughly 60–80% of garment workers are women (Economics Observatory, 2025; World Business Report, 2023). Bangladesh has emerged as a rapidly expanding economy, with the RMG sector serving as a central driving force behind this growth and strengthening the global recognition of the “Made in Bangladesh” brand. The industry has become a vital pillar of the national economy, accounting for a substantial share of the country's export earnings. It has also played a transformative role in the nation's socioeconomic development by generating extensive employment opportunities, particularly for women from low-income and low-literacy backgrounds (Islam et al., 2016). As a major global apparel sourcing destination, the RMG sector contributes 10.35% to Bangladesh's GDP and continues to grow at an annual rate of around 7% (Light Castle, 2023). Despite notable reforms aimed at enhancing worker welfare, numerous challenges still undermine the overall well-being of RMG employees. Workers continue to face multidimensional hardships that affect their daily lives and long-term prospects. Concerning health and nutrition, many endure long working hours, insufficient lighting, poor ventilation, and overcrowded sanitation facilities. Additionally, ensuring a safe and respectful work environment remains difficult, as reports of workplace harassment—often perpetrated by supervisors—are still prevalent (Dash et al., 2019). Bangladesh's economic dependence on RMG makes

workers' conditions a matter of both national and international concern. The World Economic Forum notes that garment produces about 84% of Bangladeshi export revenues (WEF, 2024), underpinning nearly all of the country's growth. This success story is often celebrated as a driver of poverty reduction and female employment. Economists warn that the industry's rapid expansion rests on an unsustainable reliance on low pay and poor working conditions (Economics Observatory, 2025). In short, Bangladesh's global leadership in clothing exports is built on the backs of millions of low-paid workers. The plight of these workers, their exploitation, rights abuses and vulnerability have far-reaching implications for human welfare and the viability of the industry.

In recent years, tragic events and worker protests have drawn international attention, highlighting how worker conditions and industry practices are deeply intertwined. Understanding this plight historically and today is essential for predicting the sector's future and for formulating solutions that protect labor rights while sustaining economic growth (Economics Observatory, 2025). Concerns over fire hazards persist in many workplaces, largely due to inadequate safety measures. Economic empowerment also remains a major challenge, as high employee turnover, unclear overtime policies, and dissatisfaction with low wages undermine workers' financial stability. In terms of equality, acceptance, and social rights, incidents of discrimination and harassment—often driven by supervisory staff—are commonly reported. Moreover, limited knowledge of labor laws and frequent job shifting restrict opportunities for education and professional growth among RMG workers. Although the literature on the ready-made garment (RMG) sector has predominantly focused on its economic significance, insufficient attention has been given to the socio-economic inequalities and institutional limitations affecting workers. In particular, research examining the structural roots of workers' deprivation and inequality remains limited. This review addresses this gap by synthesizing evidence from peer-reviewed articles, policy reports, and related documents to identify key factors driving inequality in the RMG sector. The article concludes by offering policy-relevant recommendations to mitigate these inequalities in this economically vital industry.

1.1 RESEARCH METHODOLOGY

This article has followed desk review. A desk review involves gathering and examining information and data that are already available from existing sources (Mae, 2024; Nicolas, 2024). As the objective of this study is to review available information, experiences and recorded evidences on the problems experienced

by RMG workers, desk review is suitable for this article. Given the vast body of secondary data available—such as academic publications, policy documents, NGO and government reports, and media investigations—a desk-based approach allows for a comprehensive synthesis of diverse perspectives without the constraints of fieldwork. This approach is well adapted to investigate longer-term structural problems, such as labor exploitation, gender inequality and working conditions, which are extensively covered in previous research. By critically reflecting on and systematically assembling existing sources, the desk review helps the researchers to make sense of patterns, policy gaps and institutional failures, providing an informed evidence-based account of how socio-economic inequalities are built into Bangladesh's RMG industry.

2. CONCEPTUAL BACKGROUND

2.1 Emergence

Bangladesh's garment industry emerged in the late 1970s as a small, export-oriented sector. Its early development was led by Nurool Quader Khan, who in 1978 sent 130 trainees to South Korea to learn RMG production, resulting in the establishment of Desh Garments with technical and marketing support from Daewoo Corporation of South Korea (Islam et al., 2016; Rahman et al., 2017). Other pioneers included Akhter Mohammad Musa, Mohammad Reazuddin of Reaz Garments, Md Humayun, and Mohammad Fazlul Azim. Reaz Garments transitioned from a local tailoring enterprise founded in 1960 to export production in 1978. At that time, only nine export-oriented factories operated, generating exports of approximately USD 1 million (Rahman, 2023; Swazan & Das, 2022). The Multi Fibre Arrangement (MFA) of 1974 further facilitated sectoral growth by encouraging production relocation from quota-restricted countries such as South Korea to Bangladesh. Supported by trade liberalization, government incentives, and duty-free imports during the 1980s, the sector expanded rapidly and became a major export earner by the mid-1980s, with female entrepreneurs and workers playing a significant role in its economic and social transformation (Hossen, 2014; Sajjad Hossain et al., 2016).

2.2 Wage constraints

In the 1980s, government initiatives such as tax incentives and the creation of export processing zones were instrumental in securing foreign investment in Bangladesh's textile industry. The industry's growth was phenomenal – within ten years, garments made up about 60 percent of exports, and by the 2010s,

they comprised about 80 percent (Economics Observatory, 2025). However, the industry's early years were characterized by poor working conditions. Workers often had to work 12-14 hours per day, including mandatory overtime, with low wages (Alam et al., 2011; Rahman, 2020). Even in the last decade, when the ready-made garment industry had developed under more significant global scrutiny, labor issues remained widespread. More than a decade after the 2013 legal changes, there was minimal adjustment. One key issue that has remained constant throughout is the low wages. Labor groups and unions have been demanding monthly minimum wages of about 23,000 BDT to afford living amenities (Human Rights Watch, 2023; Saleh, 2024; The Guardian, 2023).

Workers routinely report that their pay cannot meet housing, food, healthcare or education needs (The Business Standard, 2025). The government's five-year wage revision process has often been contentious. Against the backdrop of workers struggling with the unchanged minimum wage of BDT 8,000 set in 2018, the recent wage announcement by the government's wage board generated disappointment rather than relief (The Business Standard, 2023b). On November 7, 2023, the minimum wage for RMG workers was revised to BDT 12,500. Although this marks a significant increase, it still falls short of the workers' demand for BDT 23,000. As a result, many RMG workers continued their demonstrations, expressing frustration that the government's decision did not meet their expectations (The Daily Star, 2023). Wages were kept extremely low to maintain competitiveness. For example, by 2010 the minimum wage for unskilled sewing operators was set at BDT 3,000 per month or 38 USD only, at that time (Bossavie et al., 2023). Bangladesh's RMG industry, recognized as the world's second-largest apparel exporter, has long benefited from offering some of the lowest minimum wages in the global garment sector (The Business Standard, 2023).

Yet the long-term viability of this cost-based advantage is increasingly uncertain, as maintaining low wages raises serious concerns about the welfare of the workers who sustain the sector. With intensifying global competition, the ethical dimensions of Bangladesh's wage structures demand greater scrutiny.

In late 2023, when authorities finally raised the minimum to 12,500 takas from 8000, garment workers held peaceful strikes demanding much higher pay (Prothom Alo, 2024). These protests were met with severe crackdown. Police fired on crowds, killing four workers and hundreds of protesters were beaten or injured. Ten thousand workers now face criminal charges for labor organizing (Clean Clothes Campaign, 2025; The Guardian, 2023). Amnesty International described this as a deadly outcome on wages made worse by the price workers are

paying for speaking out (Amnesty International, 2023; The Guardian, 2023). The recent events echo an earlier cycle (2018–19) when 50,000 workers went on strike and over 10,000 were dismissed or charged after raising wage demands (Amnesty International, 2023; Clean Clothes Campaign, 2025). Such recurring repression highlights how difficult it remains for workers to claim even legally-sanctioned rights (Amnesty International, 2023; Solidarity Center, 2024).

2.3 Gender disparity

Women workers frequently report widespread discrimination and inadequate enforcement of formal labor protections. Despite legal provisions guaranteeing maternity leave, compliance remains weak, with many employers compelling pregnant workers to continue working or to leave their jobs. Female workers also face verbal and sexual harassment both within factory settings and during their commutes, significantly compromising their safety; however, such incidents are often underreported and consequently underrepresented in official records. Moreover, the dual burden of paid factory labor and unpaid domestic responsibilities results in chronic fatigue, as many women lack adequate rest periods or sufficient time to spend with their children outside of work (Akhter et al., 2017; Rahman & Al-Hasan, 2019). Social and gender norms further intensified workers' vulnerability, as the RMG workforce largely comprised young women—predominantly aged 18–32—with limited formal education. Female workers were concentrated in low-paid positions such as sewing operators and helpers, while men, though a numerical minority (approximately 15%), disproportionately occupied higher-paid supervisory roles. Overall, the rapid expansion of the garment industry from the 1980s to the 2000s relied heavily on low-cost female labor and weak enforcement of labor regulations. Workers' rights to unionize were legally constrained, and union presence remained limited; although the National Garment Workers' Federation (NGWF) was established in 1984, trade unions remained small and ineffective until the early 2010s due to restrictive legal frameworks and employer resistance (Human Rights Watch, 2013).

2.4 Labor rights violations

In practice, labor rights in Bangladesh are severely constrained despite formal legal guarantees. Employers routinely exploit loopholes in the labor law, while union officers face threats, transfers, arbitrary dismissals, and violence (Human Rights Watch, 2013; Solidarity Center, 2024). Entire sectors, notably Export Processing Zones, remain effectively closed to unions, and legal provisions allow broad punitive action against workers involved in protests or strikes, fostering fear and suppressing collective action (Human Rights Watch, 2013; Shurokkha,

n.d.). Although the labor law was amended again in 2023, labor leaders informed a visiting European Union delegation that the reforms remain unfavorable to workers. A major concern is the continued requirement for high consent thresholds to form unions—20 percent in factories with fewer than 3,000 workers and 15 percent in larger factories—despite long-standing demands for their removal (The Daily Star, 2023a). Violence against union organizers remains widespread; in June 2023, veteran unionist Shahidul Islam was beaten to death after demanding unpaid wages, allegedly by management-linked actors (Clean Clothes Campaign, 2024a). During the national minimum wage protests of October–November 2023, at least four workers were killed, and authorities filed at least 35 criminal cases implicating tens of thousands of workers, many linked to factories supplying major global brands (Amnesty International, 2024). By late 2023, over 40,000 workers faced fabricated charges for peaceful protest (Clean Clothes Campaign, 2025). These patterns demonstrate that structural barriers and state–corporate alignment continue to undermine genuine freedom of association in Bangladesh (Human Rights Watch, 2013; Solidarity Center, 2024).

2.5 Workplace safety concerns

Workplace safety concerns in Bangladesh's garments industry remain a significant issue, characterized by frequent accidents, inadequate safety measures, and poor regulatory enforcement. From 2005 to 2013, approximately 1512 workers were killed due to factory building collapses, fires, boiler blasts, and other industrial accidents (Ekramuzzaman, 2024; Wadud et al., 2016). Government action to enforce safety and rights is weak and often ineffective. The situation worsened tragically on April 24, 2013, when the Rana Plaza building collapsed, killing at least 1,134 workers. This catastrophe exposed the negligence of factory owners, the government and international buyers. Initially, there were calls to boycott Bangladeshi garments, but instead, stronger interventions were introduced. Organizations like the Accord and Alliance were formed to oversee factory building safety. This event marked a turning point, forcing stakeholders to seriously address structural safety and labor standards (Rahman, 2023). Just months before the Rana Plaza collapse, a devastating fire at Tazreen Fashions claimed the lives of more than a hundred workers who were unable to escape due to blocked exits and locked doors. These two major industrial tragedies in the Dhaka area highlight severe failures in workplace oversight and represent stark cases of business-related human rights violations. Together, they reveal the human consequences of weak regulatory systems and emphasize the urgent need to strengthen occupational safety measures in line with international business

and human rights standards for Bangladesh's workforce (Amnesty International, 2024). Although some progress has been made in improving working conditions, many longstanding issues persist. The Labor Act 2006 (amended in 2023), lacks a comprehensive mechanism for compensation and insurance during injuries, disability, or job loss. While appointment letters are mandatory, 50% of workers lack them, limiting benefits access (Shurokha, n.d.).

2.6 Health implications

In 2022 alone, a survey by news outlets found that 967 workers died in workplace accidents across Bangladesh including non-garment industries (Amnesty International, 2023). Millions more have sustained serious injuries on the job. General safety standards are often substandard. Many factories lack functioning fire alarms, sprinklers or clear exit routes. Overcrowding and building code violations are pervasive. For example, Tazreen Fashions (2012) and Rana Plaza (2013) are the two biggest known disasters. Both involved locked or blocked exits (Clean Clothes Campaign, 2019, 2024). Outside of disasters, workers regularly report minor injuries such as needle pricks, lacerations, breathing problems from dust and long-term issues like hearing loss. In 2022, the government reported only that over 900 workers died in all workplace accidents. Which highlights the systemic neglecting habit of occupational safety (Amnesty International, 2023).

Although there have been some improvements in safety in recent years, garment workers are still exposed to health hazards (Yuan et al., 2022). Workers' everyday experiences performing their tasks take a toll on their physical health, their working hours are long and excessive, oftentimes exceeding the legal rates during production peaks. Workers perform intensive physical activities such as standing at sewing machines, lifting, and moving burdensome fabric rolls for 10 to 12 hours a day (Zaman et al., 2024). Stressful work is tiring and exhausting, with more than 68% reporting headaches, 51% back pain, and 55% somatic symptoms. While physical health is evidently affected, psychosocial pressure is noted as well. Intense work is often accompanied by tough managerial pressure, with reports of bullying and abusive behaviors despite the presence of social support (Dreher et al., 2022). Furthermore, many factories remain characterized by the absence of good air quality, lack of appropriate lighting, excessive heat, and noise. During peaks, workers are in some cases required to partake in long shifts or attend work with short or no notice without proper overtime pay.

2.7 Child Labor

Child labor remains a largely overlooked problem in Bangladesh's RMG sector, particularly in subcontracted and informal production sites. Research shows that all minors interviewed in these supply chains were engaged in illegal work, most commonly in unregistered small workshops or home-based units. Children between eight and fourteen are increasingly drawn into hazardous tasks that jeopardize their physical health and emotional development. The continued presence of child labor is closely linked to deep-rooted poverty, weak implementation of labor laws, gaps in policy enforcement, and community-level acceptance of children's work. These young workers often face highly unsafe environments, where they operate risky machinery, handle chemical materials, and work excessively long hours. Such conditions push many children to leave school prematurely, which restricts their long-term opportunities and undermines their intellectual growth. Their wages are extremely low—frequently beneath legally mandated minimums—and payment is often irregular or delayed, reflecting the broader exploitation embedded in informal segments of the garment supply chain (Norpoth et al., 2014)

2.8 Implications upon LDC graduation

Bangladesh's graduation from Least Developed Country (LDC) status in 2026 is expected to create major challenges for the RMG sector, primarily due to the withdrawal of preferential trade benefits such as Generalized System of Preferences (GSP), which currently allows duty-free entry into key markets like the EU and the US. Losing these advantages will likely make Bangladeshi apparel less competitive, raising prices and risking declines in demand and market share. Increased compliance and quality requirements will further raise production costs. These pressures may affect the industry's workforce, as factories could reduce expenses through layoffs or cost-cutting measures. To remain competitive, the sector will need substantial investment in technology, skill development, and improved infrastructure. Although progress has been made in sustainability—such as expanding green factories—the industry still relies heavily on state support, especially over the past decade, unlike more self-reliant garment-producing countries (Textile Focus, 2024).

3. CASE STUDIES

The plight of the RMG workers has contained a prolonged history with severe tragic events and sufferings along death. Some of the plights have been highlighted here as case studies, which was being conducted earlier by several authors, agencies and so on.

3.1 Rana Plaza Tragedy

A defining and devastating moment occurred on 24 April 2013, when the Rana Plaza building in Savar, on the outskirts of Dhaka, collapsed. The eight-story structure contained five garment factories, along with several shops and a bank on the lower levels. Although large cracks had been discovered on the building the day before—prompting the lower-floor occupants to evacuate—factory authorities dismissed the danger and instructed workers to return the next morning. Only a few hours into the shift, the entire building gave way. The disaster claimed approximately 1,134 lives and left nearly 2,600 others injured. Many survivors remained trapped beneath the rubble for extended periods, and some even had to amputate their limbs to free themselves (Clean Clothes Campaign, 2024).

The human toll was horrific and instantly galvanized global attention. Media coverage showed images of thousands of distressed families and scenes of desperate rescue, making Rana Plaza the deadliest industrial disaster since Bhopal (1984). Investigations revealed multiple causes. Illegally added floors, poor-quality materials and violated building codes made Rana Plaza vulnerable. Emergency exits were inadequate or locked, further trapping victims inside. Factory owners' malpractice such as forcing attendance despite danger was widely condemned. Many western brands were implicated after media found their labels on garments in the rubble (Changala, 2023).

In response, pressure mounted on international buyers and the Bangladeshi government. The aftermath included immediate and longer-term measures. Within weeks, over 200 garments companies agreed to form the Accord on Fire and Building Safety in Bangladesh, commonly called as The Accord, a legally binding five-year agreement to inspect and improve factory safety. The Accord was created in May 2013 to combat the man-made disasters in the future and ultimately covered over 1,600 factories (Clean Clothes Campaign, 2024).

Its members committed to fund repairs, conduct inspections and publicly report progress. At the same time, North American brands which was led by Gap and Walmart launched a similar initiative known as the Alliance for Bangladesh Worker Safety, commonly called as The Alliance. Unlike the Accord, the Alliance's commitments were criticized as weaker and non-binding (Kayser, 2016). But it also performed inspections on many factories. By mid-2016, over 200 global retailers had joined one or both programs. Meanwhile, the government pushed through a labour law amendment in July 2013. But as Human Rights Watch noted, this still left many restrictive clauses in place, for example, it left the 30% union threshold largely intact and did not eliminate anti-union bans in export zones (Human Rights Watch, 2013).

Within Bangladesh, Rana Plaza spurred some concrete changes. The Rana Plaza Arrangement was set up to coordinate compensation. Over \$30 million was raised for victims' families and injured workers (Clean Clothes Campaign, 2024). Building inspections were stepped up such as government teams shut down hundreds of factories deemed unsafe in the following years. The minimum wage for RMG workers was substantially raised (from 3000 to 5300 taka in late 2013) after nationwide protests (Bossavie et al., 2023). It was about a 77% increase, though still a low absolute amount. The concept of worker safety committees in every factory was reinforced both by law and by Accord procedures to monitor conditions (RSC, n.d.).

At a societal level, Rana Plaza shifted discourse terms like the sweatshop and the fast fashion became widely associated with the Bangladeshi industry. Consumer and labor organizations intensified campaigns demanding ethical sourcing and living wages. In sum, Rana Plaza's legacy was to force stakeholders such as government, industry and brands to acknowledge the untenable status quo. Nevertheless, many critics point out that deep change remains incomplete. Even years after Rana Plaza, numerous factories still struggle to meet basic safety standards and workers continue to voice fears that corners will be cut if new incidents occur (Bossavie et al., 2023; Kayser, 2016). The UK, through the Department for International Development (DFID), has committed up to £4.8 million over three years to an International Labour Organization initiative aimed at strengthening Bangladesh's National Action Plan on Fire Safety and Structural Integrity. In addition, the UK has introduced an £18 million programme focused on enhancing skills training in the garment and construction industries. Through these targeted efforts, the UK continues to support the RMG sector, recognizing its significant contribution to social progress and the empowerment of women (UK Government, 2014).

3.2 Tazreen Factory Fire

On 24 November 2012, a fire broke out at the Tazreen Fashions factory, located in Dhaka's Ashulia industrial area. The blaze swept quickly through the building. Alarmingly, many exits were locked or blocked, trapping workers on upper floors. Dozens of desperate employees jumped out of barred windows from the 3rd and 4th floors. In total, at least 112 workers died in the blaze and dozens more suffered severe injuries. To be more specific, the particularly broke bones and head wounds from the falls. The scene was horrifying, bodies of young women scattered on the ground and survivors with spinal injuries and burns. Tazreen was a sweatshop, producing for major global brands. Auditors later confirmed

linked orders for Walmart via BRAC-USA, El Corte Inglés, German discounter KiK, C&A and others. It was one of the deadliest fires in Bangladesh's industrial history, preceded only by smaller incidents like the 2010 Spectrum Dyeing fire, which about killed 64 people on board (Clean Clothes Campaign, 2019).

On the policy side, Tazreen underscored the need for fire safety enforcement. Discussions of safety standards had already been occurring through the Accord concept originated even before 2012 (Kayser, 2016). But, Tazreen added urgency. The tragedy revealed how even a single locked door could mean death for hundreds. It prompted many global brands to finally take notice of Bangladesh's safety deficits. Still, because Rana Plaza was larger and later, Tazreen faded somewhat from public memory and systemic reforms remained slow. Even today, Tazreen survivors lament that its lessons were not fully learned as they still await justice. But the factory owner's trial has been repeatedly delayed (Clean Clothes Campaign, 2019).

From 2011 to 2012, Walmart's auditors conducted several inspections at the Tazreen factory, and during at least one visit identified serious safety concerns that resulted in an orange rating. These issues included missing fire alarms, an insufficient number of extinguishers, and cluttered pathways that could obstruct evacuation. The factory also lacked proper emergency exits, and its stairwells emptied onto the ground floor instead of leading outdoors. However, Walmart's audits did not explicitly assess whether functional emergency exits were in place. Instead of addressing these risks—which might have reduced the scale of the later tragedy—Walmart eventually removed Tazreen from its approved supplier list in 2012. Despite this, some Walmart-affiliated suppliers continued to purchase from the factory (WSR, 2017).

The immediate aftermath of Tazreen was chaotic. Families of victims had no recourse for compensation. Local unions and NGOs began documenting the tragedy, campaigns were launched demanding brand accountability. Clean Clothes Campaign and IndustriALL union worked with survivors to identify the buyer companies and pressure them. Eventually, using momentum from Rana Plaza negotiations, a Tazreen Claims Administration Trust was established in 2015 to compensate survivors and victims' families. By mid-2016 this Trust paid out loss-of-income and medical compensation to injured workers and dependents of the dead. Notably, some brands such as C&A, Walmart's suppliers contributed to the fund. But others implicated, including U.S. and European retailers have not fully paid what victims say they owe (Clean Clothes Campaign, 2019).

In the aftermath of the Tazreen fire, Walmart asserted that the factory was no

longer authorized to manufacture its products, claiming that a supplier had improperly subcontracted production there in violation of company policy. However, documents recovered from the site revealed that at least three Walmart-affiliated suppliers continued to source from Tazreen even after it had reportedly been removed from the approved supplier list. More than a year and a half before the fire, Walmart had already recognized that many of its factories in Bangladesh required major structural and safety upgrades, yet no significant action followed. An internal email from a Walmart executive in December 2012 further acknowledged that fire and electrical safety were not included in the company's ethical sourcing audits. During a meeting in Dhaka in April 2011, Walmart also declined to help fund safety improvements, arguing that such investments were not financially sustainable for the brands (WSR, 2017).

The Tazreen Factory fire and Rana Plaza disasters after taken together, symbolize the worst of the garment industry's failures. They led directly to new safety initiatives such as Accord, Alliance, and later the RMG Sustainability Council. These were taken as the stronger victim compensation mechanisms. However, they also exposed long-standing negligence. Before Rana Plaza, the burning of Tazreen should have been a clear warning, yet it took a building collapse with ten times the casualties for real action to happen. These cases highlight why the plight of RMG workers cannot be ignored. It also teaches us that when safety is ignored, the costs are paid in human lives (Clean Clothes Campaign, 2019).

4. FINDINGS

The desk-based review of secondary sources demonstrates that even though the RMG sector is the most crucial export industry in Bangladesh, its underlying economic development continues to be predicated upon structural inequalities. Overviews of reports, academic research, and NGO findings reveal seven integral and interlinked narratives: discrepancies in wages, a lack of proper enforcement mechanisms, obstacles related to unionization, gender disparity, occupational health and safety risks, prevalence of child labor, and vulnerabilities related to post-LDC graduation.

4.1 Wage Disparity and Economic Insecurity

Evidence indicates a persistent and widening gap between the legal minimum wage and the living wage for RMG workers. Despite an increase to BDT 12,500 in 2023, the minimum wage remains well below the estimated living wage of BDT 23,000 (Human Rights Watch, 2023; The Daily Star, 2023b; The Business

Standard, 2025). The wage-setting process has been criticized for prioritizing political and competitiveness concerns over workers' welfare (Saleh, 2024), while recurrent protests in 2018–2019 and 2023 underscore deep worker dissatisfaction (Clean Clothes Campaign, 2025). Consequently, the review finds that economic growth in the RMG sector has not been accompanied by social justice or equitable wage distribution.

3.2 Deficiencies in Labor Inspection and Regulatory Enforcement

Although the Bangladesh Labor Act 2006, amended in 2023, provides a legal framework for occupational safety and workers' rights, enforcement remains weak due to limited institutional capacity and political interference (Human Rights Watch, 2013; Shurokha, n.d.). Disasters such as the Tazreen Factory Fire (2012) and the Rana Plaza collapse (2013) revealed deep governance failures marked by corruption and inadequate oversight (Clean Clothes Campaign, 2019, 2024b; Wadud et al., 2016). While post-disaster initiatives improved safety temporarily, inspection effectiveness has declined following their dissolution (Kayser, 2016; RSC, n.d.). Consequently, many factories still fail to meet basic safety standards, reflecting an inspection regime that remains reactive rather than preventive.

4.3 Barriers to Unionization and Collective Bargaining

The findings reveal major legal and structural barriers to union formation. One of them is the requirement that the current law demands from 20 to 30 percent of workers' approval to register a union, a high threshold in large factories where workers are intimidated or dismissed (The Daily Star, 2023a; Solidarity Center, 2024). Workers who attempt to form a union are harassed or murdered, such as trade unionist Shahidul Islam in 2023 (Clean Clothes Campaign, 2024a). The majority of the independent unions have been largely unable to access Export Processing Zones limiting the workers' access to decent wages and collective bargaining. Lack of real freedom of association perpetuates an unequal power structure in which owners and international purchasers determine wages and policies (Amnesty International, 2023).

4.4 Gender Disparities and Workplace Harassment

While the RMG sector has been characterized by an overwhelmingly feminine workforce, with women accounting for 60–80 percent of workers, gender inequalities remained pervasive on multiple levels (Akhter et al., 2017; Economics Observatory, 2025). On the one hand, women remain segregated on low-skill and low-paid sewing and helpers' jobs, while men occupy supervisory positions that offer higher pay and more robust job-level security. On the other hand, the

review highlights to a high prevalence of harassment and discrimination against women and frequent denial of maternity benefits (Rahman & Al-Hasan, 2019). For instance, employees are pressed to resign when they become pregnant, and few factories have childcare facilities or a clean and safe space for rest. Second, female employees must also work unpaid in the home, which, in combination with the above factors, exacerbates fatigue and health-related issues. Thus, the findings suggest that women, despite their numerical edge, are the most disadvantaged segment of the RMG workforce, constrained by both structural and cultural barriers

4.5 Occupational Health, Safety, and Well-being

Although some reforms have been implemented, occupational hazards continue to be rampant. For example, between 2005 and 2013, over 1,500 RMG workers were killed due to factory fires, collapses, and explosions (Ekramuzzaman, 2024). The Rana Plaza incident underscored the costs of neglect, and recent surveys suggest that many factories still do not have proper ventilation systems, safety training, or functional fire equipment (Zaman et al., 2024; Yuan et al., 2022). Common health complaints include back pain, headaches, respiratory problems, and psychological distress (Dreher et al., 2022). Moreover, daily working hours often exceed the legal limit of eight hours per day, increasing exhaustion and the probability of accidents and injuries (Sultana, 2023). Compensation is not consistent, with many employers lacking the formal letters of appointment that would offer them legal protection (Shurokkha, n.d.). These results indicate that occupational health and safety reforms remain superficial and unevenly enforced.

4.6 Persistence of Child Labor in Informal and Subcontracted Units

Children are employed in the garment industry even though child labor is outlawed. Research indicates that as many as eight-year-olds work sub-contracted and home-based informal garment production lines in dangerous conditions with no safeguards (Norpoth et al., 2014; Hoque, 2024). This is due to poverty, lax regulation, and societal tolerance. Child workers are paid much less than the legally set minimum wage, their earnings are delayed, and they have fewer educational opportunities. As a result, poverty is passed down from generation to generation. The continued existence of child labor highlights the lack of oversight, as well as the inability of global brands to govern extended supply chains beyond first-tier firms.

4.7 Emerging Challenges and Post-LDC Graduation Vulnerabilities

Bangladesh's graduation from Least Developed Country status in 2026 will

create new structural risks. For instance, the elimination of preferential trade privileges, primarily under the Generalized System of Preferences, will make exports more expensive and workers' production cost in local currency relatively more expensive to afford daily needs (Textile Focus, 2024). Due to this loss, owners may decide to keep wage suppression and jobs cut, and rising costs of implementing international labor and environmental standards, which small-scale factories will find difficult to bear. The overall scenario suggests that, without appropriate government measures, post-LDC changes will exacerbate the precarity of garment workers' jobs and lives.

5. DISCUSSION

The findings of this review highlight that the hardships faced by Bangladesh's garment workers are not isolated problems but interconnected structural issues rooted in the very foundations of the RMG industry. Despite policy reforms, market growth, and heightened global scrutiny, the daily realities faced by workers show that meaningful change has been uneven and, in many cases, superficial. The evidence suggests that the sector's economic dynamism continues to be driven by suppressing labor costs, limiting worker voice, and prioritizing production targets over worker well-being (Human Rights Watch, 2023; Saleh, 2024; The Guardian, 2023).

The wage issue demonstrates this structural imbalance clearly. Even after the latest increase, the minimum wage remains far below living wage estimates, leaving workers in chronic financial insecurity. This gap signifies more than economic hardship—it reflects the limited bargaining power of labor in a system where employers and state actors share incentives to maintain low production costs. The recurrent wage protests, often met with intimidation or violence, point to a systemic suppression of workers' attempts to influence wage-setting processes (Clean Clothes Campaign, 2025; Amnesty International, 2023). Similarly, the continued prevalence of unsafe working conditions highlights enduring weaknesses in regulatory oversight. Although major disasters triggered important reforms, inspection systems remain under-resourced and susceptible to political pressure. Safety violations—poor ventilation, blocked exits, overcrowding—persist because regulatory bodies lack coercive power, and brands often externalize responsibility within fragmented supply chains (Clean Clothes Campaign, 2019; Zaman et al., 2024). This reflects a broader governance challenge: worker safety improves only when global pressure is strong, not through consistent national accountability.

Unionization barriers further reinforce the asymmetric power dynamics. Strict registration requirements, surveillance, and harassment of organizers effectively prevent workers from forming collective platforms. As a result, grievances remain individualized, and wage or safety negotiations occur with minimal worker participation (Solidarity Center, 2024). The killing of a labor organizer in 2023 underscores the risks associated with challenging existing structures.

Gendered hierarchies intensify these inequalities. Women dominate lower-paying roles and face greater risks of exploitation due to limited mobility, childcare burdens, and weak enforcement of protections such as maternity benefits (Akhter et al., 2017). Their marginalization is not incidental—it is embedded in the organization of factory labor. The persistence of child labor in subcontracted units indicates systemic blind spots in supply chain regulation. Informal production environments fall outside regular monitoring, revealing the limitations of compliance-driven approaches (Norpoth et al., 2014). Bangladesh's upcoming LDC graduation may amplify these structural vulnerabilities. The loss of trade preferences could trigger cost-cutting strategies that disproportionately affect workers unless the industry upgrades production and strengthens regulatory enforcement (Textile Focus, 2024).

Overall, the discussion suggests that Bangladesh's RMG sector remains locked in a low-cost, low-rights equilibrium. Sustainable transformation requires shifting from compliance-based, externally driven reforms toward systemic strengthening of labor governance, worker voice, and social protections

6. WAYS FORWARD

To effectively tackle the difficulties faced by garment workers in Bangladesh, it is essential to implement comprehensive reforms that encompass national policy adjustments, improvements in employer practices, enhancements in global governance, and increased accountability from brands. The subsequent measures have been derived from the recommendations of experts and established global best practices.

6.1 Strengthening Labor Law and Enforcement

Bangladesh must align its labor laws with international standards, ensuring full protection of freedom of association and collective bargaining. Enforcement agencies—particularly labor and factory inspectors—require expanded capacity and authority. The legal workweek should strictly follow an eight-hour day and 48-hour week, eliminating voluntary overtime provisions and ensuring proper

overtime pay. Regular unannounced audits, backed by strong penalties, are essential given current inspection gaps. Bangladesh should ratify and implement core ILO conventions, including C.155 and C.81, and remove bureaucratic barriers to union registration as recommended by the ILO. Further reforms to the Bangladesh Labor Act (2006, amended 2023) should close loopholes, strengthen union rights in EPZs, and prevent misuse of strike restrictions (Human Rights Watch, 2013; ILO, 2013).

6.2 Ensuring Living Wages

Wage-setting must become more frequent, transparent, and participatory. The current minimum wage (BDT 12,500) covers only a fraction of living costs, showing the inadequacy of the five-year revision system. Annual or biannual updates tied to inflation and living-wage benchmarks are urgently needed. Buyers should incorporate fair wages into pricing, consistent with frameworks like the UNGPs and OECD guidelines (Swedwatch, 2024). Global brands must adopt binding living-wage commitments. The Labor Reform Commission (2025) recommends a permanent national wage commission, mandatory inflation-linked raises, and penalties for delayed payments.

6.3 Improving Workplace Safety and Compensation

Ensuring safe factories requires strict enforcement of fire, electrical, and structural safety standards. Inspections must be frequent, public, and tied to meaningful sanctions. Unsafe buildings should be upgraded or closed. The RMG Sustainability Council should be institutionally strengthened with trained worker representatives to monitor daily hazards. Compensation for injuries and fatalities must be aligned with ILO Convention 121 and raised significantly from current inadequate levels. DIFE should conduct routine and surprise inspections using updated life-safety checklists, while also providing safety training. Confidential complaint mechanisms and strong legal consequences for violations are essential. The Labor Reform Commission (2025) also calls for compulsory insurance, an emergency wage fund, and a national digital worker database.

6.4 Promoting Freedom of Association

Stronger protections are needed for union organizers, including penalties for employer retaliation. Government, BGMEA, and independent unions should engage in structured social dialogue. Buyers can strengthen compliance by requiring proof of good-faith union relations. Legal reforms should decriminalize peaceful strikes and streamline union registration. The LRC (2025) proposes relaxed membership thresholds, faster registration decisions, and protections against arbitrary termination.

6.5 Advocating Gender-Sensitive Policies

Factories should ensure maternity leave, childcare facilities, anti-harassment committees, and equal promotion opportunities. Reforms should mandate 180 days of paid maternity leave, functional creches, menstrual leave, paternity leave, and monitored harassment-prevention systems (LRC, 2025).

6.6 Eliminating Child Labor

Bangladesh must strengthen enforcement of its National Plan of Action on child labor, focusing on subcontracted factories. Buyers should implement remediation protocols, and suppliers must ensure age verification and collaborate with NGOs to transition child workers into education (Hoque, 2024).

6.7 Improving International Cooperation and Corporate Accountability

International initiatives like the Accord show that cross-border pressure can improve factory standards. Future efforts should emphasize strong due-diligence requirements, including alignment with the EU's Corporate Sustainability Due Diligence Directive (CSDDD). Brands must adopt binding commitments rather than relying on audits alone. Multilateral agencies such as the ILO, World Bank, and UN Women should continue supporting programs like Better Work Bangladesh to enhance safety and skills across the sector.

6.8 Mitigating LDC Graduation Impacts

With the loss of trade preferences, the industry must move toward self-reliance, innovation, and diversification. Greater foreign investment, joint ventures, and technological upgrading will be essential to maintain competitiveness (Textile Focus, 2024).

7. CONCLUSION

Bangladesh's RMG industry represents a paradox. It has lifted millions out of poverty and propelled the nation's economy. Yet it has done so on the back of millions of overworked, underpaid and vulnerable workers. The story of the RMG sector in Bangladesh is marked by both resilience and pain. From the ashes of colonial-era exploitation, the industry emerged as a lifeline for millions. Yet, this progress has been shadowed by enormous sufferings, collapsed buildings, factory fires and lives lost due to systemic negligence. While reforms like the Accord have gone through incremental improvements, the recent wage protests and inflation crisis reveals how fragile these gains are. Workers earning BDT 12,500 still tackle with hunger, while executives and global brands reap billions. This

disparity is not just an economic failure, it is an intense moral crisis.

In recent years, labor unrest and global scrutiny have prompted some improvements such as higher wages, more inspections and a few legal reforms. Yet the fundamental problems remain - workers still struggle to earn a living wage, face health and safety hazards. A garment industry that ignores its workforce's plight is ethically untenable. Dissatisfied workers and eroding international reputation could eventually endanger the industry's durability. The sacrifices of past victims would then lead to a safer, fairer industry that continues to deliver prosperity without repeating its tragic history. The women who power sewing machines today may become tomorrow's managers or union leaders or policymakers, if given the tools to rise. The world watches, clad in clothes stitched by Bangladeshi hands. It is time for this world to provide justice for the hands that dress it. The garments we wear should carry not just labels but legacies of fairness for the people of our industries.

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The Role of Grievance Redress Officer for Implementing Grievance Redress System in Bangladesh

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ABSTRACT

For ensuring better service delivery, accountability and transparency, the government of Bangladesh has formulated and published Grievance Redress Guideline in 2015 which was revised in 2018. The main goals and objectives of introducing GRS are to enhance the quality of services, reducing visit, cost and suffering; and developing proactive and people centric mentality among the government officials including to prevent the recurrent happening of complaints through maintaining a scientific database of GRS (institutional repository). Under this system, the government appointed Grievance Redress Officer, Appellate Authority and established high level Cell to monitor and implement GRS all over the country. However, there is no study on whether the role of Grievance Redress Officer sufficient and proper to reduce the dissatisfaction and anger of citizens and readdress the grievances faced by service seekers for enhancing government services is yet to explore. Hence, the main objectives of the study were to explore Grievance Redress Officer's role in implementing GRS in Bangladesh; and find out effect of Grievance Redress Officer's role in implementing of GRS through applied qualitative approach and for collecting primary data Semi-structured Interview (In-depth) and Focus group discussion, Key Informant Interview and Analyzed some selected cases critically. Findings of the study reveals that the GRS valued and empower the citizens and held accountable of the government officials which is mandatory for the establishing good governance and transparency. However, due to lack of awareness of citizens and concern officials and not following guideline properly during appointment of Grievance Redress Officer and Appellate Authority, lack of training, motivation for the officials and harassing tendency of some ill-motive people, the country cannot in cash the full benefit of the system. Therefore, competent authority should take necessary steps to address the above-mentioned issues for getting the full benefit of the GRS and developing a people centric administration.

Keywords: Grievance Redress System, Grievance Redress Officer, Appellate Authority, Grievance Management Cell and Institutional Repository.

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1. INTRODUCTION

As per constitution, it is mandatory for every government employee to serve the people of Bangladesh all times (MoLJPA, 2021). For ensuring better service delivery accountability and transparency, the government of Bangladesh has developed five social accountability (SA) tools such ‘Annual Performance Agreement (APA), Citizen Charter (CC), National Integrity Strategy (NIS), Grievance Redress System (GRS), and Right to Information Act (RTI). Among those five SA tools GRS is being used all over the world for measuring and analyzing the effectiveness of any ministry/division/department/agency (Cabinet Division, 2021a). In GRS any aggrieved citizen/service seeker can lodge formal, anonymous complaints through online or traditionally about public service providers. This system is being monitored by Cabinet Division (CD), Bangladesh which offers end to end tracking of grievance (CD, 2021; and P4D, 2021). The main objectives of GRS are to ensuring accountability of government’s offices, improving services and providing suffering free public services. Thus, modern GRS system is a must in a civilized society. Secretariat Instruction (2014) of Bangladesh has provided instruction for taking the grievance of citizen properly and redress those with maintaining transparency and neutrality and accordingly keeping the record of those.

Therefore, in public administration, GRS becomes the inevitable part for establishing and enhancing administrative justice that indicates qualities of decision making process which endures the decisions of the administrator (Mashaw, 1983; seen in Alom, 2021). Since citizens, normally, are not agreed and happy with the every decision of authority, the aggrieved citizen express their dissatisfaction through loading complains under GRS system. However, this system was not developed in one day. After the first circular in 2007 for establishing Grievance Redress Officer (GRO), the CD issued second circular on 30 April 2008 about the GRS which highlighted solving corruption and irregularities complains raised by the citizens through setting up an effective internal controlling mechanism such as process of complaining and their disposal, detailed contact information of the focal points and proper maintaining of database of complaints including sending up to date status report of those to the CD monthly in every office. The third circular was issued on 19 July 2009 which emphasized that it is mandatory to send update information regularly and strict action will be taken against those who are responsible for not sending report regularly as per prescribed format. The fourth circular came out on 23 September 2012 which asked ministries and divisions to introduce awards for the officials who will handle the complaints effectively and disposal those efficiently (Cabinet Division, 2021b). In addition, it emphasizes on publicizing the current system of complaints and disposal in the print and electronic media to enhance awareness among the service seekers about the GRS

including published year-wise complete report in the website by the ministries and divisions.

For proper implementation of GRS, the Government of Bangladesh (GOB) formulated and published Grievance Redress Guideline in 2015 which was revised in 2018 (GRS Guideline 2015, revised 2018). The guideline defined the complaint as electronically or traditionally submitted applications by service seeker about his dissatisfaction and anger related to committed services, goods, and service delivery process of a public office, about unlawful actions regarding services, about non-compliance of public officials with entertaining lawful rights of service seekers. Even, grievance was classified, in the document, into public, staff, and official categories. Moreover, the guideline provided the comprehensive information about the procedure of complaints lodging and their disposal, role of GROs and other officials and committees involved in GRS including different forms.

The main goals and objectives of introducing GRS are to enhance the quality of services, reducing visit, cost and suffering; and developing proactive, positive and people centric mentality among the government officials including to prevent the recurrent happening of complaints by the service seekers through maintaining a scientific database of GRS (institutional repository), appropriate mechanism of addressing, carrying out research for addressing new issues and policy guideline so that concern officials can take preventive measures (GRS Guideline 2015, revised 2018).

However, implementation of GRS depends on the GRO who is playing very important role, but there is no study on whether the role of GRO sufficient and proper to reduce the dissatisfaction and anger of citizens and readdress the grievances faced by service seekers for enhancing government services is yet to explore. This paper intended to address this gap through evaluating the role of GRO in the aspect of implementation of GRS which will be very crucial for the policy maker for ensuring transparency and good governance in the country.

Objectives of the Study

The specific objectives of the study were:

1. To explore GRO's role in implementing GRS in Bangladesh; and
2. To find out effect of GRO's role in implementing of GRS

2. METHODOLOGY

The research adopted a qualitative multiple-case study approach integrating Key Informant Interviews (KIIs), Focus Group Discussions (FGDs), and document analysis. Both primary and secondary data was used. Primary data was collected

by using Semi-structured Interview (In-depth) and Focus group discussion (FGD) since it was very effective in qualitative research in which attitudes, opinions or perceptions towards an issue, product, service or programme are explored through a free and open discussion (Kumar, 2011). Besides selected case was critically analyzed and scrutinized since case study is a systematic investigation of a study, a setting or a single subject or a single depository of document or a specific event (Berg, 2009) along with Key Informant Interview (KII) for collecting data from the CEO/top management of the concern offices. The purposive sampling technique was employed to select 30 respondents from 15 ministries/divisions/departments/districts. The inclusion criteria included direct engagement in GRS activities, experience as GRO or AO, and administrative hierarchy. Data collection was guided by a semi-structured interview protocol emphasizing GRO roles, challenges, awareness, and systemic gaps.

Data were analyzed thematically through coding, categorization, and pattern identification using NVivo-style logic. Triangulation of sources (KIIs, FGDs, and document analysis) ensured data validity and reliability. Analytical themes emerged under three domains: institutional capacity, role performance of GROs, and citizens' awareness of GRS. This approach enabled evidence-based conclusions reflecting grounded realities within the Bangladeshi public sector.

3. CONCEPTUAL FRAMEWORK

3.1 Theoretical Foundation of GRO and GRS

The conceptual foundation of this study rests on three interrelated theories: Accountability Theory, Good Governance Framework, and Public Service Motivation (PSM). According to Accountability Theory, public officials must be answerable for their actions and decisions to ensure transparency and public trust. The GRS serves as a mechanism of vertical accountability where citizens can voice grievances and demand redress. The Good Governance Framework, as endorsed by UNDP and World Bank, emphasizes citizen participation, responsiveness, and integrity—core values reflected in the role of the Grievance Redress Officer (GRO). PSM theory suggests that civil servants' intrinsic motivation to serve the public interest enhances the effectiveness of grievance redress systems (Brinkerhoff, 2017, Pande & Hossain, 2023 and Sano, 2002) . Therefore, the GRO's commitment, empathy, and ethical orientation play a decisive role in achieving responsive and citizen-centric governance.

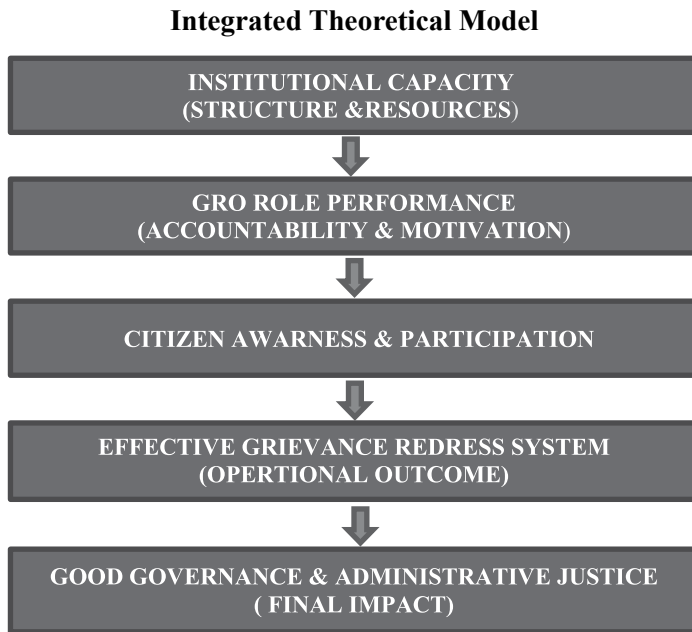


Figure 1: Integrated Theoretical Model

This integrated model shows (Figure-1) that institutional design alone is not enough; the motivation, ethics, and capacity of GROs mediate between system design and actual service delivery. Thus, effective GRS implementation requires both structural adequacy and behavioral commitment.

There are some philosophies to introduce the concept of GRO in the public administration under the Grievance Redress Mechanism and one of the such philosophies is that GRO can meet the expectation of the others (Sugden, 1995) particularly the aggrieved citizens through internalizing their problems and will take necessary measures to address those. Hence, GRO is playing significant role in ensuring effective coordination between the service provider and service receiver in the realm public administration (Janssen, 2001). Therefore, Schelling (1960) define the GRO as the visible catalyst factor to all and whose responsibilities and decisions are expected to recognized by all the concerned in case of negotiation and other context because of their importance. Since the inception of systematic investigation of coordination, the GRO concept has been widely used, however, in the perspective of game theory. In the game theory perspective, the relevant stakeholders coordinate among or between them with put communicating their idea, plan among or between them (Schuessler et.al., 2019). Yet, in Grievance Redress Mechanism (GRM), GRO always communicates all the stakeholders to confirm quality and suffering free services to the citizens by addressing their dissatisfaction and grievances. As a result, government has introduced the

provision of GRO in different the government's departments/agencies to address the dissatisfaction of the citizens related to government's services. Hence, for a better and quality services, GRS is one of the recognized systems around the Globe. It is one of the important pioneers for showcasing the organizational proficiency and efficiency. Since it is governmental procedure to manage the dissatisfaction among the recipients therefore; every government establishes the system for providing satisfactory services without less hassle and suffering to the service seekers.

On the other hand, corruption is a much talking and burning issue worldwide irrespective of Developed and Developing since it is one of the major hindrances for ensuring satisfactory and harassment free service to the service seekers. Therefore, development partners and donor agencies such as European Union (EU), World Bank (WB) and the Japan International Cooperation Agency (JICA) have emphasized to reduce and curb corruption in Bangladesh including imposing strong condition to take strong measure against corruption (Mottaleb and Sonobe, 2012).

Consequently, the government of Bangladesh has taken several measures and reform initiatives for providing corruption free and satisfactory services to the citizens and one of the initiatives, as per the recommendation of Public Administration Reform Commission 2000, is establishing a grievance receipt center from the citizens in the entry point of secretariat centrally by the Cabinet Division (CD, 2021a) since effective and efficient GRS is the integrated part of any government for ensuring accountable and transparent administration. Thus, implementing of GRS is significant indicator for ensuring the justice in the society through safeguarding administrative justice (Alam, 2021) which indicates the process of taking proper decision as per rules and regulations (Mashaw 1983). The GRS plays the catalyst role for achieving good governance, democracy, people participation and corruption free country etc. as per the vision 2021 and target 2030 particularly the Goal 16 (Akhter, 2022). Thus, GRS was established in ministry and division to nominate GROs in their subordinate offices asking them to adopt measures to receive complaints from service seekers and resolve them in the way their ministries and divisions do (CD, 2021b).

Under the system any aggrieved citizen can appeal to the relevant authority if she/he cannot get her/his desire services within stipulated time in satisfactory way. Thus, the GRS of an organization - be it public or private - is an ideal tool to measure the efficiency and effectiveness of that organization, as it provides important feedback on the working of its administration.

3.2 GRO and Appellate Authority and Their Responsibility

As per the Circular and government order, it is obligatory to appoint GRO under GRS whose main responsibilities are to awareness activities and organize training for citizen and officials about procedures of complaints and disposal in online and traditionally. It is evidence that, under the GRS system, citizens get the opportunity to resolve their complaint, grievance and disputes whenever it arises in the government offices since it empowers the citizens (CD, 2021a). The GRO will be a senior officer selected by CEO (Chief Executive Officer) in case of division/ district level offices and department/agency/ autonomous other institutions. In case of upazila and Union level offices the designation of the GRO will be district level officer of those offices. However, in case of ministry/ division, the designation of the GRO will be at least at the rank of Joint Secretary.

Citizens can apply to the GRO if they cannot get their desire services according to the citizen charter. Even they can apply to the AO and ministry if necessary. The country is maintaining a distinct website on GRS so that people can apply from anywhere for getting her/hir desire services (CD, 2021b). Consequently, GRS becomes the important tool to ensure transparency, responsiveness, accountability and people participation in the governance system of the country (Akhter, 2022). One of the important roles of GRO under GRS system, is to take awareness programs for the mass people so that they can apply following the prescribed procedures if necessary. The GRO has to also monitor and resolve the issue where and when required including keeping record appropriately for stopping the recurrent dissatisfaction by the service seekers. For monitoring all the activities of GRO and AO, the CD is maintaining effective control system by asking monthly report related to GRS from every government office. Hence, the government gets the update information related to GRS in a real time base through monthly bases report and online submission.

3.3 Complaint System Under GRS

Under this system, a citizen can apply both online and offline. For instance, GRS website, e-nothi, e-mail, help line are the examples of online application while example of traditional method is the offline through prescribed form or normal paper. If a citizen applies through online then within 60days the GRO has to resolve the issue or complaint. In this case, the complainant will get a tracking number through SMS/e-mail for tracking and getting updates about the issue. Even, s/he can appeal to the appellate authority if s/he dissatisfied with the decision of GRO and AO has to response or resolve the issue within 20 days. In case of traditional method, the citizen needs to follow the procedure by using prescribed format or even the normal paper and in every government office, there is box to submit the

application or service seekers can submit application directly to concerned officer. Though it is mandatory for all government offices to maintain GRS system private organizations like NGOs are also maintaining the GRS. Yet the number is not significant since only 15 registered NGOs out 2388 maintain GRS. The capacity of internalization of clients' needs and analytical power of GRO are the most important attributes for successful implementation of GRS and positive outcome in the society. The GRO and AO should have the power of interaction with the service seekers and have firsthand knowledge in detail about the common problems related rules and regulation. The major hindrances, identified by some researcher for instance Hossain and Islam (2020) for implementing GRS are the lack of positive mentality of the GRO and AO and lack of awareness of the service seekers and citizens about the GRS system and its procedures. It is found that most of the people do not know about the existence of GRS in the governmental system and procedure required to complaint under this system. Therefore, it can be said that the success of the GRS for achieving its objectives and goals depend on the GRO and appellate authority and the mass awareness about the system among the general mass.

3.4 Grievance Redress Mechanism around the Globe

Since grievances can result from dissatisfaction or discontent from the services or products provided by the government organizations to the citizens, thus it is reasonable to have an effective space or platform for seeking remedies or making statement on any grievance whether it is practical or impractical, it creates an opportunity for mitigation of citizen's dissatisfaction and discontent (UNDP, 2016). Therefore, the European Bank for Reconstruction and Development (EBRD) defines grievance as the problems and issues that citizens and employs experience during their service receiving process and employment which covers a board areas for instance illegal recruitment through bribe, gender discrimination, charging extra money for providing services, taking extra and unnecessary time intentionally for providing required services to the service seekers by the government employees, sexual harassment or victimization, wage discrimination between male and female workers because of gender factor, poor quality of services etc.

A grievance mechanism means the procedure of how a grievance will be addressed which provide a concrete and clear framework for addressing grievances lodge at the citizen, employee and institutional level. The mechanism also explains clearly about the procedures of complaints, role of management for addressing and responding the grievance and follow-up mechanism. Hence, grievance procedures are determined and fixed according to the need of the particular organizations which again depends on country, region and culture and vary office to office. Thus, there is no prescribed and universal format for grievance mechanism. Grievance arises when a person feels aggrieved or dissatisfied from any decision which

affect him/her adversely or assumes that it will be affected them unpleasantly. It may be related with their physical, employment status or even social losses. For addressing that dissatisfaction, the Grievance Redress Mechanism (GRM) has been emerged. Hence, the GRM is defined as the organizational mechanism and procedure of different government's departments to address dissatisfaction emerged from their policies, programs and decisions (UN-REDD Programme, 2015). The GRM does not limit and replace the formal and legal procedures of an aggrieved citizen, however, it provides the opportunity and platform to resolve the grievance internally through using alternative dispute mechanism which ultimately reduce the cost and suffering for the service seekers and increase reputation for the (Malani, 2017).

Therefore, the GRM indicates the instruments, methods and procedure through which solutions are proposed for removing or reducing the dissatisfaction of the aggrieved citizens (ADB, 2010). There is different mechanism for revolving the discontent of the upset person or groups though the procedures could be complex and diverse. However, the mechanisms provide avenue, forum or platform and opportunity for solving conflicts and dissatisfactions exist between aggrieved citizens/stakeholders and service providers. Though there may be some positive impacts on those decision and activities. The prime goal of the GRM is to provide a platform of the aggrieved parties for addressing those grievances and finding out a sustainable solution (Dioso et.al., 2020). Thus, the GRM is one of the important Social Accountability (SA) Tools for ensuring the accountability and transparency since the organization can address the adversely affected clients' and service seekers' concern through this system (Park, 2015). Through this mechanism, the service seekers are empowered which ultimately ensure the good governance.

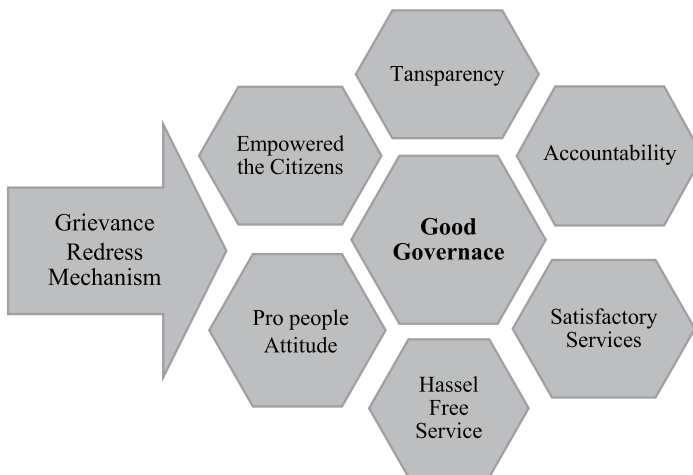


Figure 2: How GRM ensure the good governance

For addressing and resolving the grievance, under the EBRD system, an employee brings their employment-related grievance through their trade union and/ or with trade union assistance and there is no requirement for a client of the EBRD to supplement this with an additional internal procedure (EBRD, 2017). The EBRD highlighted on the employee suggestion boxes, open-door polices and an anonymous complaint process for the effective grievance mechanism.

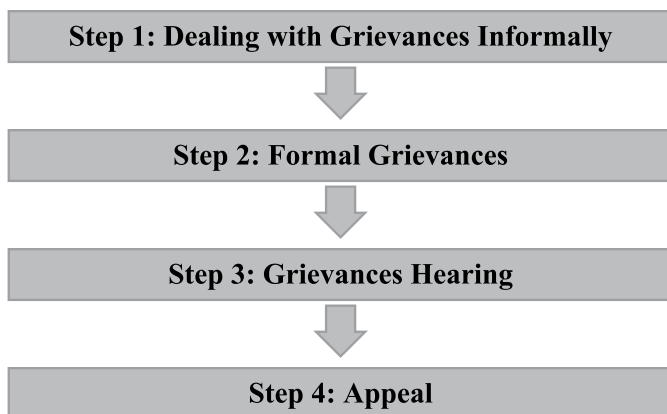


Figure 3: Detail Outline of grievance Policy and Procedure

Source: *Modified and adjusted EBRD, 2017*

In the first step (Figure-3) that is dealing grievance informally the Concerned authority and complainant are encouraged to use informal methods of resolving disagreements or disputes while in the second step the complainant can lodge a written complaint to the concerned authority If the matter is serious. In case of grievances hearing stage, third step, Designated authority (in Bangladesh GRO) will discuss the dissatisfaction issues with the complainant formally and try to resolve within stipulated time frame as per desire of the aggrieved person. However, in the last step the aggrieved person can appeal to the higher authority (Appellate authority and Cell in Bangladesh).

In India, Centralised Public Grievance Redress and Monitoring System (CPGRAMS), for addressing and monitoring the grievances of the citizens related to any government department or agency. It is an online central platform open for 24 hours and 7 days a week where a citizen can lodge his/her complains from anywhere any time related to service delivery of any department or agency. In the preamble of the CPGRAMS it is mentioned that no government can claim accountable, transparent, responsive, pro people, proactive and user-friendly unless it has established an efficient and effective GRM since it is the part and

parcel of effective administration.

For handling the grievance received from the citizens and service seekers, there are two designated agencies such as Department of Administrative Reforms and Public Grievances under Ministry of Personnel, Public Grievances and Pensions, and Directorate of Public Grievances under Cabinet Secretariat (Mohapatra, 2016)

On the other hand, Directorate of Public Grievances was established under Cabinet Secretariat in 1988. At present, this department is managing the grievances of 16 central agencies. It is empowered to call any file or paper for this purpose from the concern department. Based on their scrutiny, they can make recommendations which are mandatory to follow the concern department/agency within stipulated time. For dealing the 21st centuries new and complex problems, it always updates its knowledge and informs the concern department for meeting the needs of the new generation as the citizens are main focus of any government of the present world (GoI, 2022).

Analyzing the Indian government mechanism on Grievance Redress System, it is evident that Bangladesh follows the more or less same strategy in case addressing GRS. In the country the highest authority to resolve the GRS, if the concern governmental department fails, is the GRS Cell which is directly controlled by the Cabinet Division of Bangladesh. In the GRS of Bangladesh, the GRO is playing the crucial role to mitigate the grievances of citizens and ensure hassle free services. However, there is lack of quality research on the role of GRO for implementing GRS in Bangladesh. Therefore, this initiative had been taken to fill in the gap in the academia.

Based on the critically review the different scholarly articles and analysing the existing system for managing GRS by various governmental and private organization, Rohwerder and Rao (2015) have been identified important strategies for effectively handling and implementing the GRMs which can be seen in the following figure (4).

Important Factors for Effective GRMS		
Communication Campaigns (Using different print and electronic media for the purpose of awareness building especially for the Service Seekers)	SOP or Manuals (It explains in details about the procedure from very beginning to end so that concern officials and citizens can have full view of GRS. It should revisit and update regularly including disseminate to the all stakeholders)	Mobile Telephone (Devices which are available to the citizens such as Mobile Phone is more effective for implementing GRM since it is user-friendly to the citizens)
Management Information System (Computer's Software based program for handling and Monitoring grievances in one platform)	Normalization & Incentivization of Grievance Redressal (Accepting grievances as normal & valuable part of regular work and improving capacity of concern officials through training)	Building on Existing Mechanism (There are some existing formal and informal mechanism in the society for addressing the dissatisfaction of the citizens such as judiciary and administrative system and disposal mechanism in the indigenous and tribal community. It should be considered positively during the formulating of GRMS)

Figure 4: Some Important Factors for Effectively Implementing Grievances of Citizens

Source: Adjusted and Modified from Rohwerder and Rao, 2015.

On the other hand, among the 6 key steps for designing effective GRM, according to the World Bank (2012b), the first step is Survey existing formal and informal in-country GRMs and build on them. The first step emphasizes on finding the existing formal and informal mechanism for resolving any problems or grievances which significantly contribute for designing an effective GRM. Side by side, in the Estimate number of users and assess available resources for the GRM, which is second step, it is highlighted to mapping out the resources (financial and technological) and number of users for the purpose of determining the GRM's scope, and identifying resource gap. It is recommended to introduce GRM in limited scale in this stage, however, gradually it would be scaled up. The third stage is Develop standard operating procedures and flowcharts. In this stage it is elaborately discussed on how the GRM will be worked including procedures and implementation strategy in details. In the fourth step, Develop and publicize project grievance redress policies and guidelines, which provides guideline and helps to demonstration of commitment of the concern authority for implementing GRG for providing

desire services to the citizens. In the fifth stage the concern authorities assign the train officials to look after and handle the grievances of the citizens for ensuring transparency and accountability in the administration. The six and the last step for designing an effective GRM is Publicize the GRM to stimulate external demand. In this stage the concern authority uses the whole media of communication for building awareness among the general mass and official concerned about the complaint lodge procedures etc.

After analyzing the existing GRMs around the government and institutions and reviewing the available literature critically, the United Nations Development Programme (2016) identified *User Manual, User Friendliness, End to End Tracking, Confidentiality, security & anonymity, Publicity to ensure visibility, Accessibility, Progress monitoring, Online notification and time estimation, Data authentication, Grievance classification by nature and severity, Option for appeal and Feedback option etc.* indicators as Ideal for an effective Grievance Redress System.

3.5 GRS Managed and Practiced by Government of Bangladesh

The main purpose of establishing GRS is very important in the activities of various government's organizations since effective GRS is the pre-condition for ensuring accountable, transparent, service-focused and people centric strong institution. Therefore, active and effective GRS is the means of transforming government's institutions to more dynamic and relevant as per the need of the new era. Besides, the effective GRS is momentous for preventing corruption and irregularities within the organization, ensure optimum use of limited resources, provide speedy and time bound quality services to the citizens including organizational integrity and social justice (CD, 2011c). The CD of Bangladesh is monitoring the overall activities of GRS all over the country with due importance and provide necessary feedback for updating the system as per requirement through consultations with the relevant stakeholders. Thus, for ensuring effective operation of Grievance Redress System, the government has implemented several steps already such as appointing focal point and appellate authority and establishing GRS Cell where citizen can appeal if they are not happy with the discussions of GRO and AO; publicized the GRS procedures and process through different communications channels such as booklet, banner, festoon, poster etc.; receipt copy of complain from to the complainants; documentation of all information through modern MIS system related to complain, complaints and decision which is available to all; the system is user-friendly and any one from anywhere can lodge complain through

on line if necessary s/he can do it anonymously; the CD monitor and review the taken measure and provide feedback to the concern department/agencies for taking necessary action so that recurring occurrences can be prohibited; and within time bound the concern officials have to disposal the grievances etc. (Rohwerder & Rao, 2015). Because of the system, from anywhere any one can track and monitor the complaints which was unimaginable earlier.

4. RESULT

The findings reveal that while the institutional framework of GRS is well-structured, its operationalization is often hindered by insufficient capacity and low motivation among designated GROs. Empirical data show that only a fraction of GROs received formal training, and less than 30% of offices maintain an updated complaint database. Moreover, citizens’ lack of awareness remains a critical obstacle—approximately two-thirds of FGD participants had no prior knowledge of how to file a grievance. Interviews with senior officers indicated that workload pressure, absence of incentives, and fear of harassment discourage active engagement with GRS responsibilities.

4.1 Role Performance of Grievance Redress Officers (GROs)

The findings indicate that GROs serve as the principal operational actors in implementing the Grievance Redress System (GRS). Interviews reveal that the majority of grievances handled by GROs are public grievances, while staff grievances are rarely submitted due to perceived fear of administrative repercussions. GROs reported responsibilities including receipt of complaints, verification, coordination with concerned sections, decision.

Table 1: Summary of Key Roles Performed by Grievance Redress Officers (GROs)

Role Dimension	Observed Practice	Implication
Complaint Receipt & Registration	Online and offline complaints received; mostly public grievances	Ensures access but requires verification
Investigation & Decision-Making	Case-by-case scrutiny with rule-based decisions	Promotes administrative justice
Communication with Complainants	SMS/email updates used inconsistently	Affects citizen trust
Preventive Feedback	Limited policy feedback to higher authority	Missed opportunity for reform

The table (1) demonstrates that while GROs perform core procedural roles effectively, their preventive and feedback-oriented functions remain underutilized.

4.2 Institutional Capacity and Constraints

Findings reveal that institutional capacity plays a decisive role in shaping GRO effectiveness. Most GROs reported that grievance handling is treated as an additional duty rather than a core function. Inadequate manpower, lack of structured training, and absence of incentive mechanisms significantly limit their proactive engagement.

Table 2: Institutional Constraints Affecting GRS Implementation

Constraint	Reported Effect
Lack of Training	Weak analytical and mediation skills
No Dedicated Staff	Delayed disposal of complaints
Absence of Incentives	Low motivation among GROs
Limited Monitoring	Inconsistent quality of decisions

4.3 Citizen Awareness and Accessibility of GRS

Both FGDs and KIIs highlighted low public awareness as a major impediment to effective grievance redress. While the online GRS platform enhances accessibility in principle, digital literacy barriers and insufficient publicity limit its utilization, particularly among rural and marginalized populations. Most of the citizens and service seekers do not know where to go and how to file complaints. They also lack sufficient IT skills to access the online functionality of the complaint redress system. These findings also similar to previous research (Hossain and Islam, 2020; Alom, 2021).

4.4 Silenced Voices within the Organizations

Study further noticed that the GROs and AOs yet to receive any kind of application termed as staff grievance which could be submitted by officials of public sector organizations on their dissatisfaction or aggravation on receiving deserved services or legitimate rights as the officials of that organization. Public officials working in a particular organization usually refrain themselves from seeking redress of their genuine grievances, it is perhaps, by reason of hidden fear of the end results.

Despite these challenges, success cases were found where proactive GROs established communication desks and awareness campaigns, leading to higher

complaint resolution rates and citizen satisfaction. The analysis underscores that empowered, trained, and ethically motivated GROs significantly contribute to administrative justice and the realization of good governance principles. These evidence-based insights justify targeted reforms in GRO selection, capacity building, and citizen outreach. It encourages government employees to be service-oriented by eliminating laziness, procrastination, and harassment mentality in service delivery.

5. DISCUSSION

This section critically synthesizes empirical findings with relevant governance theories to assess the effectiveness of the Grievance Redress System (GRS) in Bangladesh. Drawing upon Accountability Theory, Good Governance Framework, and Public Service Motivation (PSM), the analysis integrates insights from the study's findings and established literature.

5.1 Theoretical Anchoring of GRO Performance

The central role of Grievance Redress Officers (GROs) identified in this study aligns strongly with Accountability Theory, which emphasizes answerability and responsiveness of public officials to citizens (Mashaw, 1983). GROs function as instruments of vertical accountability by providing citizens with an institutionalized mechanism to question administrative decisions. This procedural role enhances fairness and legitimacy in public decision-making. However, the study reveals significant variation in GRO performance across offices, suggesting that formal designation alone is insufficient to ensure accountability. This finding corroborates Brinkerhoff's (2017) argument that accountability mechanisms must be complemented by adequate capacity and motivation of implementing actors. From a Public Service Motivation (PSM) perspective, motivated GROs demonstrate greater initiative and problem-solving ability, partially compensating for systemic weaknesses.

5.2 Institutional Capacity and Governance Implications

From a Good Governance perspective, the GRS embodies principles of transparency, participation, and responsiveness (UNDP, 2016). The findings partially validate this framework, as documentation and tracking systems have improved transparency. Nevertheless, weak institutional capacity—manifested through limited training, absence of incentives, and lack of dedicated manpower—undermines responsiveness and constrains the system's transformative potential.

These constraints closely mirror the observations of Rohwerder and Rao (2015), who emphasized the necessity of Standard Operating Procedures (SOPs), incentives, and management information systems. Similarly, the World Bank's Grievance Redress Mechanism (GRM) framework underscores training, systematic monitoring, and feedback loops as prerequisites for sustainability (World Bank, 2012a; 2012b). Without integrating grievance data into organizational learning, the GRS remains reactive rather than preventive.

5.3 Citizen Engagement and Awareness

Citizen awareness emerged as a critical determinant of GRS effectiveness. Consistent with Hossain and Islam (2020), the study finds that limited public knowledge significantly restricts system utilization. The digital divide further exacerbates exclusion, reinforcing the argument that technological solutions must be supplemented by community-level outreach and communication campaigns. Comparative insights from India's Centralized Public Grievance Redress and Monitoring System (CPGRAMS) strengthen this argument. As Mohapatra (2016) notes, strong political commitment and administrative ownership are essential for grievance systems to function as instruments of reform rather than mere complaint-handling mechanisms.

Table 3: Key Determinants of GRS Effectiveness

Determinant	Observed Status	Governance Implication
Training of GROs	Inadequate and irregular	Weak analytical and mediation capacity
Incentive Structure	Largely absent	Low motivation and ownership
Citizen Awareness	Limited, especially rural areas	Restricted access and participation
ICT & Monitoring	Partially functional	Limited feedback for policy learning

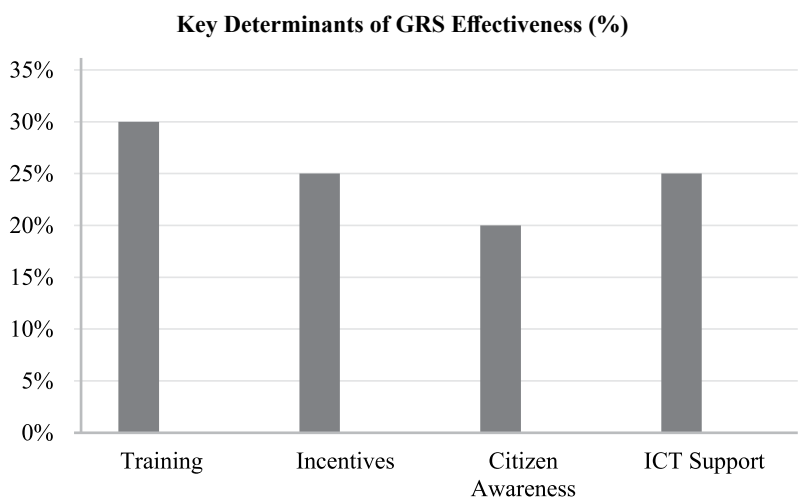


Figure 5:Key Determinants of GRS Effectiveness (%)

5.4 Synthesis and Policy Implications

Overall, the study demonstrates that the effectiveness of the Grievance Redress System in Bangladesh is mediated by the performance of GROs, institutional readiness, and citizen engagement. While motivated officials can partially offset institutional deficiencies, sustainable improvement requires systemic reforms. Strengthening training programs, introducing performance-based incentives, enhancing monitoring mechanisms, and expanding awareness campaigns are imperative for advancing people-centric governance and achieving Sustainable Development Goal 16.

6. CONCLUSIONS AND POLICY RECOMMENDATIONS

In order to make the public service delivery transparent and accountable as well as responsive it must also be inclusive, ensuring that ‘no one is left behind’. The GRS plays a crucial role in strengthening good governance, improving service quality, and making public servants accountable to citizens. The Government of Bangladesh is implementing the Grievance Redress System (GRS), which provides a means for dissatisfied parties to make an appeal to the appropriate authorities in the event that they are dissatisfied with a public service. The study suggested following measures to exploit benefits from the GRS:

Lack of Awareness among the Mass People Officials and Desk Officers about the Procedures and Format of GRS and Complaint lodge system under GRS. Therefore, a rigorous awareness building program for the common citizen needs

to be considered.

In order to ensure transparency and accountability in the public delivery a comprehensive and well designed training program on GRS need to be organized for the civil servants with special attention to the role of GROs and AOs in order to build their competency.

Appointment of GROs and AOs are very crucial to get desired results from the GRS. There should not be any compromise with the criteria stated in the GRS guidelines while appointing a GRO and an AO. Their roles could be well defined in the job description. Special training on GRS could be organized for them by the BPATC and selected training institutes.

Since Aggrieved parties have the right to report to the Grievance Management Cell (GMC), the officials working for GMC must be fully conversant with the grievance redress system and four other social accountability tools initiated by the government. Before giving any verdict on any appeal petition, they must follow the process so that aggrieved can get the justice.

Failing to get undue benefits from the public offices some people send complaints letter with distorted facts and false information intended to harass the official which put a huge threat to their image, integrity, family peace and social life as well. Therefore, it is also important to identify these fraudsters and bring them under the law.

It is also necessary to create an enabling environment for public officials so that they can freely express their genuine grievances against their organization, if any, to GRO without feeling of hidden fear of the consequences.

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Exploring the Overuse of Cesarean Delivery Among Professional Women in Bangladesh: Insights for Maternal Health Policy

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Nishat Anjum³

ABSTRACT

The rate of caesarean section (CS) births in Bangladesh has risen sharply, far exceeding the 5–15% range recommended by the World Health Organization. While clinical indications account for some of this increase, behavioural and psychological factors exert a substantial influence on women's delivery choices. This study investigates those determinants by surveying 800 professional women aged 25–49 in Dhaka using a cross sectional quantitative design and a purposive homogeneous sample. Findings show strong perceptions favouring CS: 78.24% of respondents regarded caesarean birth as relatively painless, while 85.76% described vaginal delivery as highly unpleasant. The principal motivations for elective CS—despite limited clinical justification—were perceived child safety (61.94%), fear of labour pain (33.4%), and aversion to the uncertainty associated with vaginal birth (26.71%). Despite this, 64.21% of respondents acknowledged the potential risks associated with caesarean delivery. The results reveal a behavioural paradox in which knowledge of clinical risk is subordinated to feelings of safety and emotional comfort. The study argues that maternal health policy in Bangladesh should incorporate behavioural insights—such as prenatal counselling, fear management education, and improved clinician patient communication—to shift attitudes toward normal delivery, reduce unnecessary surgery, and promote safer, more equitable birth outcomes aligned with medical need.

Keywords: Caesarean section, behavioural policy, maternal health, professional women

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1. INTRODUCTION

1.1 Background and Rationale

Bangladesh's public health policy has long placed a strong emphasis on maternal health outcomes, which seek to guarantee healthy lives and advance everyone's well-being (DGHS, 2019). Improved access to trained birth attendants, institutional births, and more prenatal care have all contributed to significant advancements (DGHS, 2019). Alongside these developments, however, the increasing use of cesarean sections (CS) has become a complicated policy conundrum (Jahan, 2022). To represent medical necessity, the World Health Organization (WHO) advises that CS rates stay between 5 and 15 percent (WHO, 2015); nonetheless, in recent years, Bangladesh's rate has risen to above 45 percent, making it one of the highest in South Asia (Training, 2022) .

This increasing tendency is a reflection of changing social and behavioral dynamics in urban culture, rather than only a medical explanation (Gibbons, et al., 2010). CS deliveries are becoming more and more popular among educated, self-sufficient women, especially those working in formal fields (Carranza, 1994). This desire is influenced by some factors, including anticipated neonatal safety, concern over uncertain labor, fear of pain during delivery and convenience of time (Colomar, et al., 2021). Furthermore, this practice is reinforced among the urban middle class by societal narratives that link cesarean birth to modernity, safety and prestige (NIPORT, 2014).

Public policymaking encompasses more than just administrative operations by the government; it involves a sequence of activities influenced by several social elements (Talukdar, et al., 2022). From a governance standpoint, excessive use of CS puts a burden on the healthcare system by using scarce resources, raising postoperative problems (Sandall, et al., 2018), and driving up healthcare expenses for institutions and families (Children, 2019). Additionally, the situation shows a lack of behavioural knowledge in policy design; the clinical infrastructure has improved, but counselling techniques, communication tactics, and emotional support systems are still lacking.

Therefore, policymakers aiming to shift delivery methods toward safer, evidence-based standards must comprehend these behavioral and psychological drivers. By investigating the behavioral factors impacting CS choices among working women who have graduated in Dhaka City and by offering practical suggestions for a more behaviorally informed maternal health policy in Bangladesh, this research aims to bridge that gap.

1.2 Problem Statement

When problems during labour occur, a Caesarean section (CS) delivery is a vital medical procedure that may save lives (Ronsmans, et al., 2004). However, health policymakers in Bangladesh are now very concerned about its growing usage outside of therapeutic necessity (Jahan, 2022). In addition to the overmedicalization of delivery, the sharp rise in CS rates, which is much over the WHO's recommended threshold, indicates a developing behavioural reliance influenced by fear, societal perception and false information (Begum, et al., 2018).

The concept of “elective caesarean” has grown more common in metropolitan areas like Dhaka, where access to private healthcare is comparatively simpler and the populace is better educated and economically powerful (Ali, 2021). Nowadays, psychological comfort and perceived safety have a greater effect on women's anticipatory CS choices than medical grounds (Hopkins, 2000). According to studies, this decision-making process is heavily influenced by the social prestige attached to caesarean birth, belief in contemporary surgical techniques, dread of uncertainty during labour, and pain avoidance (Colomar, et al., 2021). Feminine culture aspires to establish a welfare society (Akhter, 2021). Current maternal-health policies, which prioritize infrastructure, training, and service delivery above the cognitive and emotional elements that influence patient behaviour, seldom ever address such behavioural aspects (DGHS, 2019).

Therefore, the issue is at the nexus of social standards, health governance, and psychology. Due to increased costs, postoperative difficulties, and needless risks for both mothers and babies, Bangladesh's growing CS incidence poses a danger to health equity (Children, 2019). The tendency is likely to continue if behavioural insights are not incorporated into the formulation of policies via awareness campaigns, prenatal counselling, and targeted education.

1.3 Objectives

This study's main goal is to examine maternal health policy related behavioural and psychological factors that contribute to the increasing trend of caesarean section (CS) deliveries among professional women living in Dhaka City. The specific objectives are:

- a) To determine the psychological determinants—fear, pain expectations, safety perceptions—that affect CS preference.
- b) To evaluate the variations in perceptions among four distinct groups of women, taking into account their marital and motherhood status.
- c) To propose behavioural-science-informed policy strategies for reducing non-medically indicated CS in Bangladesh.

2. METHODOLOGY

The research data were obtained by applying a quantitative method. A structured questionnaire was prepared and circulated to collect data. Analyzing the answers, quantitative data were retrieved.

2.1 Study Design

Data were gathered using a cross-sectional design. A survey was done among 800 professional women in Dhaka (23.8041°N, 90.4152°E), who had graduated and were between the ages of 25 to 49 (Banglapedia, 2023). For the participants, there were three requirements. First and foremost, they had to be residents of Dhaka. Secondly, at the very least, they had a graduation degree. Lastly, they needed to be working in profitable jobs that guaranteed a consistent income.

2.2 Sampling Method

A purposive homogeneous sampling method was used in this study. Participants were selected who had similar conditions, such as having graduated, engaged in productive work, living in Dhaka city, and being aged between 25 to 49.

2.3 Data Collection

A questionnaire was prepared for data collection. The questionnaire was a structured questionnaire and different questions were asked about the childbearing process and intention for four groups of women.

- i) Unmarried
- ii) Married without children
- iii) Married with children born by vaginal delivery
- iv) Married with children born by caesarean delivery

The questionnaire had three sections. There were socio-demographic questions in the first section, such as age, financial status, profession, level of schooling, residence, marital status, etc. The second section was named behavioural insights behind CS. In this section, different psychological views were mentioned and participants' opinions on those views were asked. The third section was varied according to participants' marital and motherhood status. Different categories had different questions on that section. Category I was asked about future preference of delivery system and reasons behind them. Category II was asked almost similar questions. Category III was also asked about how they overcame psychological issues about vaginal delivery. Category IV was asked about when, why, and how they chose CS. The questionnaire was created using Google Forms and circulated online. The medium of the questionnaire was English. Based on their answers,

psychological factors and perception regarding CS were measured. Using these behavioural insights for maternal health policy on caesarean overuse was determined.

2.4 Data Analysis Method

A descriptive analysis was carried out in order to comprehend the psychological factors and perceptions of the respondents using Microsoft Excel. Using these behavioural insights for maternal health policy on caesarean overuse was determined.

3. RESULTS

3.1 Sample Coverage

800 participants were selected for the questionnaire survey. Among them, 771 responded. Each of them was highly educated (minimum Graduate), working women. The respondents were divided into four categories, and a number was given to these four types. Table 1 provides an outline of the categories and the number of respondents from each group.

Table 1: Marital status of respondents

Category	Marital Status	Number	Percentage (%)
I	Unmarried	49	6.36
II	Married without children	230	29.83
III	Married children born by vaginal delivery	173	22.44
IV	Married with children born by caesarean delivery	319	41.37

3.2 Profile of the Respondents

Some characteristics were also considered to differentiate the respondents from the rest. It was seen that 68.48% of the respondents had a graduation degree and 31.52% of them had a post-graduation degree. PhD degree was not obtained by any of them. Moreover, monthly income was also considered. It was categorized into four ranges. It was seen that 69.66% of the respondents earned between 30,000 to 50,000 Bangladeshi taka.

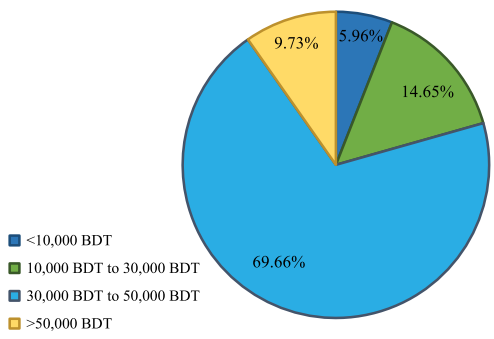


Figure 1: Pie chart of the monthly income of respondents

The respondents belonged to various professions, which were highlighted in the analysis. Eight types of profession were marked among the 771 respondents living in Dhaka city.

Table 2: Service of respondents

Profession	Number
Government Service	78
Doctor	90
Engineer	204
Teacher	55
Banker	110
Lawyer	95
Private Service	88
Businessman	51
Total	771

3.3 Behavioral Insights and Psychological Factors behind Caesarean Section

Some similar questions were asked to the four groups of women to find out the attitudes toward vaginal delivery and caesarean section. The question was basically asked to determine the perception and mentality of women (whether they were married or not) when choosing a delivery system. Questions were mainly set on three psychological views. First one is between vaginal delivery and cesarian section, women think the first one is more painful for the mother. The second one is which method women find safer from a mother’s perspective.

The third one is about the safety issue from a newborn's perspective. Data found through this section of the questionnaire are given below:

Table 3: Distribution of Attitudes towards Vaginal Delivery and Caesarean Delivery

Statement assessing attitudes	Agree	Disagree	Neutral
There is no pain experienced by the patient during the Caesarean surgery.	78.24%	12.16%	9.60%
A woman experienced severe pain following a caesarean section.	64.21%	30.02%	5.77%
Cesarean section is less painful than the vaginal birth.	85.76%	5.11%	9.13%
The infant is safer after a cesarean section than after a vaginal delivery.	61.94%	28.26%	9.80%
From the woman's perspective, a cesarean delivery is safer than a vaginal delivery.	45.78%	49.45%	4.77%

Analyzing the answers, the perception of women about caesarean section could be identified.

Also, all respondents were asked about the main human behavioral causes behind choosing caesarean section over vaginal delivery. The question had three answers.

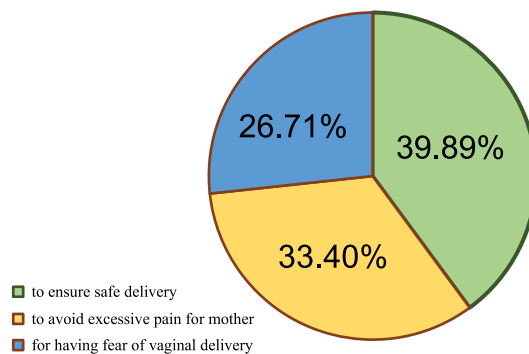


Figure 2: Pie chart representation of different opinions on choosing caesarean section over vaginal delivery by the mother

3.4 Perception of Professional Women in Caesarean Section before having any Child

Among 771 respondents, the number of non-mother respondents was 279 and that of mother respondents was 492.

3.4.1 Perception of Category I about caesarean section

Among the respondents, 49 women were unmarried and they were asked about their preference for selecting a child delivery system.

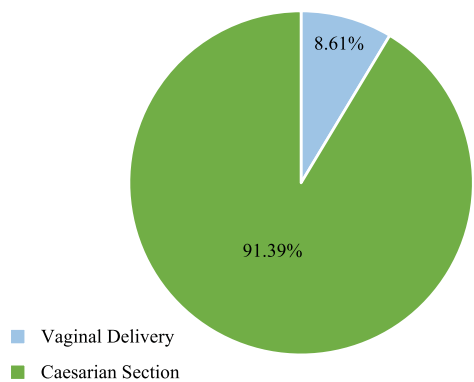


Figure 3: Graphical Representation of Preference of Delivery System of Category I Respondents

3.4.2 Perception of Category II Respondents about Caesarean Section

Respondents belonging to category II were asked similar questions.

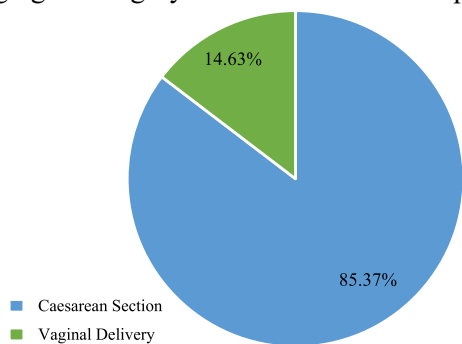


Figure 4: Pie chart on preference of delivery system of category II respondents

The portion who wanted to be future mothers were asked about their future child delivery preference and 8.61% from category I and 14.63% from category II professional women were interested in going through caesarean section. The reason was also asked of them, they gave different opinions such as that a caesarean section is a modern trend, they are unable to take excessive pain, etc.

3.5 Perception of Professional Mother in Caesarean Section

The percentage of mothers among the entire respondents was 63.81%. Among them, category III was formed with mothers who went through vaginal delivery, and category IV was formed with mothers who went through CS.

3.5.1 Preference of Delivery System among Category III Respondents

173 respondents belonged to category III who went through vaginal delivery. They were asked about their preferred delivery system during pregnancy. All of them said that they preferred vaginal delivery. They were interested in vaginal delivery even before getting pregnant. They did not suffer from any uncontrolled comorbidities like gestational diabetes, hypertension etc. 67.05% of them reported that they took preparations for vaginal delivery from the very first stage of their pregnancy such as diets, exercise etc. When they were asked about whether they were concerned about pain or fear and why they didn't go for elective CS, they gave different opinions.

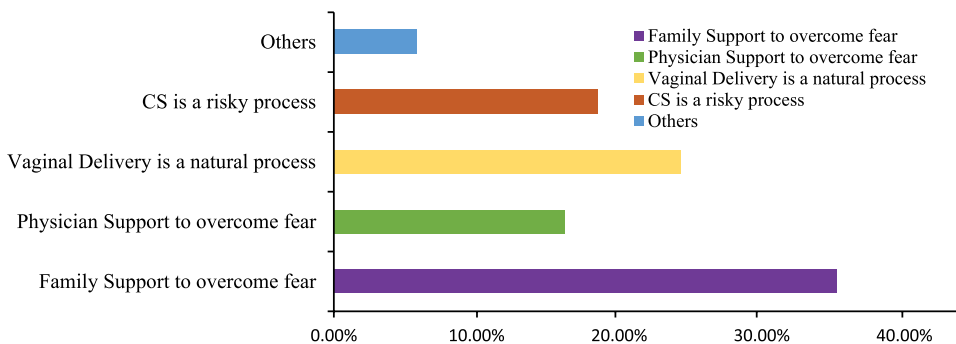


Figure 5: Bar chart on reasons behind choosing vaginal delivery by category III respondents

3.5.2 Preference of Respondents from Category IV in Caesarean Section

319 respondents belonged to category IV who went through caesarean section. They were asked what their choice was about the delivery process. 37.99% of the respondents chose elective caesarean section. Among them 8.47% chose CS at their first trimester, 40.68% chose CS at their 2nd trimester and 50.85% chose CS at the third trimester. The reason behind this choice was also asked and different opinions were mentioned. Among them 38.99% said that they wanted to ensure safety of both the mother and the baby. Some of them suffered from comorbidities like hypothyroidism, gestational diabetes etc. Though they had these conditions within the controlled range but they didn't want to take the risk. Some of them mentioned that labour pain could start at any time. At that time and place medical support could be hard to get which could disrupt the safety of the baby and the mother. 32.20% of them mentioned that they were afraid of the uncertainties. They feared that anything could happen within this long labour hour. Anytime the situation could get worse and an emergency CS might be needed. So, why go for

that uncertainty while you had an option to go for elective CS. 16.95% thought that their bodies were unable to take labour pain, so they went for CS. 6.78% were afraid of vaginal delivery process and 5.08% took CS as a modern notion.

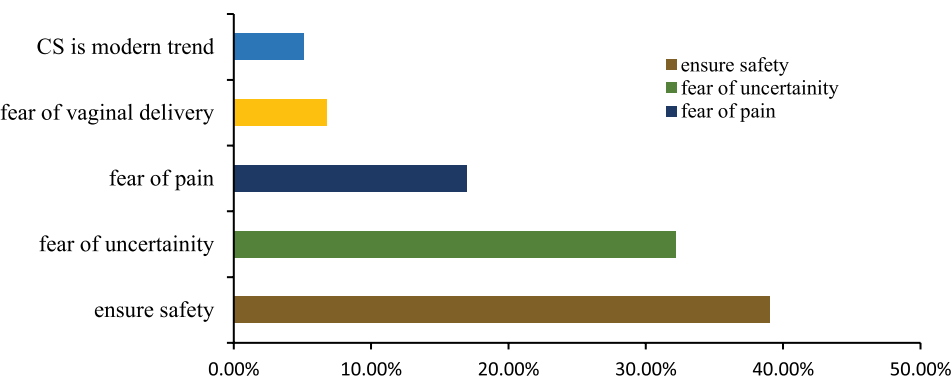


Figure 6: Bar chart on reasons behind choosing CS by Category IV Respondents

4. DISCUSSION

The findings of this study reveal a critical disjunction between medical necessity and behavioral motivation behind the growing reliance on caesarean sections (CS) among professional women in Dhaka City. Despite high educational attainment and access to healthcare, an alarming number of professional women are interested in elective CS. The result of the study highlighted that fear of vaginal delivery, excessive labor pain, uncertainty and ensuring safety are the main causes behind choosing elective CS. Those who could overcome the behavioural obstruction mainly did so due to having reliable support and counselling and those who couldn't, mainly did so, due to lack of counselling.

Among 288 Swedish women, 41% of them saw labour pain as the most awful experience, while 28% of them saw it as a desirable condition (Yearby, 2000). One of the main factors influencing women's decision to have a caesarean section is their fear of labour discomfort (Beigi et al., 2010). According to a study on Iranian women's propensity for caesarean sections, 37.2% of women were afraid of childbirth discomfort (Salehi, 2001). Furthermore, women were worried about the length of time it would take to give birth, how labour would be handled, and how it would change (Colomar, et al., 2021). According to reports, CS was the most effective method for handling the uncertainty of labour and for recovering control over the process (Colomar, et al., 2021). Women submitted to their doctor's authority to feel protected (Colomar et al., 2021). Moreover, studies show that if a

mother suffers from gestational diabetes, hypertension, prolonged labour, placenta previa and other comorbid conditions, caesarean section can ensure the safety of both mom and kid (Mylonas & Friese, 2015).

However, there are several possible risks associated with a caesarean section for both the mother and the child. In addition to intraoperative dangers such as infection, organ damage, or the requirement for a blood transfusion, there are a number of postpartum side effects that may arise, such as thromboembolic problems (Mylonas & Friese, 2015). It is important to specifically address the issues associated with subsequent pregnancies: Infertility, uterine rupture, or even placental abnormalities like accreta, increta, or placenta previa (Mylonas & Friese, 2015).

Bangladesh's existing maternal-health policy emphasizes enabling all women to have access to trained birth attendants and that the greatest number of women can have equal access to high-quality delivery care in medical facilities that are adequately staffed and equipped (DGHS, 2019). On the other hand, it does not include integrated behavioral science tools such as counselling, maternal mental health support, nudges, framing effects or emotional-risk communication. This omission perpetuates behavioral inertia and limits the effectiveness of awareness campaigns.

4.1 Behavioral Dimensions of Maternal Decision-Making

These findings highlight the dominance of emotional reasoning over medical guidance, even among educated women. The perception of caesarean delivery as modern, controlled, and convenient reflects a deep behavioral bias rooted in urban privileged culture. Current health policies only focus on reducing maternal and neonatal morbidity (DGHS, 2019). They do not adequately address this emotional component of maternal choice. As a result, women often make delivery decisions in response to fear, misinformation, and institutional persuasion rather than informed consent.

4.2 Institutional and Policy Gaps

Private and public healthcare facilities often lack structured counseling or psychological support during prenatal care. The absence of a behaviorally grounded policy framework in favour of vaginal delivery means that interventions focus on expanding physical infrastructure rather than shaping decision environments. Furthermore, data dissemination and risk communication on CS complications remain weak, contributing to a one-sided narrative where CS is viewed as a “safe and sophisticated” option.

5. POLICY RECOMMANDETION

To realign childbirth practices with evidence-based standards, Bangladesh's maternal-health strategy must incorporate behavioral insights at multiple levels:

5.1 Antenatal Behavioral Counselling:

Introduce structured counseling modules in both public and private facilities, focusing on pain management, risk understanding, and emotional preparation. Trained midwives and nurses should use empathetic communication to reduce anxiety and build trust in normal delivery.

5.2 Behavioral Communication Campaigns:

Nationwide media campaigns should be designed using behavioral framing emphasizing “confidence in natural birth” rather than fear of surgery. Positive stories of successful vaginal deliveries can serve as social proof to counter prevailing myths.

5.3 Regulatory and Institutional Incentives:

Strengthen regulatory oversight of private hospitals by linking CS reporting to licensing and performance audits. Introduce financial disincentives for non-medically indicated CS while rewarding evidence-based obstetric practices.

5.4 Health-System Nudges:

Implement administrative “choice architecture” tools in hospital admission protocols—for example, requiring second medical opinions before elective CS approval or including visual risk charts to prompt reflection.

5.5 Integration of Behavioral Training:

Include behavioral economics and patient psychology modules in medical and nursing curriculum to sensitize practitioners to emotional determinants of maternal decisions.

5.6 Data-Driven Monitoring:

Develop a digital registry for CS tracking by district and facility type. Regular data visualization and public reporting can enhance transparency and accountability.

6. CONCLUSION

The rapid escalation of caesarean section (CS) deliveries in Bangladesh constitutes not merely a clinical challenge but a significant public policy and governance concern. Notwithstanding comparatively high levels of educational attainment

and access to health-related information, maternal decision-making is often shaped more by emotional considerations and socially constructed perceptions than by clinical guidance. The increasing preference for elective CS thus reflects a deeper behavioural predisposition that prevailing policy frameworks have yet to address in a systematic and effective manner.

From a public policy perspective, the implications are substantial. The disproportionate use of CS contributes to rising healthcare expenditure, exposes mothers and neonates to avoidable surgical risks, and imposes additional pressure on an already resource-constrained health system. Addressing this challenge therefore necessitates a shift in policy orientation—from a narrow focus on infrastructural expansion and service provision to a governance model informed by behavioural insights. The institutional integration of behavioural approaches into maternal-health policy, through structured counselling mechanisms, improved risk communication, regulatory oversight, and incentive-based interventions, offers a viable pathway for reshaping the decision-making environment of both service providers and expectant mothers.

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