Uses of e-GP in Public Procurement: The Benefits and Challenges -A Case Study on Bangladesh Power Development Board (BPDB)

By

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A thesis submitted to the Department of BRAC Institute of Governance and Development (BIGD) in partial fulfillment of the requirements for the degree of Masters in Procurement and Supply Management (MPSM)

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Declaration

It is hereby declared that

1. The thesis submitted is my own original work while completing degree at Brac University.
2. The thesis does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
3. The thesis does not contain material which has been accepted, or submitted, for any other degree or diploma at a university or other institution.
4. I have acknowledged all the main sources of help.

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Approval

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Ethics Statement

This study on "**Uses of e-GP in Public Procurement: The Benefits and Challenges -A Case Study on Bangladesh Power Development Board (BPDB)**" adheres to the highest ethical standards to ensure integrity, transparency, and respect for all participants. The research was conducted with a commitment to ethical principles, unbiased questionnaire setup, including voluntary participation, informed consent, impartiality and utmost confidentiality.

All data that were collected with the consent of respondents, ensuring that they were fully aware of the purpose of the study. No personal or sensitive information was disclosed, and responses were kept strictly confidential. The data analysis was conducted objectively, avoiding any bias or manipulation of findings to ensure the credibility and reliability of results.

Additionally, this research complies with ethical guidelines on academic integrity and intellectual honesty. All secondary sources and literature reviewed have been properly cited and referenced to acknowledge the original authors' contributions.

No conflict of interest, coercion, or undue influence was involved in any stage of the research. The study aims to positively impact procurement practices by enhancing the e-GP system in Bangladesh, while ensuring adherence to ethical standards. Any recommendations provided are solely intended to enhance efficiency and transparency within government procurement systems.

Abstract

The implementation of electronic government procurement (e-GP) has significantly reshaped public procurement procedures in Bangladesh, enhancing efficiency, transparency, and accountability. This research investigates the application of e-GP within procurement operations of the Bangladesh Power Development Board (BPDB), a prominent government organization tasked with electricity generation and distribution. The study identifies both advantages and obstacles associated with adopting e-GP in BPDB's procurement activities. Study findings indicate that e-GP enhances transparency, competitiveness, reduces procurement cycle time, minimizes corruption risks, and improves wide supplier participation in BPDB. However, several challenges persist, including both physical and technical limitations, infrastructure and internet connectivity issues, lack of adequate training among procurement officials. Furthermore, insufficient training and video tutorials create hindrance in e-GP adoption for newcomers.

This case study, based on a combination of primary data from procurement officials of BPDB and secondary data analysis, provides insights into how BPDB navigates these benefits and challenges. The study suggests policy and procedural recommendations, including capacity-building initiatives, infrastructure improvements, and measures to optimize e-GP implementation. Strengthening these areas will ensure that e-GP contributes effectively to improving procurement efficiency in BPDB and other government agencies in Bangladesh.

Keywords: e-GP; PPR-2008; Bangladesh Power Development Board (BPDB); Public Procurement; Challenges; Benefits.

Dedication

This work is dedicated to all hardworking procurement professionals and government officials striving to enhance efficiency, impartiality and transparency in public procurement through digital transformation. Their dedication and perseverance in adopting e-GP inspire continuous improvement in governance.

I also extend my gratitude to my parents and friends for their unwavering support, encouragement, and guidance throughout this tiresome journey. Without their belief in me, this work would not have been possible.

Lastly, I dedicate this study to the vision of a more transparent and innovative procurement system in Bangladesh, contributing to national development and progress.

Acknowledgement

Above all, I sincerely thank Almighty Allah from the depths of my heart for granting me the strength, patience, and perseverance necessary to accomplish this research. I am profoundly grateful to my thesis supervisor, Muhammad Adnan Rahman MCIPS, Executive Engineer, Public Works Department, for his invaluable guidance, constructive insights, and continuous support during my research journey. His expertise and encouragement have significantly influenced the development and success of this study.

I am also sincerely thankful to the officials of the Bangladesh Power Development Board (BPDB) and all e-GP professionals who participated in this research. Their valuable insights and cooperation have been instrumental in providing relevant data for this study.

A special note of appreciation goes to my family and friends, who have supported me emotionally and intellectually throughout this process. Their constant encouragement, patience, and understanding have kept me motivated.

I also acknowledge the contributions of my academic mentors, colleagues, and peers for their valuable suggestions and motivation, which have greatly enriched my work. I would like to give special thanks to my esteemed colleagues, Md. Modasser Hossain, Abdullah Al Anam, Md. Ariful Islam, Kazi Afiqur Rahman, and Md. Ismail Hossain Rajib, for their unconditional help and continuous support throughout my journey. Their assistance has been instrumental in completing this research. Additionally, I sincerely thank all those who have directly or indirectly supported and encouraged me during this academic endeavor. I would also like to express my gratitude to Ms. Tanzina Mizan for her valuable assistance and continuous support throughout this process.

Finally, I am grateful to all individuals and organizations who, directly or indirectly, have contributed to the successful completion of this research. Their support has been invaluable in helping me achieve this academic milestone.

Thank you all.

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List of Acronyms

ADB	Asian Development Bank
ADP	Annual Development Plan
AI	Artificial Intelligence
APP	Annual Procurement Plan/ Program
AO	Authorized Officers
AU	Authorized User
BPDB	Bangladesh Power Development Board
BPPA	Bangladesh Public Procurement Authority
BPR	Business Process Re-Engineering
BREB	Bangladesh Rural Electrification Board
BTCL	Bangladesh Telecommunication Company Limited
BWDB	Bangladesh Water Development Board
CAG	Comptroller and Auditor General
CGFR	Compilation of General Financial Rules
CIPS	Chartered Institute of Procurement & Supply
CPAR	Country Procurement Assessment Report
CPTU	Central Procurement Technical Unit
e-CMS	Electronic Contract Management System
e-GP	Electronic Government Procurement
e-PMIS	Electronic Procurement Performance Monitoring System
EOI	Expression of Interest
ERP	Enterprise Resource Planning
e-TD	Electronic Tender Document
GFR	General Financial Rules
GoB	Government of Bangladesh
HFO	Heavy Fuel Oil
HOPE	Head of Procuring Entity
HSD	High Speed Diesel
iBAS	Integrated Budget & Accounting System
ICT	International Competitive Tender

IMED	Implementation, Monitoring & Evaluation Division
IPP	Independent Power Producer
LCC	Life Cycle Costing
LGED	Local Government Engineering Department
MEAT	Most Economically Advantageous Tender
MPSM	Masters in Procurement and Supply Management
NCT	National Competitive Tender
PA	Procuring Agency
PE	Procuring Entity
PPA	Public Procurement Act
PPR	Public Procurement Regulations
PROMIS	Procurement Management Information System
PWD	Public Works Department
RFP	Request for Proposal
RFQ	Request for Quotation
RHD	Roads and Highways Department
SBU	Strategic Business Unit
SMEE	Small and Medium Enterprise Entrepreneurs
SPP	Sustainable Public Procurement
TEC	Tender Evaluation Committee
TOC	Tender Opening Committee
TSC	Tender Sub-Committee
VfM	Value for Money
WB	World Bank
WLCC	Whole Life Cycle Costing

Chapter 1

Introduction

1.1 Background & Context of the Study

Public procurement is a cornerstone of government operations, representing a significant portion of national budgets in developing countries. In Bangladesh, public procurement accounts for nearly 85% of the Annual Development Program (ADP), underscoring its critical role in national development [1]. Historically, procurement processes in Bangladesh were marred by inefficiencies, lack of transparency, delays, and corruption. These challenges not only led to financial losses but also affected the quality and timeliness of public services.

To address these issues, the Government of Bangladesh introduced the Electronic Government Procurement (e-GP) system under the Central Procurement Technical Unit (CPTU) in 2011. The e-GP platform aimed to digitize procurement processes, ensuring greater transparency, accountability, and efficiency. By reducing manual interventions and increasing public access to procurement data, the system was envisioned as a transformative tool in public sector governance.

The Bangladesh Power Development Board (BPDB), one of the largest public sector organizations responsible for power generation and distribution, is a major user of public procurement. With hundreds of tenders floated annually, efficient procurement is vital for the smooth functioning of BPDB's operations. The integration of e-GP into BPDB's procurement system represents a critical case for evaluating the effectiveness of e-GP in large-scale public entities.

This study focuses on understanding how the e-GP system has been adopted and utilized within BPDB, highlighting its benefits, practical challenges, and areas for improvement. Given BPDB's significant procurement volume and technical complexity, it serves as an ideal case to examine the real-world impact of e-GP in Bangladesh's public sector. Understanding BPDB's

experience will offer valuable insights into how e-GP can be further refined and scaled across other government agencies to improve public service delivery and resource management.

1.2 Problem Statement

The implementation of the electronic Government Procurement (e-GP) system has been a significant advancement in the public procurement landscape of Bangladesh, particularly within the Bangladesh Power Development Board (BPDB). While the e-GP system aims to enhance transparency, efficiency, and accountability in procurement processes, there are ongoing challenges and barriers that may hinder its effectiveness. This study seeks to investigate the uses of the e-GP system in public procurement at BPDB, focusing on the benefits it provides, such as increased transparency, reduced corruption, and improved competition, as well as the challenges faced by users, including logistical support, internet connectivity, and system usability.

Despite the potential advantages of the e-GP system, there is limited empirical evidence regarding its actual impact on procurement efficiency and user satisfaction within BPDB. The study will explore the perceptions of BPDB employees regarding the effectiveness of the e-GP system, the obstacles they encounter, and their overall satisfaction with the current setup. Additionally, it will assess the extent to which the e-GP system contributes to reducing procurement cycle times and improving the quality of tenders.

By analyzing the responses from a structured questionnaire, this research aims to provide insights into the current state of the e-GP system at BPDB, identify areas for improvement, and offer recommendations for enhancing its application in public procurement. Ultimately, the findings will contribute to the ongoing discourse on optimizing e-GP systems in Bangladesh and ensuring that they meet the needs of all stakeholders involved in the procurement process.

1.3 Research Questions

Research questions and research methodology, that is how the total research work is done are two very important things. Research questions are set in such a way that the interested group can easily comprehend and relate with their working environment and answer the questions. The questions were set by the researcher. The following research questions need to be answered from the response of the survey respondents.

a. **What are the perceived benefits of implementing e-GP in public procurement processes at the Bangladesh Power Development Board (BPDB)?** (Addressed by questions 7, 8, 9)
b. **What are the external obstacles and challenges faced by BPDB personnel in effectively utilizing the e-GP system for procurement purposes?** (Addressed by question 6)
c. **What is the level of user satisfaction with the current setup and user-friendliness of the e-GP system among BPDB personnel?** (Addressed by questions 10, 11)
d. **What key areas of improvement and new features do BPDB personnel recommend for the enhancement and future development of the e-GP system?** (Addressed by questions 12, 13, 14, and the open-ended recommendation)

1.4 Research Objectives

The primary objective of this study is to examine the use of the Electronic Government Procurement (e-GP) system in public procurement processes within the Bangladesh Power Development Board (BPDB). As a major state-owned organization, BPDB handles a large volume of procurement activities critical to the country's power generation and infrastructure development. This study aims to explore how effectively the e-GP system has been integrated into BPDB's procurement operations and to assess the outcomes of its implementation.

Specifically, the research seeks to:

1. **Identify the extent of e-GP usage** in various stages of BPDB's procurement cycle, including tendering, evaluation, contract award, and monitoring.
2. **Evaluate the benefits** achieved through the adoption of e-GP in terms of transparency, efficiency, cost-effectiveness, and vendor participation.
3. **Analyze the challenges** faced by BPDB staff and users during the implementation and operation of the e-GP system.
4. **Assess the institutional readiness** and capacity of BPDB to sustain and expand e-GP usage.
5. **Propose recommendations** to improve the functionality, accessibility, and impact of e-GP in BPDB and similar large-scale public entities.

By achieving these objectives, the study aims to contribute to the broader understanding of digital transformation in public procurement within developing country contexts.

1.5 Rationale of the Study

In recent years, digital transformation has become a key focus for improving governance, especially in public sector procurement. Bangladesh, like many developing countries, has faced persistent challenges in its procurement processes, including inefficiency, corruption, and lack of transparency. In response, the Government of Bangladesh introduced the Electronic Government Procurement (e-GP) system to streamline procurement practices and enhance public accountability.

The Bangladesh Power Development Board (BPDB), being one of the largest public sector organizations in the country, undertakes extensive procurement activities that are critical to national infrastructure and energy security. Given the scale and complexity of BPDB's operations, the successful integration of e-GP is essential not only for its internal efficiency but also for ensuring that public funds are used responsibly and effectively.

Despite the growing use of e-GP, there is limited research that specifically investigates its implementation within sector-specific organizations like BPDB. Most existing studies focus on general adoption trends, lacking in-depth analysis of sectoral challenges, institutional capacities, and operational realities. This study seeks to bridge that gap by providing a focused assessment of how e-GP functions within BPDB, the benefits realized, and the constraints encountered.

By evaluating BPDB's experience, the study will offer evidence-based insights to policymakers, procurement professionals, and development partners on how to further enhance e-GP implementation and scale its success across other public institutions in Bangladesh.

1.6 Scope & Limitations of the Study

This research is specifically scoped to investigate the uses of Electronic Government Procurement (e-GP) within the context of public procurement at the Bangladesh Power Development Board (BPDB). It primarily focuses on identifying and analyzing the benefits realized and challenges encountered by BPDB personnel directly involved in or regularly interacting with the e-GP system. The study aims to provide an empirical understanding of e-GP's practical implications within this crucial state-owned entity. By examining the perspectives of various roles within BPDB's procurement framework, the research seeks to

offer insights into operational efficiencies, transparency gains, and the specific obstacles hindering optimal e-GP utilization. The findings are intended to inform the controlling authorities to amend different features of e-GP so that it will ease its stakeholders while using and widespread e-GP implementation in Bangladesh.

Despite its focused approach, this study is subject to several limitations. Firstly, as a single case study focusing solely on BPDB, the generalizability of its findings to other public procuring entities in Bangladesh or different national contexts may be limited. While BPDB offers valuable insights, its unique operational scale and specific challenges might not perfectly reflect those of smaller or differently structured organizations. Secondly, the reliance on self-reported data from questionnaires means the findings are based on the perceptions and experiences of the respondents, which could be influenced by factors such as recall bias or individual interpretations. Thirdly, while the purposive sampling ensured relevant participants, the sample size of 52 respondents, though sufficient for identifying patterns within BPDB, is relatively small for making broad statistical generalizations. Lastly, the study primarily captures the internal perspective of BPDB personnel, with less direct input from external stakeholders like suppliers, which could offer additional dimensions to the benefits and challenges.

1.7 Organization of the Study

The organization of the total study is abridged below:

- □ Chapter 1 discusses the background and context of the study, problem statement, research questions, research objectives. The author also discusses rationale of this study, scope and limitations of the study in this chapter.
- □ Chapter 2 elaborates the literature review of this study. This chapter discusses about procurement, public procurement, the evolution of public procurement to present e-GP system, Bangladesh Power Development Board (BPDB) as an organization, its role and other related matters.
- □ Chapter 3 describes Methodology and approach of the study. This chapter also discusses research design, study area & population, sampling strategy, data collection and data analysis techniques.
- □ Chapter 4 discusses Data analysis and discussion. All the primary data collected through the survey are represented and discussion on the outcome of the study is

discussed in this chapter. Different secondary data collected from different sources like e-GP portal, BPDB official website are presented and discussed in this chapter.

- Chapter 5 describes the conclusion and recommendations of this study. Summary of major findings of the study and future research and development opportunities are discussed in this section.

This study also has references and annexures which are relevant to this study.

Chapter 2

Literature Review

2.1 Procurement & Public Procurement

Procurement is the process of acquiring goods, services, or works from external sources, typically through a structured and formalized approach. It involves several key activities, including:

1. **Identifying Needs**: Determining what goods or services are required to meet organizational objectives.
2. **Sourcing**: Finding and selecting suppliers or vendors who can provide the required goods or services.
3. **Negotiation**: Engaging discussions with suppliers to agree on terms, prices, and conditions of purchase.
4. **Contracting**: Formalizing the agreement with the selected supplier through a contract that outlines the terms and conditions of the procurement.
5. **Order Placement**: Issuing purchase orders to suppliers to initiate the delivery of goods or services.
6. **Receiving and Inspection**: Accepting and verifying the quality and quantity of the goods or services delivered.
7. **Payment**: Processing payments to suppliers based on the agreed terms and conditions.
8. **Performance Evaluation**: Assessing supplier performance and the effectiveness of the procurement process to inform future procurement decisions.

According to Oxford English Dictionary, Procurement is defined as: The action of obtaining or procuring something, especially in a formal or official manner. This definition emphasizes the formal process involved in acquiring goods, services, or works, highlighting the structured nature of procurement activities.

According to CIPS (Chartered Institute of Procurement & Supply), Procurement is a strategic function of a business and involves a high level of skill. It includes some elements like added value, purchasing, cost, quality, inventory, supply, logistics, waste management etc. [2]

According to Public Procurement Rules (PPR)-2008, “Procurement” means the purchasing or hiring of Goods, or acquisition of Goods through purchasing and hiring, and the execution of Works and performance of Services by any contractual means. [3]

Procurement can be tangible, like goods and it may be intangible also, like services. The procurement process initiates by identifying a need and the process completes when the goods and services are met up.

“Public Procurement” means Procurement using public funds. Public funds mean any funds allocated to a Procuring Entity under Government budget, or loan, grants and credits placed at the disposal of a Procuring Entity through the Government by the development partners or foreign states or organizations.

Figure 1: CIPS Procurement Cycle [Source: CIPS Website]

2.2 Procurement Practices in Bangladesh and Its Chronological Development

2.2.1 The General Financial Rules (GFR)

The General Financial Rules (GFR) was once the bible of procurement in Bangladesh. The General Financial Rules (GFR) of Bangladesh form the foundation for managing public finances, promoting transparency, accountability, and efficient use of government resources. Originating during the British colonial era, the initial financial regulations governed public fund management across the Indian subcontinent. Following Bangladesh's independence in 1971, the country retained these colonial-era financial systems but adapted and restructured them to suit national needs. This evolution led to the establishment of Bangladesh's own version of the GFR, which has been regularly revised to address changing financial governance challenges.

A key role of the GFR is to standardize procedures for procurement, budgeting, expenditure control, and financial auditing across government institutions. In terms of procurement, the rules emphasize open and competitive bidding to ensure transparency and fairness in awarding public contracts. For financial management, the GFR sets guidelines for budget preparation, expenditure monitoring, and maintaining fiscal discipline. Regular audits conducted by the Comptroller and Auditor General (CAG), along with internal audits, reinforce oversight mechanisms and help detect any misuse or inefficiencies. Furthermore, ministries and government bodies are required to document expenditures and submit financial reports for regulatory review.

The GFR strengthens public financial management by fostering systematic procedures, reducing misuse of funds, and supporting legal compliance with international financial standards. However, it also faces notable challenges. The procedural rigidity of the rules often slows down procurement and financial decisions, leading to inefficiencies. Additionally, a shortage of skilled personnel, limited resources, and weak enforcement—especially at local government levels—undermine effective implementation. Moreover, the GFR has not fully kept pace with modern technological developments, such as digital procurement systems, and suffers from inconsistent monitoring and enforcement.

The General Financial Rules (GFR**)** of Bangladesh have evolved over time, beginning during the British colonial period and continuing through the post-independence era. The rules serve as a framework for managing public financial operations, ensuring accountability, transparency, and proper use of public funds in government activities.

2.2.2 Public Procurement Reforms

As GFR was very age-old rules, it couldn't fulfill the requirements of modern procurement practices. Due to its drawbacks, to protect the excessive and unjustified expenditure of public fund, common and well understandable rules or policies needed to be introduced to meet the demand. In 1999, World Bank (WB) and Asian Development Bank (ADB) jointly conducted a study regarding procurement practices in Bangladesh. After the study they prepared an action plan for government of Bangladesh regarding public procurement. In 2002, WB published Country Procurement Assessment Report (CPAR), where the organization highlighted the deficiencies of the procurement system in Bangladesh. The Government of Bangladesh reviewed the study of WB and with the fund provided by IDA, a key organization under WB, Bangladesh took the initiative to reform the public procurement practices under Public Procurement Reform Project in 2002. Since then, different development and reform works have been done to modernize the procurement activities in Bangladesh. The Central Procurement Technical Unit (CPTU) was formed under the Implementation, Monitoring, and Evaluation Division (IMED) of the Ministry of Planning, Bangladesh, specifically to oversee procurement activities of government entities, formulate policies, and execute reforms in public procurement practices.

2.2.3 Public Procurement Regulations-2003

Public Procurement Regulations were introduced in 2003. Before that, different organizations used their own policy and procedures. No unified system of procurement prevailed at that time. These regulations helped organizations to follow a common system of procedure for procurement purposes. In Public Procurement Regulations, procurement processes and implementing procedures were discussed. It remained in force up to 30th January 2008 before passing Public Procurement Rules in 2008.

2.2.4 Public Procurement Act-2006

The Public Procurement Act was introduced in 2006 [5]. It was passed in the parliament as a law. It was 24 no. act in the year 2006 by Government of Bangladesh. It has 9 chapters and 73

clauses. In clause/ section no 65 of Chapter 8 of PPA, electronic government procurement is discussed.

2.2.5 Public Procurement Rules-2008

Public Procurement Rules, 2008 was introduced in 2008 by Statutory Regulatory Order (SRO) No 21. It was effective from the date of publication of Public Procurement Act, 2006. Public Procurement Rules have 9 chapters, 130 rules, 14 schedules. In these rules' definitions, different criteria, different tendering processes, following steps, timeline etc. are discussed. In rule no 128 of PPR-2008 government procurement using electronic method is mentioned.

2.2.6 e-GP Guidelines-2011

The e-GP Guidelines 2011 were introduced by the Government of Bangladesh to streamline and modernize the public procurement process through digital means. These guidelines aim to enhance transparency, efficiency, and accountability in government procurement activities. They mandate the use of electronic platforms for all public tenders, ensuring a more transparent and competitive process by allowing vendors to submit their bids online. The e-GP system also enables real-time tracking of procurement related activities, which reduces the opportunities for corruption, manipulation and inefficiencies. These guidelines provide a comprehensive framework covering the registration of suppliers, submission of bids, proposal or tender evaluation, and finally award of contracts. They also outline the responsibilities of government agencies, suppliers, and other stakeholders involved in the purchasing procedure. By promoting a paperless and automated system, the e-GP Guidelines 2011 aim to enhance the overall effectiveness of public procurement, reduce administrative costs, and improve the use of public funds in Bangladesh.

2.2.7 Sustainable Procurement Policy-2023

Sustainable Public Procurement (SPP) Policy was introduced in 2023 [6]. Sustainable procurement has 3 main pillars, Environmental, Social & Economical. Value for Money (VfM), Most Economically Advantageous Tender (MEAT), Whole Life Cycle Costing (WLCC) etc. terms are introduced to consider sustainable procurement for goods, works and service procurement for developing country like Bangladesh, which is vulnerable to environmental change. Primarily some common items are considered like paper, computer and electrical accessories, Transports, office stationaries, printing materials for sustainable

procurement. This policy also briefly describes sourcing from environment friendly factories or industries, elimination of child labor, supporting women entrepreneur, encouraging small and medium scale enterprise entrepreneurs (SMEE) financially, creating new industries after assessing the market etc. At that time CPTU was given the authority to take any action regarding this. They will incorporate SPP in procurement and publish standard tender documents on their website.

2.2.8 Recent amendments of PPA and e-GP Guidelines

Public Procurement (Amendment) Ordinance is published in 2025, [7] and it comes as an ordinance decreed by honorable President of Bangladesh. It has some corrections in the Public Procurement Act (PPA), 2006. Some changes are being made so that the public money can be properly utilized. Some important changes are the financial limit or barrier in Limited Tendering Method (LTM) for work procurement, significantly low price in evaluation, framework agreement, reverse auction introduction in procurement. Another significant change is that all procuring entities will use electronic government procurement (e-GP) platform for all tenders which are processable by the portal and made mandatory.

e-GP guidelines have gone through some changes. After implementation for more than a decade, it needs to change with time and some features should be incorporated or added to facilitate its users. E-Government Procurement (e-GP) Guidelines (Revised), 2025 [8] introduces several key changes and new inclusions compared to the original guidelines from 2011.

Some key changes and new inclusions in the 2025 guidelines are:

- **e-Audit:** The new guidelines introduce e-Audit capabilities, enabling auditors to conduct audits remotely without physically visiting procurement offices. This enhances transparency and efficiency in the audit process.
- **Tenderer Database:** The guidelines provide a formal framework for a centralized tenderer database, which, although a feature in the system for some time, is now officially codified and elaborated upon.
- **e-Reverse Auction:** The new guidelines explicitly mention and define e-Reverse Auction as a procurement technique, signaling its potential future use.

- **Two Stage Tendering Method:** In BPR, 66(5) and 68(3) have been changed related to publication of two stage tendering method, especially international competitive tender.
- **Inclusion of Intellectual and Professional Services:** Definition of intellectual services is elaborated. In BPR, 16(11) and 126(3) of PPR, 2008 related to intellectual and professional services have been changed. The guidelines have been updated to explicitly include procurement for intellectual and professional services within the e-GP framework.
- **Mandatory Use of e-GP:** The new guidelines place a much stronger emphasis on making e-GP mandatory for all government procurement. This is a move towards a "zero manual process" goal, aiming to eliminate parallel manual file processing for e-GP-based procurements.
- **Inclusion of Women-Owned Enterprises:** A notable social inclusion aspect is the new provision for the registration and identification of women-owned enterprises, with a clear definition (over 50% ownership by women) to facilitate their participation in public procurement. NID database is incorporated in the online system for Tenderer verification.

The 2025 e-GP guidelines represent a significant leap from the foundational framework of 2011. They move beyond basic e-tendering to encompass a comprehensive, integrated, and mandatory digital platform for the entire procurement lifecycle, from planning to contract management and auditing. The new inclusions are a direct response to the need for greater efficiency, transparency, and social equity in public spending.

2.3 e-GP System in Bangladesh

2.3.1 Overview of e-GP System

Public procurement, the process by which government entities acquire goods, services, and works, is the lifeblood of national development. It represents a significant portion of public expenditure, making its efficient, transparent, and accountable management paramount for any nation's progress. In Bangladesh, recognizing the historical challenges of traditional paper-based procurement – often plagued by inefficiencies, delays, and vulnerabilities to corruption – the government embarked on a transformative journey by introducing the Electronic Government Procurement (e-GP) system. This digital platform is not merely an automation tool; it represents a fundamental paradigm shift aimed at modernizing governance, fostering economic growth, and ensuring optimal value for public funds.

At its core, the e-GP system in Bangladesh is a secure, web-based platform designed to facilitate the entire public procurement lifecycle electronically. Launched with the support of the World Bank, it marked a decisive move away from cumbersome manual processes that often-hindered competition and transparency. The system's primary objective is to streamline procurement operations, enhance efficiency, reduce transaction costs, broaden participation, and significantly curb opportunities for malpractice. By digitizing every stage, from tender publication to contract management and payment, e-GP seeks to establish a procurement environment characterized by fairness, integrity, and accountability. Initially, Central Procurement Technical Unit (CPTU) was responsible for e-GP system operation, maintenance, security and all others aspect. CPTU was run under Implementation, Monitoring & Evaluation Division (IMED) of Ministry of Planning. But in 2023, CPTU transformed into Bangladesh Public Procurement Authority (BPPA). Now BPPA plays all roles to run the e-GP system in Bangladesh [10].

2.3.2 Core Features and Outlines of the e-GP System

The e-GP system is built upon a robust architecture that supports a wide array of functionalities, making it a comprehensive solution for modern public procurement. Its features are designed to cater to the diverse needs of all stakeholders, ensuring seamless interaction and data flow.

One of its foundational features is online tender publication and advertisement. Procuring entities (PEs) can swiftly prepare and publish tender notices, invitations for expressions of interest (EOIs), requests for proposals (RFPs), and requests for quotations (RFQs) directly on the portal. This immediate, centralized publication vastly expands the reach of procurement opportunities, ensuring that potential tenderers, both local and international, have instant access to information, thereby fostering greater competition.

Following publication, the system facilitates online tender document sales and downloading. Tenderers can purchase and download necessary documents directly from the portal, eliminating the need for physical visits and associated logistical hurdles. This significantly reduces time and cost for bidders, especially those located remotely.

A critical aspect is electronic bid submission and opening. Tenderers can prepare and submit their bids digitally through the secure portal. The system ensures that bids remain encrypted and sealed until the designated opening time, preventing unauthorized access and enhancing

the integrity of the process. The automated opening process, which is publicly viewable, ensures transparency and reduces human intervention, minimizing opportunities for manipulation.

The e-GP system also supports online bid evaluation and contract award notification. While the evaluation process itself might involve human judgment, the system provides tools for managing evaluation data and formally notifying successful bidders. The publication of contract award notices on the portal further reinforces transparency, allowing public scrutiny of awarded contracts.

Recent advancements have significantly expanded the system's capabilities, moving beyond just the tendering phase. The introduction of an e-Contract Management System (e-CMS) is a pivotal development. This module enables procuring entities to manage contracts electronically from their contract award through to work or delivery completion, including tracking progress, managing variations, and handling disputes. This end-to-end digital management enhances oversight and accountability throughout the contract lifecycle.

Another crucial inclusion is e-Audit functionality. This feature allows auditing bodies to conduct audits of procurement processes and contracts digitally, often remotely. By providing auditors with direct, secure access to procurement data within the system, e-Audit significantly improves efficiency, reduces the need for physical document handling, and strengthens the overall audit trail, thereby bolstering accountability.

The system also integrates with e-Payment mechanisms, facilitating online payment of tender document fees, bid security, and other related charges. This streamlines financial transactions, making the process more convenient and secure for both procuring entities and tenderers. Furthermore, the e-GP system is increasingly integrated with other government financial and project management systems, such as the iBAS++ (Integrated Budget and Accounting System) for payments and the e-PMIS (Electronic Project Management Information System) for real-time project monitoring. This interoperability creates a more cohesive digital governance ecosystem.

Future outlines of the e-GP system also include advanced features like e-Reverse Auction, a technique where suppliers bid down the price of a good or service, and a greater emphasis on sustainable procurement, encouraging the inclusion of environmental and social criteria in

tendering. The system is also evolving to incorporate a robust Tenderer Database and an International Competitive Tendering (ICT) module, broadening its global appeal and standardizing processes for international participation.

2.3.3 The e-GP Portal: The Central Hub

The heart of Bangladesh's e-GP system is its unified web portal, accessible at **www.eprocure.gov.bd.** This single online gateway serves as the central repository and operational platform for all e-GP activities. It is designed to be user-friendly and accessible to all registered stakeholders. From this portal, procuring entities publish their Annual Procurement Plans (APPs), tender notices, and contract awards. Tenderers access information, download documents, submit bids, and track the status of their submissions. The portal is hosted securely in the National Data Center of Bangladesh, ensuring data integrity and system reliability. Its design facilitates transparency by making a vast amount of procurement information publicly available, fostering an environment of open government.

2.3.4 Key Stakeholders in the e-GP Ecosystem

The success of the e-GP system hinges on the active participation and effective coordination of various stakeholders, each playing a distinct yet interconnected role:

- **Procuring Entities (PEs):** These are the government ministries, divisions, departments, and public sector organizations (like BPDB) that initiate and manage procurement processes. They use the e-GP system to publish tenders, evaluate bids, and award contracts.
- **Tenderers/Bidders:** This diverse group includes local and international suppliers, contractors, and consultants who bid for government contracts. They register on the e-GP portal, search for opportunities, download tender documents, and submit their proposals electronically.
- **Bangladesh Public Procurement Authority (BPPA):** Formerly the Central Procurement Technical Unit (CPTU), BPPA is the apex body responsible for managing, maintaining, and developing the e-GP system. It sets guidelines, provides training, and ensures the system's compliance with public procurement laws and rules.

- **Banks and Payment Service Providers:** These financial institutions facilitate the online payment of tender fees, bid securities, and other financial transactions within the e-GP system.
- **Auditors:** With the advent of e-Audit, auditors are crucial stakeholders who leverage the system to ensure financial probity and compliance in public procurement.
- **Development Partners:** Organizations like the World Bank have been instrumental in supporting the development and implementation of the e-GP system in Bangladesh, often providing technical and financial assistance.
- **Citizens and Media:** While not direct users in the transactional sense, they are vital stakeholders in ensuring transparency and accountability. The public availability of tender information allows for scrutiny and oversight, contributing to good governance.

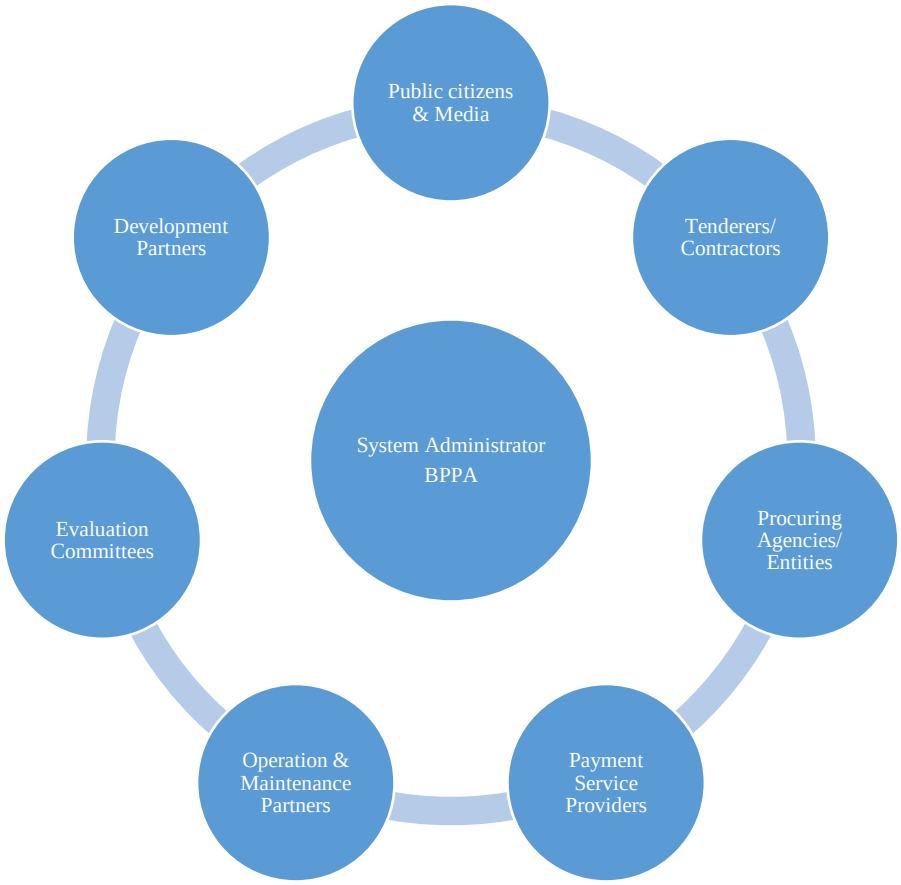

Figure 2: e-GP System Stakeholders as per e-GP Guidelines

2.3.5 Registration Process in e-GP System

Participation in the e-GP system is predicated on a streamlined, centralized registration process. Both procuring entities and tenderers must register to access and utilize the system's functionalities.

- **For Procuring Entities:** Government organizations register with BPPA to gain access to the e-GP system. This typically involves formal authorization and the designation of Authorized Officers (AOs) and Authorized Users (AUs) who will manage procurement activities on the platform.
- **For Tenderers:** Any potential supplier, contractor, or consultant wishing to participate in public tenders must register on the e-GP portal. This process involves providing necessary company details, legal documents, financial information, and credentials for verification. The system often requires the use of an Electronic Signature (e-Signature), which legally binds the tenderer to their submitted documents and ensures authenticity and non-repudiation. Once registered and verified, tenderers receive login credentials, allowing them to participate in relevant procurement processes. The new guidelines also include specific provisions for the registration of women-owned enterprises, promoting inclusivity.

2.3.6 Conclusion

The e-GP system in Bangladesh represents a monumental stride towards modernizing public procurement. By embracing digital technology, it has fundamentally reshaped how government entities procure goods, services, and works, moving towards greater efficiency, transparency, and accountability. While the journey has involved overcoming various challenges, the continuous evolution of the system, marked by new features and an expanded scope, underscores Bangladesh's commitment to leveraging technology for enhanced governance and sustainable national development. The e-GP system is not just a tool; it is a cornerstone of a more efficient, equitable, and transparent public sector.

2.4 Discussion on Power Sector & BPDB

2.4.1 Brief History of Power Sector

The history of electricity in the region now known as Bangladesh is a compelling narrative of slow beginnings, state-driven consolidation, and modern-day restructuring. During the British Period, the introduction of electrical power was a marker of extreme privilege and modernity. The first recorded instance dates back to the late nineteenth century when the Bhawal King of Gazipur imported a generator from England to illuminate his palace. This technological marvel was an astounding sight for locals, living far removed from the era's industrial advancements. Similarly, in Dhaka, the esteemed Nawab family pioneered electricity use, lighting their iconic Ahsan Manzil with a generator. A British company, Octavious Still, managed this early supply, which was confined to the city's most affluent neighborhoods. The sector saw further growth with the arrival of another British firm, DEVCO, in 1919. This company not only built a distribution network in select areas of Dhaka but also established the Dhanmondi Power House in 1933 with a generation capacity of 6 MW. In this era, access to electricity was not a utility but a powerful symbol of aristocracy.

Following the partition of the Indian subcontinent in 1947, the newly formed Pakistan Period saw the power sector in East Pakistan as a fragmented and underdeveloped collection of isolated systems. Power generation and distribution were initially managed by various private companies, with service limited to just seventeen district towns. The generation voltage was a meager 400 volts, with Dhaka being the sole exception at 6600 volts. Power was primarily supplied to essential industries like jute, sugar, and cotton mills, with virtually no long-distance transmission infrastructure. The government initiated a state-led effort to formalize the sector, starting with the establishment of the Electricity Directorate in 1948. This effort culminated in 1957 when the government nationalized all private power plants and networks. A major step toward a unified system came with the formation of the Water and Power Development Authority (WAPDA) in 1959, which absorbed the Electricity Directorate a year later. This period marked significant milestones, including the commissioning of a 10 MW steam turbine plant in Siddhirganj in 1960 and the groundbreaking Karnaphuli Hydro-Electric Power Plant in 1962. The subsequent completion of a 273 km long 132 kV transmission line between Dhaka and Chattogram was a critical achievement, laying the groundwork for a more interconnected grid.

The power sector underwent its most profound transformation after Bangladesh gained independence in 1971. In 1972, the Bangladesh Period saw the birth of the Bangladesh Power Development Board (BPDB), a statutory organization formed from the division of WAPDA. Starting with a modest installed capacity of only 500 MW, BPDB was initially tasked with the monumental responsibility of managing all aspects of the nation's power sector—generation, transmission, and distribution [11]. Over the decades, a series of strategic reforms aimed at enhancing efficiency led to the unbundling of these functions. The Bangladesh Rural Electrification Board (BREB) was established in 1977 to bring power to rural communities, a critical step for national development. By the 1990s and beyond, further reforms led to the creation of specialized entities like the Power Grid Company of Bangladesh (PGCB), Dhaka Power Distribution Company (DPDC), and other generation and distribution firms. Despite this structural evolution, BPDB maintains a central and vital role as the single buyer of electricity, purchasing power from various Independent Power Producers (IPPs) and government-owned generation companies, thereby remaining the cornerstone of the country's energy landscape.

2.4.2 Bangladesh Power Development Board (BPDB)

The Bangladesh Power Development Board (BPDB), formally established on May 31, 1972, under Presidential Order No. 59, emerged from the strategic division of the former East Pakistan Water and Power Development Authority (WAPDA). From its inception, BPDB has stood as a foundational institution, intricately weaving itself into the fabric of Bangladesh's ambition to cultivate a resilient and self-sufficient power sector. Its initial mandate was broad and formidable: to meticulously plan, coordinate, and execute the nation's critical endeavors across power generation, transmission, and demand management, as well as its extensive distribution networks.

Over the decades, BPDB has been at the vanguard of significant reform and restructuring within the energy landscape. This transformative process saw the vertical unbundling of the transmission segment, which evolved into a distinct subsidiary of BPDB. Concurrently, the distribution sector underwent horizontal separation, leading to the creation of specialized entities: Dhaka Power Distribution Company (DPDC) Ltd. and Dhaka Electric Supply Company (DESCO) Ltd. serving the capital, alongside the Bangladesh Rural Electrification Board (BREB) for rural areas. This strategic decentralization continued with the gradual

establishment of numerous other generation and urban distribution companies, all operating as subsidiaries or joint ventures under BPDB's overarching guidance.

Prominent among BPDB's direct subsidiaries are the Ashuganj Power Station Company Ltd. (APSCL), Electricity Generation Company of Bangladesh Ltd. (EGCB), North West Power Generation Company Ltd. (NWPGCL), Power Grid Company of Bangladesh (PGCB) PLC, West Zone Power Distribution Company Ltd. (WZPDCL), and Northern Electricity Supply Company (NESCO) PLC. Beyond its wholly-owned subsidiaries, BPDB has also forged crucial joint ventures as part of its continuous commitment to sector development. These collaborative ventures include B-R Powergen Ltd. (a partnership with Rural Power Company Ltd.), Bangladesh-India Friendship Power Company (Pvt.) Ltd. (a collaboration with India's NTPC), and Bay of Bengal Power Company (Pvt.) Ltd. (a joint effort with China's CHDHK).

As the nodal agency operating under the Power Division of the Ministry of Power, Energy and Mineral Resources, Government of Bangladesh, BPDB’s responsibilities are multifaceted and critical to national energy security. These include generating electricity from its own power plants, acting as the singular buyer for power procured from all public and private generation companies, and undertaking bulk sales of electricity to various distribution utilities. Additionally, BPDB maintains direct retail sales of electricity within its four designated distribution zones. A pivotal aspect of its mandate involves preparing comprehensive generation and distribution expansion plans for its operational jurisdiction.

BPDB commenced its operations with a modest installed generation capacity of merely 500 MW. Through unwavering dedication to addressing the nation's burgeoning energy demands, the country's grid-based installed power generation capacity (inclusive of renewable energy sources) impressively surged to 28,098 MW by the close of Fiscal Year 2023-2024. Guided by a meticulously crafted generation expansion strategy that prioritizes fuel diversification, BPDB is proactively enhancing energy security. Parallel to this, robust distribution expansion plans are underway within its four zones. In FY 2023-24, BPDB's bulk energy sales reached 91,927 GWh, while its retail sales within its four distribution zones accounted for 12,785 GWh, representing 14.82% of the total energy distributed [12]. BPDB's overriding objective in the distribution segment remains the provision of uninterrupted and high-quality power supply.

2.4.3 Top Organogram of BPDB and Its Functions

BPDB has one chairman, and it is the topmost post in BPDB. BPDB has six members. These six members are Member (Administration), Member (Finance), Member (Generation), Member (Distribution), Member (P&D) and Member (Company Affairs). Member (Administration) and Member (Finance) are deputed post, except these all others are technical members. All these seven members form the Board. The board is the highest authority to take administrative and financial decisions.

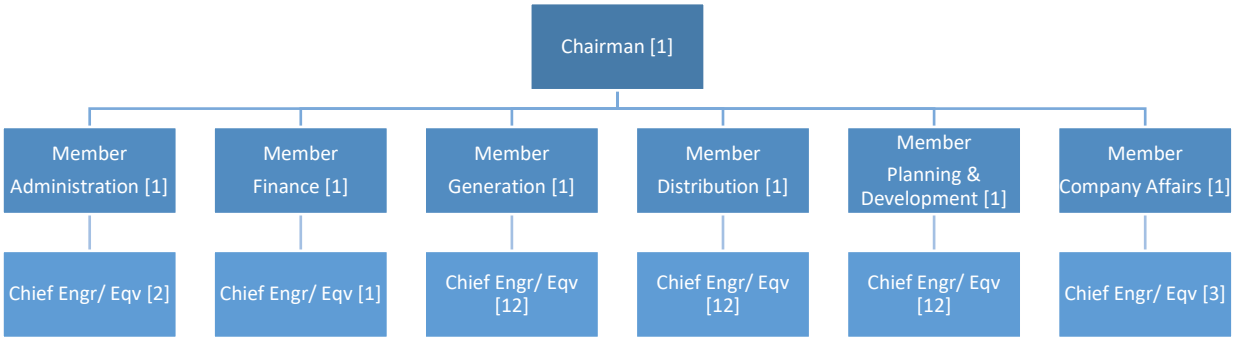

Figure 3: Top Organogram of BPDB

Under each member of BPDB, there are several chief engineers or equivalent officers and under them different director/ manager/ superintendent engineers are present who run individual offices. Again, these superintendent engineers/ directors/ managers control different offices which are run by executive engineers/ resident engineers. Office of the executive engineer or resident engineer is the lowest level in organogram which enjoys both administrative and financial power. They play the role of Procuring Entity (PE).

The member (Administration) is responsible for all administrative purposes of BPDB. Training & Carrier Development is one of the many important offices which is controlled by member (Administration). Under the Member (Finance) jurisdiction, directorate of purchase is run by a director. The Directorate of purchase is responsible for all central procurement for both generation and distribution offices. They invite tenders both locally and internationally. The member (Finance) is responsible for all financial management, accounts and audits. The member (Generation) is responsible for all generation all around Bangladesh, both BPDB and IPPs. He/ She is also responsible for electricity import from neighboring countries like India and Nepal. Generation planning, load forecasting, load management, plant work scheduling etc. are within his jurisdiction. The member (Distribution) is responsible for distribution in four

distribution zones of BPDB. All distribution lines, consumers handling, bulk power selling, revenue collection, line loss, system loss etc. are his concern. The member (P&D) is responsible for planning in total power system planning, project planning and implementation, Design etc. All power plant development projects are implemented by the member (P&D). The member (Company Affairs) is responsible for all companies and subsidiaries of BPDB. Their planning, execution, financial, payment of power selling of IPPs are looked after by this member and under his offices.

2.4.4 Procurement Activities of BPDB

BPDB needs to procure a wide range of goods/products, works and services for its proper operation and maintenance of different offices. Most of the items procured by BPDB are not the off-the-shelf items. For that reason, proper specification preparation is mandatory. For power plants, different spare parts are made available to the local store for immediate repair or replacement in case of any trouble or fault. For the distribution sector, cable snapping, transformer problems, and insulator damage are common problems. For that spare transformer, coils, transmission cables, substation equipment etc. are needed to purchase for maintenance purposes. Similar items are also required for extension of the existing system. For power generation primary fuel like gas, coal, diesel, HSD, HFO etc. are also procured from different government organizations. All local procurement activities are done by both e-GP and manual tendering processes. Individual procuring entities can procure from national competitive tendering (NCT) method. For foreign products which are not available in local market, they need to be produced by international tendering methods. For international competitive tender (ICT), Directorate of Purchase of BPDB procure the required item for the consignee. Strategic Business Unit (SBU) like Ghorashal Power Station can call for international tender. But in most cases foreign procurement is done by Directorate of Purchase, because foreign currency and special budget is allocated for foreign procurement. This office is responsible for any procurement centrally. GE, Siemens, Mitsubishi are the prominent vendors of power plants and equipment in Bangladesh.

Chapter 3

Methodology

3.1 Introduction

This chapter outlines the research methodology employed to investigate the "Uses of e-GP in Public Procurement: The Benefits and Challenges – A Case Study on Bangladesh Power Development Board (BPDB)." It details the research philosophy, design, study area, population, sampling strategy, data collection instruments, data analysis techniques, and ethical considerations. The aim is to provide a clear and comprehensive understanding of the systematic approach undertaken to answer the research questions and achieve the stated objectives of this study.

3.2 Research Philosophy & Approach

This study adopts a pragmatic research philosophy, which acknowledges that the most appropriate methodological approach is one that best addresses the research questions, rather than adhering strictly to a single philosophical stance. Given the nature of the research questions, which seek to understand both the quantifiable impacts (benefits) and the nuanced perceptions (challenges, satisfaction) of e-GP implementation, a mixed-methods approach is deemed most suitable. This approach allows for the triangulation of data, providing a more comprehensive and robust understanding of the phenomenon under investigation than either a purely quantitative or qualitative approach alone.

3.3 Research Design

A case study research design has been employed for this study, with the Bangladesh Power Development Board (BPDB) serving as the single case. This design is particularly appropriate for an in-depth exploration of a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clear or determined. Focusing on BPDB allows for a detailed examination of e-GP implementation within a large, complex public entity with significant procurement activities, providing rich insights into the practical benefits and challenges.

The study further utilizes a convergent mixed-methods design. In this design, both quantitative and qualitative data are collected concurrently, analyzed separately, and then the results are merged during the interpretation phase to provide a comprehensive understanding of the research problem. The quantitative data primarily addresses the extent of benefits and satisfaction levels, while the qualitative data provides deeper insights into the nature of challenges and recommendations for improvement.

3.4 Study Area & Population

The study was conducted within the Bangladesh Power Development Board (BPDB), a key state-owned organization responsible for power generation and distribution in Bangladesh. The target population for this study comprises BPDB employees who are directly involved in or regularly interact with the e-GP system for procurement purposes. This includes individuals holding roles such as Authorised Officers (AO), Authorised Users (AU), Procurement Entity (PE) representatives, and members of the Tender Opening Committee (TOC), Tender Evaluation Committee (TEC), and Tender Sub-Committee (TSC).

3.5 Sampling Strategy

The researcher gave emphasis on a non-probability sampling technique, specifically purposive sampling, which was primarily utilized to select respondents for the primary data collection. This approach was chosen to ensure that participants possessed direct experience and knowledge of the e-GP system within BPDB, making them highly relevant to the study's objectives. Efforts were made to include a diverse range of roles (AO, AU, PE, TOC/TEC/TSC members) to capture varied perspectives on e-GP usage.

The sample size was determined based on the accessibility of relevant personnel within BPDB and the need for sufficient data to identify patterns and themes. To gather responses, questionnaires were distributed both as an online Google survey and in hard copy among BPDB personnel. Participation was entirely voluntary. A total of 52 respondents completed the survey, providing usable data for analysis.

3.6 Data Collection Methods

Both primary and secondary data were collected to provide a holistic view of the uses of e-GP at BPDB.

3.6.1 Primary Data Collection

Primary data was collected through a structured self-administered questionnaire (as provided in the prompt). The questionnaire was designed to gather both quantitative and qualitative information from BPDB personnel.

- **Quantitative Data Collection:** Questions 1-4, 7-11 primarily captured quantitative data using categorical scales (e.g., educational qualification, years of service, formal training, regular e-GP usage) and Likert-type scales (e.g., extent of contribution, level of improvement, satisfaction levels, user-friendliness). These questions allowed for the measurement of perceptions and experiences in a standardized manner.
- **Qualitative Data Collection:** Questions 5, 6, 12, 13, 14, and the open-ended recommendation section provided avenues for collecting qualitative data. Question 5 allowed respondents to select multiple roles, offering insight into the complexity of their engagement. Question 6 (external obstacles) and Questions 12 and 13 (suggestions for improvement/future features) allowed for multiple selections, which can be analyzed quantitatively (frequency of selection) and also provide qualitative insights into specific areas of concern or innovation. The final open-ended recommendation section offered participants the opportunity to elaborate on their experiences and provide detailed suggestions, yielding rich qualitative narratives.

The questionnaire was meticulously distributed over a six-month period, from January to June 2025. This comprehensive approach involved two primary methods: an online Google survey, accessed via an emailed link, and the physical distribution of hard copies directly to various officials. This dual strategy aimed to maximize reach and convenience for BPDB personnel. Crucially, prior to the main distribution, a pilot study was conducted with four respondents. This vital step allowed for an early assessment of the questions' clarity, relevance, and comprehensibility, ensuring that any minor adjustments deemed necessary were implemented before the full rollout of the survey. This rigorous preparation aimed to enhance data quality.

3.6.2 Secondary Data Collection

Secondary data was gathered through a comprehensive review of existing literature, including:

- Academic journals, books, and conference papers on e-GP, public procurement, and e-governance in developing countries.
- Official reports and documents from the Bangladesh Public Procurement Authority (BPPA), the Bangladesh Power Development Board (BPDB), and other relevant government agencies.
- Policy documents and legal frameworks pertaining to public procurement in Bangladesh.
- Open information which was shared on the official website of e-GP Portal, CPTU/BPPA's website, BPDB's website and other government/ official sites.

This secondary data provided essential background, contextual information, theoretical frameworks, and comparative insights, complementing the primary data collected from BPDB personnel.

3.7 Data Analysis Techniques

The collected data was analyzed using a combination of quantitative and qualitative techniques, consistent with the convergent mixed-methods design.

3.7.1 Quantitative Data Analysis

Quantitative data obtained from the questionnaire were analyzed using Microsoft Excel.

- **Descriptive Statistics:** Frequencies, percentages, means, and standard deviations were calculated to summarize the demographic characteristics of respondents (Q1-5) and to describe the perceived benefits (Q7-9), challenges (Q6), and satisfaction levels (Q10-11).
- **Ranking:** For questions allowing multiple selections (Q6, Q7, Q12, Q13), responses were ranked based on their frequency of selection to identify the most commonly cited obstacles, benefits, and recommendations.

3.7.2 Qualitative Data Analysis

Qualitative data derived from the "Other" options in multiple-choice questions, the open-ended recommendation section, and any additional comments were subjected to thematic analysis. This involved:

- **Familiarization:** Reading through all qualitative responses to gain an overall understanding.
- **Coding:** Identifying recurring ideas, concepts, and phrases within the data and assigning initial codes.
- **Theme Generation:** Grouping related codes into broader themes that capture significant patterns and insights.
- **Reviewing Themes:** Refining themes to ensure they accurately represent the data and are distinct from one another.
- **Defining and Naming Themes:** Providing clear definitions and appropriate names for each theme, often supported by direct quotes from respondents.

3.7.3 Data Integration

The integration of quantitative and qualitative findings occurred at the interpretation and discussion stage. Quantitative results provided a broad overview of trends and perceptions, while qualitative data offered in-depth explanations, context, and nuanced perspectives on these trends. This triangulation allowed for a richer and more comprehensive understanding of the benefits and challenges of e-GP at BPDB, strengthening the validity of the study's conclusions.

3.8 Ethical Considerations

Throughout the research process, strict ethical guidelines were adhered to.

- **Informed Consent:** Participants were provided with a clear explanation of the study's purpose, their role, the voluntary nature of their participation, and their right to withdraw at any time without penalty. Consent was obtained through an informed consent statement at the beginning of the online survey.

- **Anonymity and Confidentiality:** Measures were taken to ensure the anonymity of respondents. No personally identifiable information was collected, and responses were kept confidential. Data collected were stored securely and accessible only to the researcher.
- **Data Usage:** Participants were assured that the data collected would be used solely for academic purposes related to this thesis.
- **Objectivity:** The researcher maintained objectivity throughout the data collection and analysis phases to avoid bias in interpretation.

3.9 Limitations of the Study

Despite the rigorous methodology, this study has certain limitations:

- **Case Study Specificity:** As a single case study, the findings, while rich in detail, may not be directly generalizable to all other public procuring entities in Bangladesh without further research.
- **Self-Reported Data:** The primary data relies on self-reported perceptions and experiences, which may be subject to recall bias or social desirability bias.
- **Time Constraints:** Limited time for data collection restricted the sample size. Sample size was small as the researcher couldn’t bind the respondent to give their opinion as it was totally voluntary in nature.

These limitations are acknowledged, and their potential implications for the interpretation of findings are considered in the subsequent chapters.

Chapter 4

Data Analysis & Discussion

4.1 Introduction

This Chapter presents the data collected from the survey questionnaire conducted by the author. Both primary data and secondary data are discussed in this section. The result drawn from primary data is analyzed and detail discussion on the extracted information collected from that data is discussed in this chapter.

4.2 Analysis on Primary Data

4.2.1 Demographic Profile of Respondents

The sample that is collected by the author in this study is totally voluntary. Those who felt interested in this topic gave data to the author. The offices of BPDB are present all over Bangladesh. So, the prime location of all respondents can't be narrow down from their result. The latest educational qualifications and years of service data were collected to understand their depth of knowledge and work experience to perform the procurement activities in professional ways and as well as in perfect manner. Time management, skill developments and other prerequisite qualifications for any procurement practitioner should be developed by either education or working for a long time in that field, that is experience.

The data collected from the respondents of the study shows that, out of 52 respondents, 34 respondents are BSC or equivalent, 17 respondents completed MSC/ Meng/MBA or equivalent and only one completed PhD or Post Doctorate study. If this data is represented in the pie chart in percentage, the representation will be likely the following.

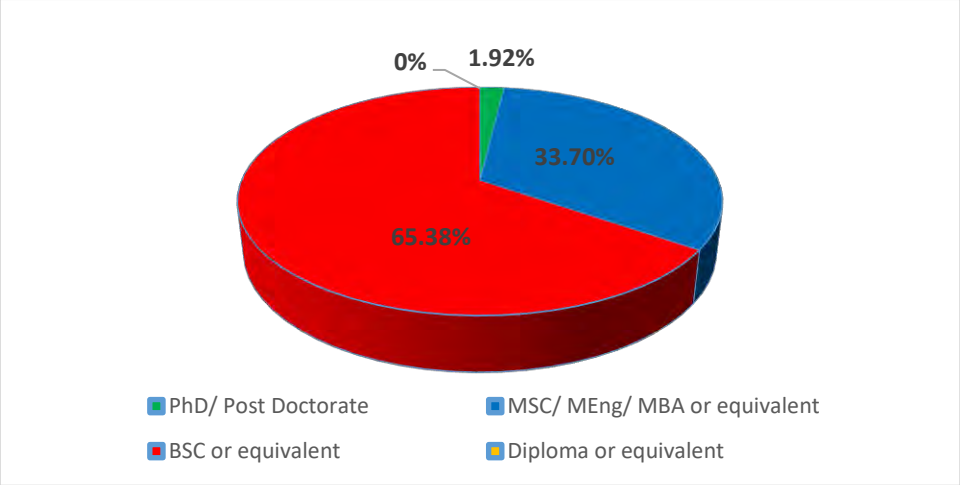

Figure 4: Educational Qualification of the Survey Respondents in Pie Chart.

Among the respondents, 65.38% have completed BSc or equivalent degree, 33.70% have completed MSc/ Meng/ MBA or equivalent degree and 1.92% have PhD or Post Doctoral degree. None of them was Diploma or equivalent. The educational qualification of the survey respondents represents a high quality dataset as because the respondents are highly educated and they know about electronic government procurement and are acquainted with modern technologies.

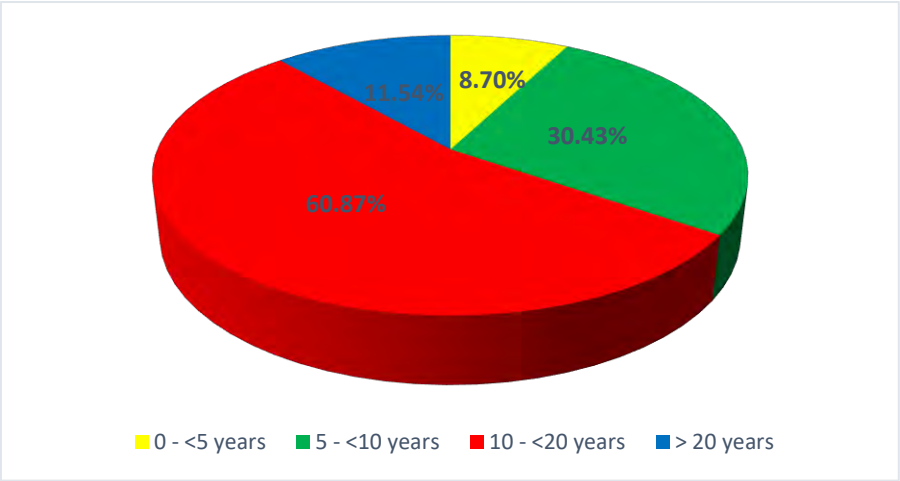

Figure 5: Work Experience of the Survey Respondents in Pie Chart.

Work experience of the respondents was collected from the survey. It is relevant with the study in a sense that, practical work experience will help professionals to take decision, procurement

planning, peer learning etc. This helps any individual immensely to learn anything new. On job training, peer pressure mechanism creates an environment to learn and adapt new things related to the work. The result of years of service, that means experience shows that most of the participants are in the middle of their service life. Maximum 60.87% of respondents have experience in between 10 to 20 years of service. Only 8.70% of the total participants have less than 5 years of job experience. That means almost all respondents are well experienced in their professional life.

Most respondents (65.38%) held a BSC or equivalent, others more than that, indicating a highly qualified sample. Most participants (72.41%) had more than 10 years of service, suggesting significant experience within BPDB.

4.2.2 Analysis of Primary Data (Acquaintance with e-GP system)

In the survey, Sl. No. 3, 4 and 5 data were collected to understand the acquaintance with the e-GP system by the respondents. Did the respondents have any formal training on e-GP, uses in procurement and their role in procurement processes were collected from this part of the survey.

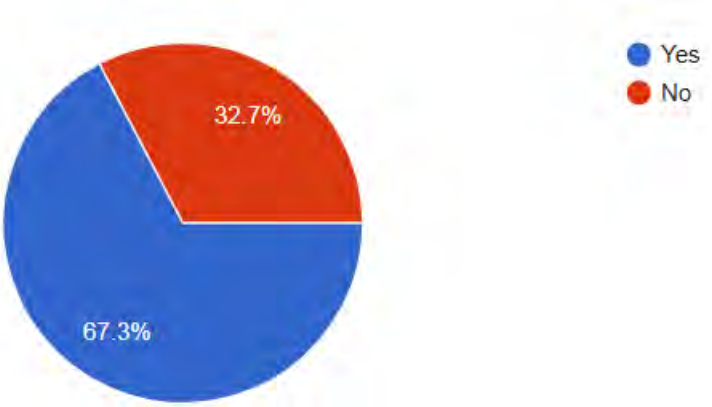

Figure 6: Response of the Respondents on Formal Training on e-GP System.

From the sample data, it is seen that 67.3% of respondents had formal training on e-GP. So, most of the respondents had training and knew how to use the e-GP website and all other things.

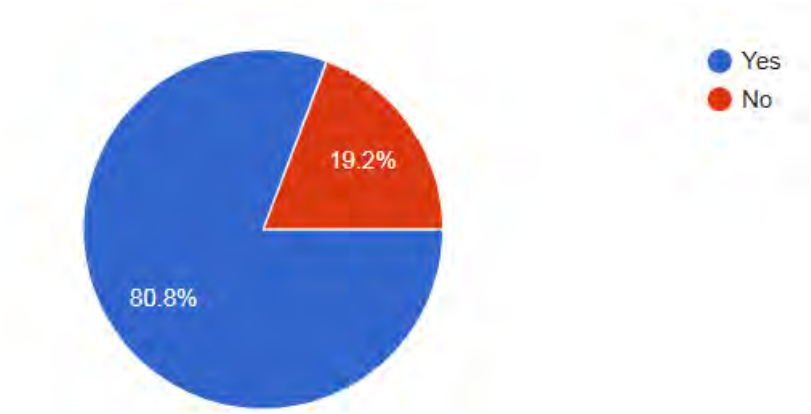

Figure 7: Regular Uses of e-GP System for Procurement by Respondents.

About 81% of respondents use e-GP for their regular procurement purposes. As it is made mandatory to use e-GP in government procurement, it is natural that this result would be high. And the rest may not have procurement activities in their offices or not within their jurisdiction. If we compare these two results, then we understand that many of the individuals have been working on e-GP system without having any formal training either from CPTU/ BPPA or from BPDB. They may learn the system from other sources like knowledge sharing among colleagues, online platforms like Facebook group, WhatsApp, Telegram or any other source.

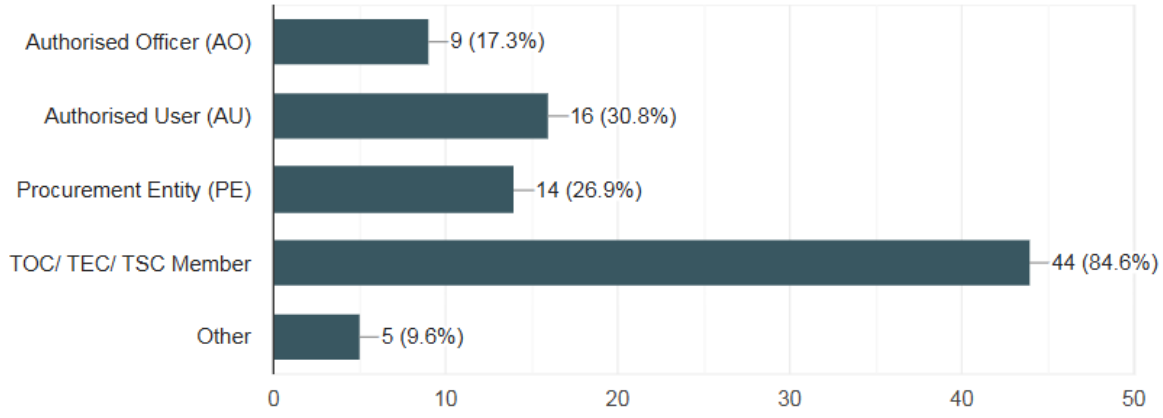

Figure 8: Procurement Roles Performed by the Respondents in e-GP System.

While we are considering respondents role in procurement activities, we see that maximum 84.6% have played a role in the tender evaluation stage, either TOC/ TEC/ TSC member. Very recently the authority of e-GP system withdraws the Tender Opening process by TOC. They feel that as it is an electronic and automatic system, there is no need to open it. The system automatically generates the reports, and it helps the users profoundly. The context of finding

respondents role in e-GP system was to understand how well the respondents were familiar with this system and what are the role they played most in this system. Multiple options were available in this question. The top three roles were TOC/ TEC/ TSC member, Authorised User and Procuring Entity respectively.

4.2.3 Analysis of Primary Data (Benefits of e-GP)

In Survey, Q8 and Q9 were collected in such a manner so that it would be easy to understand the effect of e-GP systems on procurement and how BPDB benefits from the system. E-GP system has many benefits. These benefits can be described in various dimensions. It reduces bureaucratic barriers, wastes time and money, saves energy and effort or in simple word workhour of individuals etc. In PROMIS, 12 indicator categories are divided into 42 process indicators. Among them 13 process indicators are directly and indirectly related to time. As time is the essence of work, specially in BPDB, electricity disruption will affect exponentially, that's why special emphasis was given by the researcher to find out the effect of time due to introduction of e-GP in procurement. Right time is also very important in different aspects of procurement. It is one of the 5 fundamental rights of procurement. It also related to 8 process wastes, which are called TIMWOODS in acronyms. Transportation, Inventory, Motions, Waiting, Overproduction, Overprocessing, Defects, and Skills, these are 8 wastes that need to be reduced for Lean efficiency and process optimization. That's why time and efficiency feedback were taken from the respondents through the questionnaire.

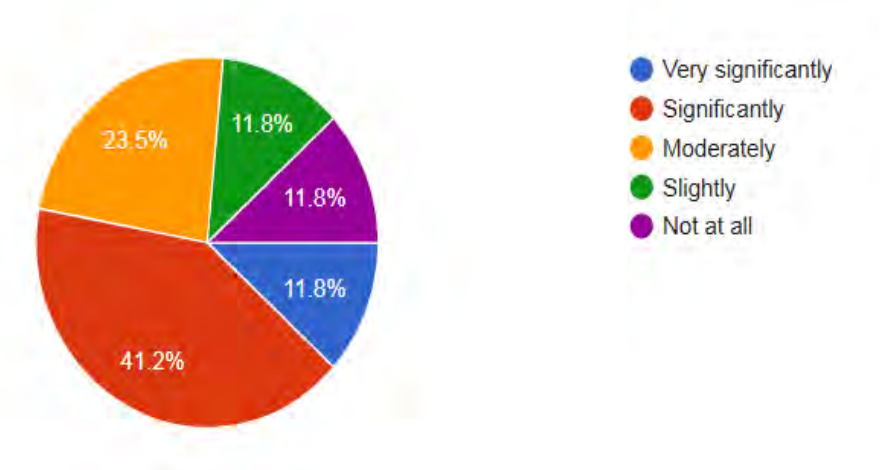

Figure 9: Respondents' Response on Reduction of Overall Time in Procurement Cycle.

If we analyze the data collected from the respondents on the performance of electronic Government Procurement Cycle that what their belief about reducing overall reduction of procurement cycle that is from tender preparation, tender invitation, evaluation, award, contract implementation, receiving goods, works or services, payment. From the above table and pie chart, we see maximum 41.2% respondents believe that e-GP system reduces overall time in procurement cycle significantly, 23.5% moderately and 11.8% equally in not at all, slightly and very significantly.

Marking	Point	Population	Score
Not at all	1	6	6
Slightly	2	6	12
Moderately	3	12	36
Significantly	**4**	**22**	**88**
Very Significantly	5	6	30
	Total	**52**	**172**
	Average		**3.31**

Table 1: Total Score on Overall Time in Procurement Cycle.

If we see the table, then from the Likert chart, the total score is 172, average is 3.31. Mean value is therefore 3.31, median 4 and mode also 4. That is, we may come to a decision that e-GP significantly reduces the procurement cycle time from this study.

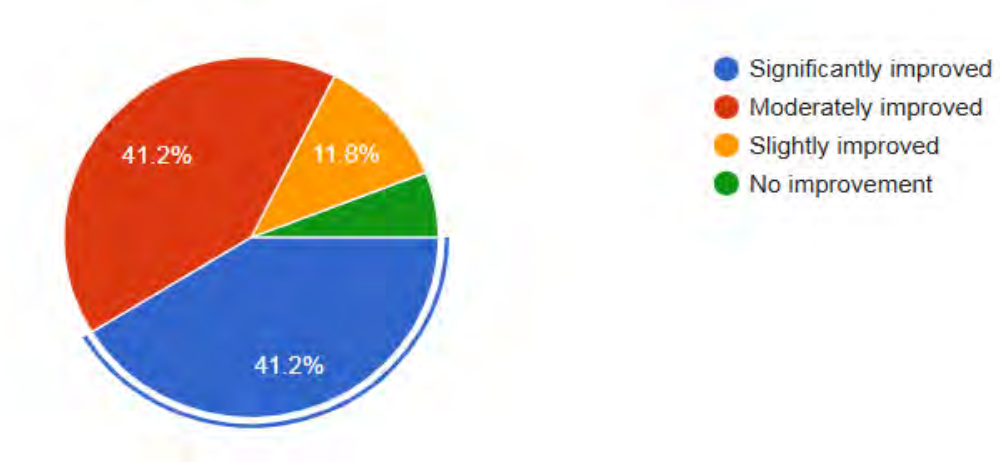

Figure 10: Respondents' Responses on Increases of Efficiency in Procurement Process.

Another criterion in the survey study was efficiency identification in procurement process using e-GP system. In manual system, tender advertisement, publication, document preparation, Evaluation, Contract management all needs a lot of time and man-hour to do all tasks. There is a high chance of error in manual process of tendering. It needs correction and a lot of paperwork is needed. But in the e-GP system, there is no hassle like that. From Annual Procurement Plan to Final Payment, all can be done on a single platform. In the survey, 41.2% of respondents believe that efficiency in the procurement process improved significantly, 41.2% of the respondents believe it improved moderately. A total of 82.4% of the survey respondents gave positive notions regarding efficiency increases in procurement processes by e-GP system. Q8 and Q9 can be represented quantitatively, whereas Q7 was quite descriptive and qualitative in nature. Here multiple options were given to find out the main benefits of e-GP system that BPDB has cashed out after implementation.

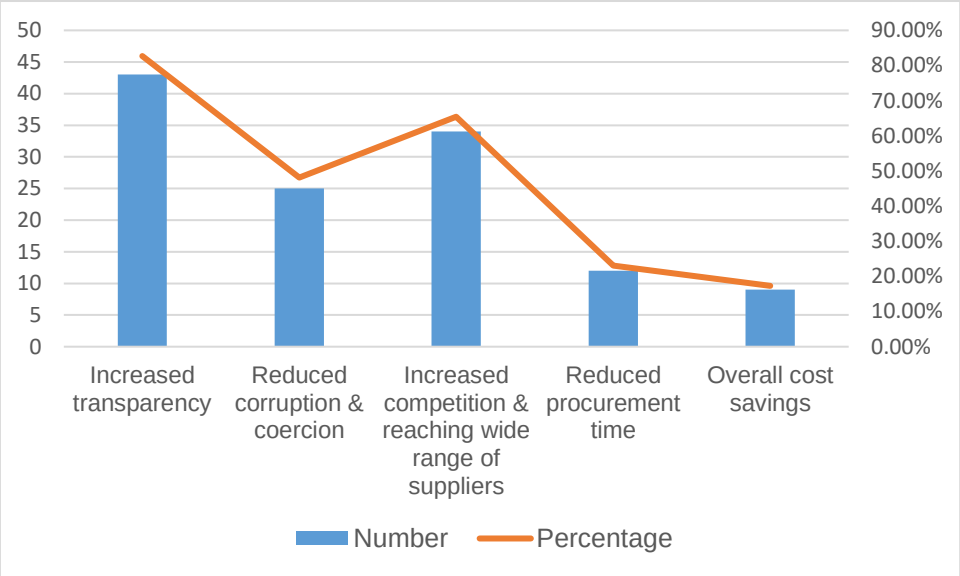

Figure 11: Benefit Realization after implementing e-GP System in BPDB.

If we see the response of the respondents, maximum 43 (82.69%) respondents agreed with the increased transparency of use of e-GP system. In manual method of procurement, tender materials and evaluation reports are confidential. But in the e-GP system, all are kept confidential but accessible to the authorized personnel anytime anywhere. The record keeping is another feature of e-GP system which helps with back tracking to avoid any tender rigging or any misuse of power in tendering process. Next benefits of e-GP system that was chosen by the respondent is increased competition & reaching wide range of suppliers. 34 (65.38%) out of 52 respondents gave a positive response in this choice. Though newspaper publishing is still

practiced, in this system tenderers/suppliers can see a wide range of IFT notices in real time when it is published on website. They can choose whatever they like from a large pool of invitations. Similarly, tender callers get a competitive price due to large sets of bidders. Not only price, but they also come across different products with the same specifications and know their features. It helps them to enrich their knowledge and in future planning. The third one is reduced corruption and coercion. 25 (48.08%) respondents thought that after implementing e-GP system in BPDB, corruption and coercion practices had reduced. In manual process, there is high chance of corruption, purchaser and supplier may induce corruptive practices in procurement process and coercion practices by influential contractor was a common phenomenon in Bangladesh. After e-GP system implementation, these scenarios have changed.

4.2.4 Analysis of Primary Data (Challenges of e-GP)

A question was asked to the respondents regarding external obstacles that they have been facing while using the e-GP system.

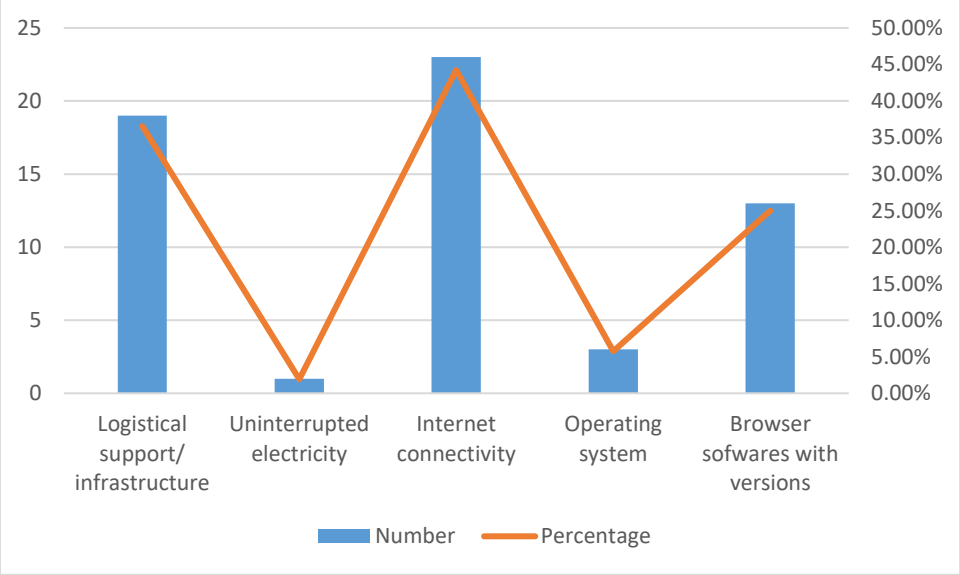

Figure 12: External Obstacles Faced by the Respondents While Using e-GP System.

23 (44.23%) participants out of 52 respondents are facing internet connectivity problems. Though in recent years electricity disruption or load shedding problems [1 (1.92%)] have been overcome due to drastic measures taken by the authorities, high speed uninterrupted internet connectivity is still a big issue for us. The second highest option that was chosen by the respondents is logistical support/ infrastructure. To use e-GP system in the office, an user should have a computer or a laptop with other accessories like printer, scanner and must have

an internet connection. But sometimes due to limited resources, budget and funding problems and some other bureaucratic problems, it is not possible for any big organization like BPDB to provide the same facilities at root level offices. 19 (36.54%) respondents gave their opinion in this regard. Another obstacle is browser software with versions. Recently BPPA (CPTU) looked at this matter seriously to eradicate this shortcoming. Now e-GP website is accessible to all internet browsers, but page loading time varies from browser to browser.

4.2.5 Analysis of Primary Data (User Satisfaction and Future Improvements)

In Q11, e-GP websites user friendliness, that means users feedback was taken into account. The response was taken in the Likert scale, out of 5.

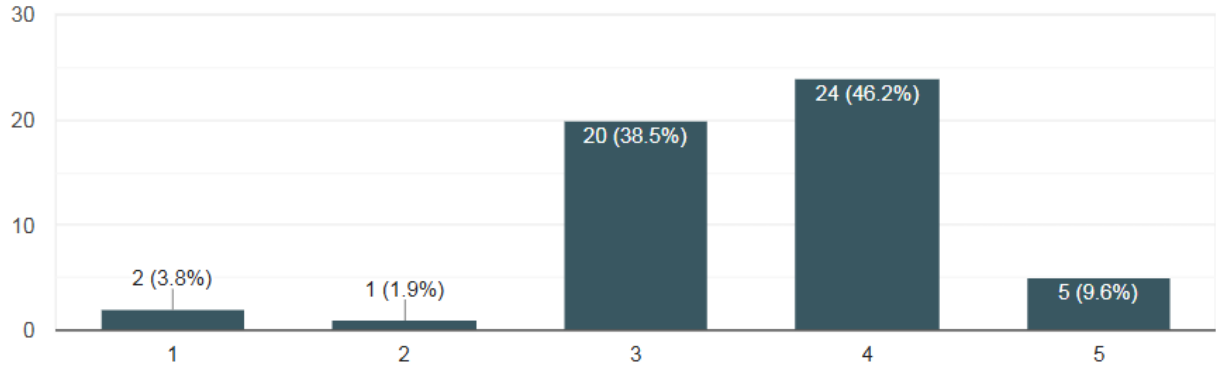

Figure 13: User-Friendliness of e-GP Website Perceived by the Respondents.

Point	Population	Score
1	2	2
2	1	2
3	20	60
4	**24**	**96**
5	5	25
Total	**52**	**185**
Average		**3.56**

Table 2: User-Friendliness of e-GP Website Perceived by the Respondents.

Now, if we see the user-friendliness of the present e-GP website, then from the respondent's response, 24 of them gave 4 out of 5, 20 of them gave 3 out of 5. The total score was 185, averaging 3.56. Median and mode are 4. From the tabulation, it is well understood that present

e-GP website is quite user friendly to the users of Bangladesh Power Development Board (BPDB).

Then different features of the e-GP system were considered individually, and respondents' response were collected.

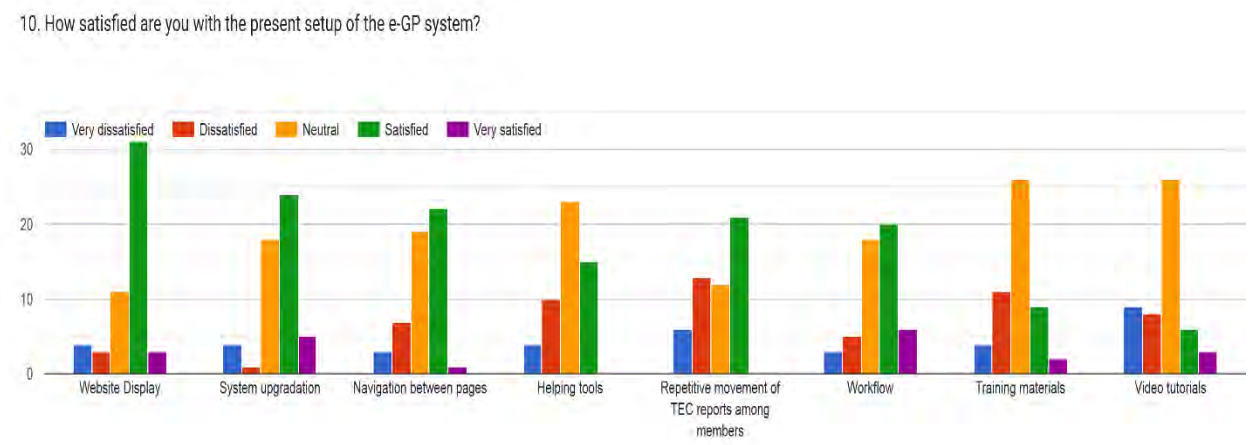

Figure 14: Bar Chart of Users' Satisfaction on Present Setup of the e-GP System.

From the survey on e-GP system experience, a total of 8 features were selected by the researcher to collect experience from the users of BPDB. These were website display, system upgradation, navigation between pages, Helping tools, Repetitive movement of TEC report, Workflow, Training materials, Video tutorials. All survey respondents gave their opinions in descriptive manner, but which can be easily convertible in the value of the Likert Chart, out of 5. Where 1 means very dissatisfied, 2 means dissatisfied, 3 means neutral, 4 means satisfied and 5 means very satisfied. The bar chart distribution is shown above.

The bar chart diagram is not enough to distinguish their opinion. For that reason, cumulative total score calculated and average score of individual features are plotted in the radar diagram.

Name of features	Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied	Total Score	Average Score
	1	2	3	4	5		
Website display	4	3	11	31	3	182	**3.50**
System upgradation	4	1	18	24	5	181	**3.48**
Navigation between pages	3	7	19	22	1	167	**3.21**
Helping tools	4	10	23	15	0	153	**2.94**
Repetitive movements of TEC reports among members	6	13	12	21	0	152	**2.92**
Workflow	3	5	18	20	6	177	**3.40**
Training materials	4	11	26	9	2	150	**2.88**
Video tutorials	9	8	26	6	3	142	**2.73**

Table 3: User Satisfaction of Present e-GP Set-up Perceived by the Respondents.

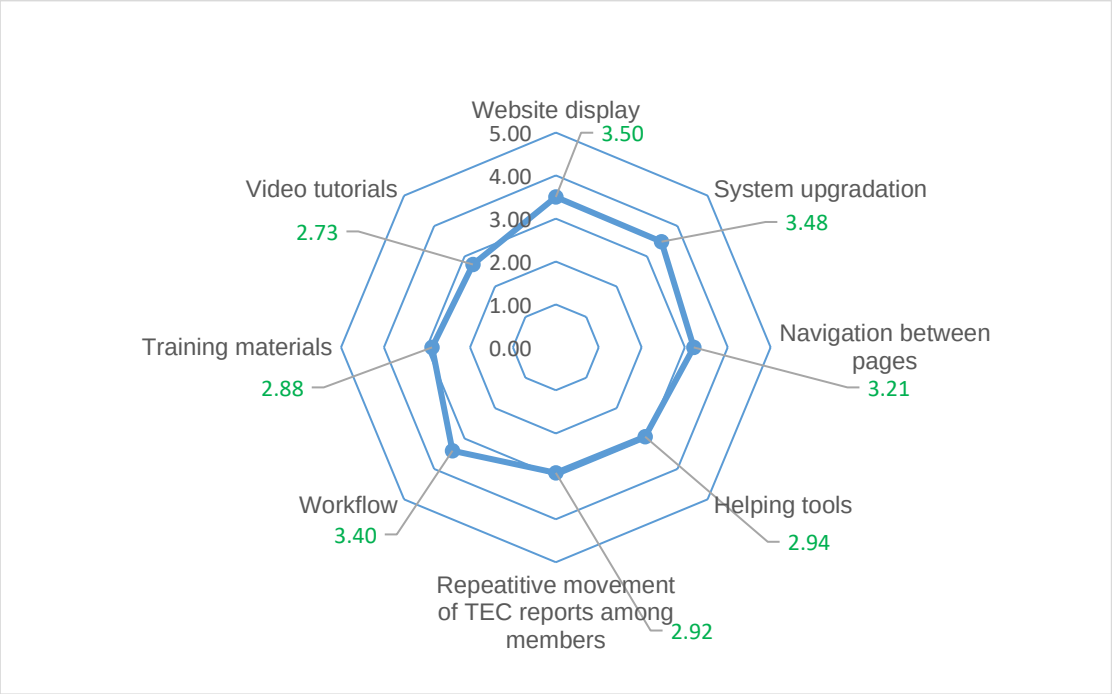

Figure 15: Radar Diagram of Present Setup of the e-GP System.

From the above table and radar diagram, we observed that the users were not very happy with the present setup or facilities of e-GP system. Specially helping tools, movement of TEC reports, training materials and video tutorials score were below average value 3.0. That means,

they were dissatified with current performance of these features. BPPA may consider their valuable feedback and update these features in future.

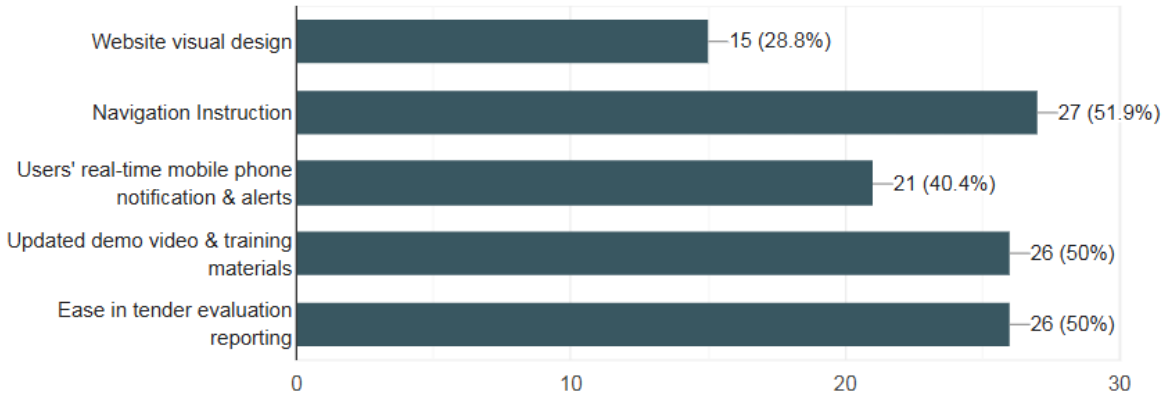

Figure 16: Respondents View on Upgradation of Present Features of e-GP System Application.

The author of this publication thought that e-GP System application should be improved. For that reason, some options were given to the participants to find out what were the specific fields the e-GP application should be improved or upgraded. The survey revealed that 51.9% of respondents felt that navigation instructions should be improved. At present, no instruction is given to the users of e-GP system. If navigation instruction is implemented, then new users will be more likely to use this application. Thus, the user friendliness of this application will increase. Another criterion is ease in tender evaluation reporting. Currently 4 (Four) reports are prepared during evaluation. These are

1. Eligibility evaluation
2. Technical evaluation
3. Financial evaluation
4. Post qualification evaluation

Every time for evaluating any tender, sequence is followed, and reports are moving back and forth multiple times between members of the evaluation team. It causes irritation among the users. Even no real time messaging and mailing options regarding evaluation time are not incorporated into the present system. If real time messaging or notification is introduced, then evaluation time will significantly reduce. The total tendering process will take less time than present, which will reflect in PROMIS. In PROMIS, indicator no 14, 15, 19, 22 are directly related to evaluation and time. Procurement Performance Report prepared by CPTU on a

quarterly basis, indicator no. 14, that is the average number of days between tender opening and evaluation will be reduced and indicator no. 15, that is percentage of tender/ proposal evaluation has been completed within timeline will be increased. Thus, cumulative performance will be increased.

Other options which are given to respondents are Updated demo and training materials. As it is not possible to engage training sessions frequently because of cost, manpower, funding all are matters, BPPA may think about other options like self-pace learning on e-GP system by providing resource materials and demo video. It will help new users profusely and make the application a lot easier.

Users' real-time mobile phone notification and alert is another option. It will help users with a reminder to log on to the system and do desire or required task immediately. Thus, downtime will be reduced greatly. In summary the three key main proposals from the respondents that came from survey are user navigation instruction, updated demo video and training materials and ease in tender evaluation reporting.

In survey questionnaire, some options were given to the respondents from where they should choose future scope of e-GP system that they believe that incorporation of these items will help e-GP system profusely.

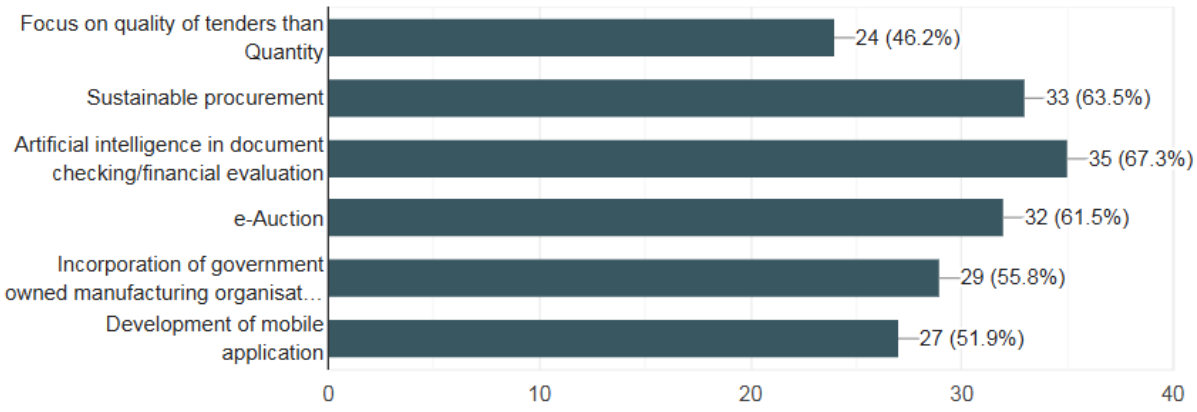

Figure 17: Future Improvement or Incorporation to the e-GP System by Respondents.

6 criteria were given to the respondents to choose what they feel that these features should be included in the e-GP system. Key suggestions for future development include the addition of e-Auction features (61.5%), sustainable procurement (63.5%) and artificial intelligence in document checking/financial evaluation (67.3%). Multiple options were given to respondents to choose.

As auctions are troublesome events and hard to arrange, it would be beneficial to the users if the system is incorporated into the e-GP system. Auctions are just like tenders, but evaluation is in reverse order, and the highest bidder is awarded. The terminology in tendering process and auction are different also. There is an estimation which is called reserve price in auction. If an auction system is introduced in e-GP, side by side updated auction policy is introduced by BPPA which can be applicable to all government agencies, then e-GP users, especially PEs will benefit immensely. They may sell obsolete products, damaged items quickly. Thus, store management, inventory, required space for storing etc. will be effected positively.

Next feature is sustainable procurement. Sustainable procurement is the practice of integrating economic, environmental, and social criteria into the procurement processes of goods, services, and works. It involves selecting suppliers and products not only based on cost and quality but also considering long-term sustainability impacts such as reducing environmental harm, promoting social equity, supporting local economies, and ensuring ethical business practices. Sustainability through procurement can be achieved by incorporating environmental and social sustainability standards into tender documents. The e-GP system may introduce this matter in standard tender documents where bidder must adhere to the environmental rules, mandate compliance with sustainability standards, such as energy efficiency, waste reduction, and ethical sourcing. Sustainable Public Procurement (SPP) Policy was introduced by Government of Bangladesh (GoB) in 2023. But it is not fully implemented. Initially the price of sustainable products and sourcing costs will be high, but in the long run, local manufacturers and suppliers will be capable of producing international standard products. Thus, new opportunities like exporting in international markets like European Union and USA will be created and Bangladesh will be financially benefitted. 33 respondents (63.5%) agreed with the implementation of sustainable procurement in the survey.

Another point is that implementation of AI (Artificial Intelligence) in document checking/ financial evaluation. In document checking during tender evaluation, AI may help the

committee members with authenticity of Trade license, Tax Identification Number (TIN) etc. which are mandatory for all tenders. Recently in the revised e-GP guidelines, competent authority has decided to incorporate different systems to check the data provided by the bidders while participating in tenders. AI can also help in financial evaluation where in item-by-item basis tender, individual item wise price can be compared which will help to identify too low price for that application of front loading can be easier. Another one is for the lot-by-lot tendering method. When one package is segregated into some lots, then different combinations, price comparison and their evaluation can be easily done with the help of artificial intelligence. Other notable features that can be implemented in the e-GP system are the focus on quality of tenders rather than quantity of tenders, incorporation of government owned manufacturing organization for DPM, and development of mobile application.

Another response from respondents was taken regarding necessity of regular feedback from stakeholders. The representation is shown in pie chart.

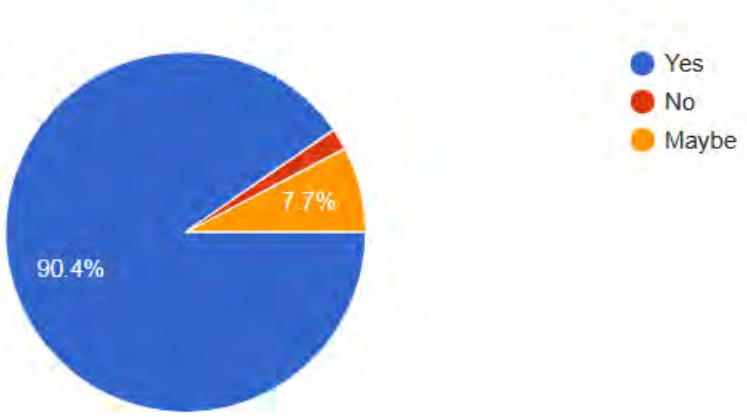

Figure 18: Requirement of Feedback for Continuous Development from Stakeholders.

Finally, 90.4% of respondents agreed that BPPA should regularly collect feedback from stakeholders to improve the e-GP system. They felt that it is necessary for continuous development.

In qualitative open recommendations, various points were raised by the respondents. Key points were mobile app development, ease of debarring, application of AI in evaluation, and regular training of personnels.

4.3 Presentation of Secondary Data

4.3.1 e-Tendering data collection

Secondary Data were collected from BPDB's official website and from e-GP Portal during January 2025. At that time the total number of Procuring Agency (PA) in e-GP Portal was 12625, which is quite a significant figure. The distribution of Procuring Agencies and their Procuring Entities (PE) are shown in Table 4 [9].

Sl. No.	Name of Procuring Agency (PA)	No. of Procuring Entity (PE)
1.	BIWTA	127
2.	Bangladesh Police	192
3.	**Bangladesh Power Development Board**	**592**
4.	Bangladesh Railway	154
5.	Bangladesh Water Development Board	279
6.	Department of Fisheries	640
7.	Department of Livestock Services (DLS)	155
8.	Department of Public Health Engineering (DPHE)	290
9.	Directorate General of Health Services (DGHS)	766
10.	Directorate of Technical Education	207
11.	Information and Communication Technology Directorate	316
12.	Local Government Engineering Department (LGED)	1301
13.	National University	128
14.	Public Works Department (PWD)	207
15.	Roads & Highways Department (RHD)	239
16.	Rural Electrification Board (REB)	100
17.	Others	7660
	Total Number	**12625**

Table 4: Name of Procuring Agencies & Number of Procuring Entities in e-GP Portal (January 2025)

If we closely look at the figures of procuring entities registered in e-GP Portal, then we find that the Local Government Engineering Department (LGED) has the highest number of procuring entities. They have 1301 PEs (10.30%), which is more than 10% of total registered PEs in this government portal.

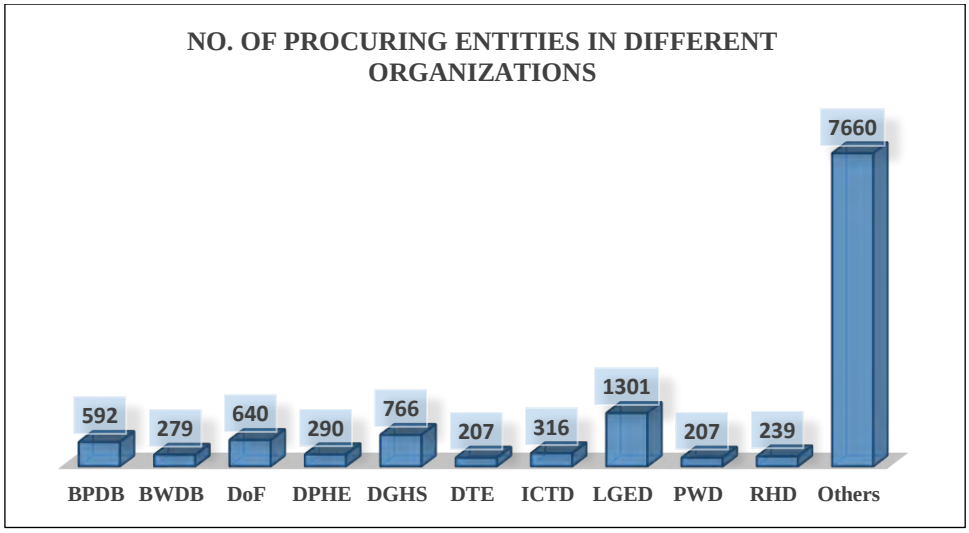

Figure 19: No. of Procuring Entities in Different Organizations (January 2025)

The number of registered PEs of Bangladesh Power Development Board (BPDB) in e-GP Portal in January 2025 was 592, which is nearly 5% of the total number. Then we tried to investigate the procuring records of BPDB. BPDB started using e-GP back in 2012-13. Only one PE and one procurement was completed in that financial year. In the next year 2013-14, the number of PE was 2 and the invited tender were 29. Out of 29 tenders, 8 were goods and 11 were work tenders. In total, 58% of tenders were work tender and 42% were goods tender.

Financial Year	2012-13	2013-14
No. of PEs	1	2
No of Invited Tender	1	29

Table 5: No. of PEs and Invited Tender of BPDB During Starting Years

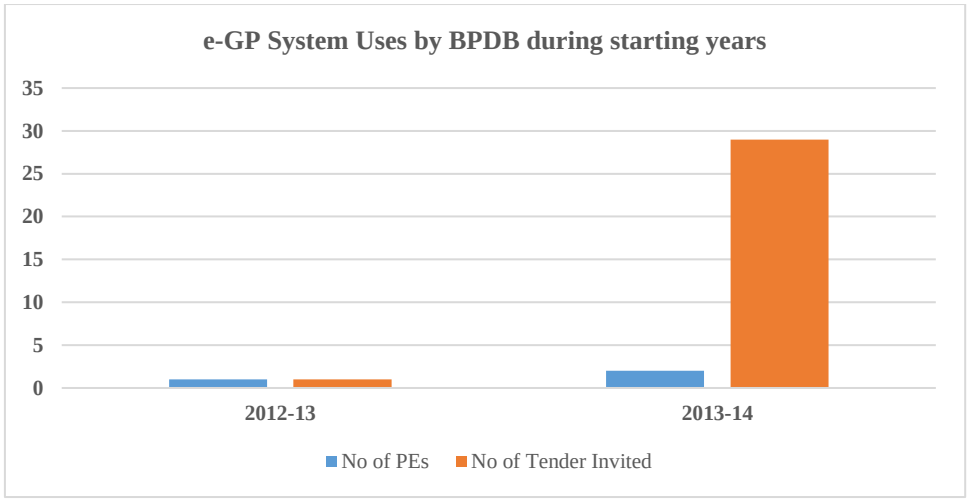

Figure 20: e-GP System Uses by BPDB During Starting Years

Then if we see the recent uses of e-GP portal for procurement purposes of BPDB professionals. In 2022-23, 212 PEs of BPDB published their Annual Procurement Plan (APP) in e-GP and they invited 2127 tenders in Open Tender Method (OTM) through e-GP. Out of 2127 tenders, 774 tenders were for goods, and the remaining 1353 tenders were for works procurement. And in the last financial year, that is in 2023-24, 232 PEs of BPDB published APP in e-GP system and 2432 tenders were invited. Out of 2432 tenders, 796 tenders were related to goods, and 1636 tenders were related to works procurement.

Financial Year	2022-23	2023-24
No. of PEs	212	232
No of Invited Tender	2127	2432

Table 6: No. of PEs and Invited Tender of BPDB in Recent Years

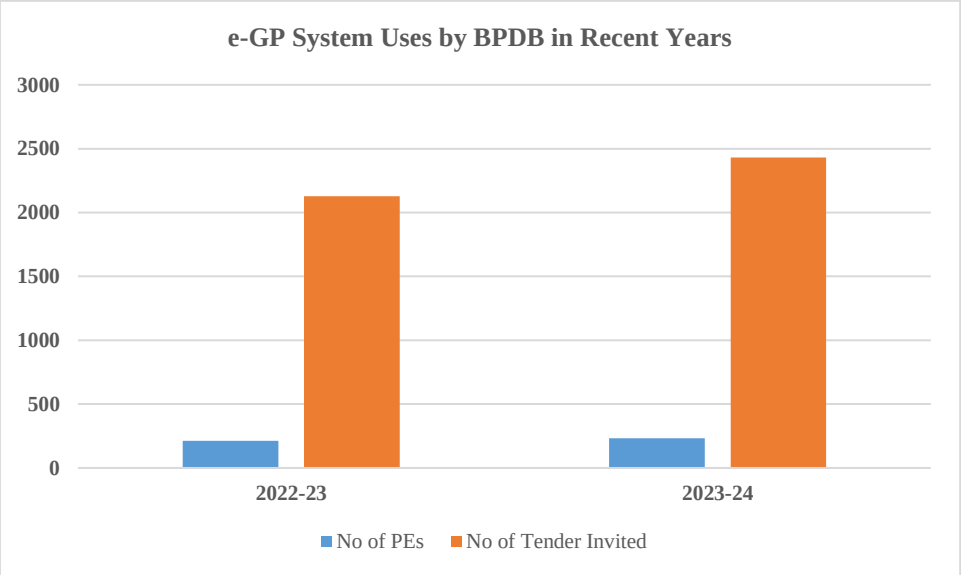

Figure 21: e-GP System Uses by BPDB in Recent Years

The secondary data collected from e-GP portal regarding uses of e-GP system by BPDB, we have seen clearly that, in every year new PEs were added to the system and number of tenders invited by e-GP system were increasing. Just last year, the number of tenders invited increased by 14.34% from the previous year, which is quite a remarkable achievement for an organization. It represents the work volume and capability of the organization to handle such humongous subsidiary work properly and efficiently.

In addition, various Key Performance Indicators (KPIs) from the overall Procurement Management Information System (PROMIS) report were reviewed within these period prepared by CPTU and BPPA. In the PROMIS report, 42 parameters in 12 indicator categories

are distributed and these values are measured on a quarterly basis. Tender Evaluation category is relevant to this study. The researcher tried to find the ways by which this category's performance can be further improved; thus, total lead time will be reduced. Then the total procurement system will be more efficient and reduce different waste which is discussed earlier in this section.

4.4 Conclusion

In this section, all the primary data collected from the questionnaire conducted by the researcher was analyzed and discussed elaborately. The author also tried to link up the primary data and the secondary data which are gathered from different sources. The qualitative and quantitative data gathered from the survey are represented in different visual methods to get insight of the data. The focus of this study is concerned to Bangladesh Power Development Board (BPDB) only. Primary data presents respondents' view and secondary data represents performance of BPDB on e-GP system as an organization. From the secondary data collected from different websites and by analyzing this, we can easily come to the conclusion that BPDB has adopted the e-GP system for procurement purposes extremely well within a decade, which was introduced in 2012. Chapter 5 provides the study's conclusions and recommendations based on the key findings of this study.

Chapter 5

Conclusion & Recommendations

5.1 Conclusion

In this chapter, the study's primary conclusions and recommendations are outlined clearly. Since its introduction in 2012, Bangladesh's e-Government Procurement (e-GP) system has significantly reshaped government procurement processes. The e-GP system has effectively addressed previous inefficiencies, including administrative delays, bureaucratic complications, and unnecessary administrative expenses. As a result, the entire procurement procedure has become more streamlined and cost-effective, thereby enhancing overall operational performance.

Furthermore, the adoption of e-GP has noticeably improved transparency, compliance, efficiency, and competitiveness among bidders. Initially, procurement officials and suppliers faced difficulties and hesitated to utilize the system due to a lack of familiarity. However, as time progressed and stakeholders became acquainted with the system's functionalities, confidence in using e-GP increased markedly. Users now find the system convenient, intuitive, and effective, facilitating seamless procurement transactions.

Considering the key findings from the survey conducted on BPDB personnel, multiple recommendations are suggested in recommendations section to further improve the efficiency and effectiveness of the e-GP system. Additionally, comprehensive training programs should be established to improve BPDB users' as well as other officials of different organizations capabilities, system proficiency, and adaptation. Finally, implementing robust security, transparency, technology and continuous modification or improvement measures is recommended to ensure continued confidence in the e-GP platform, ultimately contributing to more efficient and accountable public procurement processes in Bangladesh.

5.2 Summary of Major Findings

In this study, a detailed analysis of data collected from the survey conducted among officials of the Bangladesh Power Development Board (BPDB). Responses from 52 professionals holding various engineering positions indicate balanced participation across hierarchical levels, primarily Executive Engineers and Sub-Divisional Engineers. Educational backgrounds were diverse, with most respondents possessing graduate qualifications.

Findings revealed that approximately two-thirds of respondents received formal training on the e-GP system, indicating a notable gap that may affect efficiency. BPDB primarily uses the e-GP portal for local procurement activities, with regular utilization by most respondents. However, international procurement remains outside the system, unchartered due to complexities and lack of supplier familiarity internationally.

Respondents identified several external obstacles affecting effective e-GP utilization, notably logistical and infrastructure limitations and internet connectivity. Transparency, competitiveness, and wide spreading of tenders are the fruits that the respondents perceived due to implementation of the e-GP system in BPDB. Respondents believed that overall procurement cycle time is reduced, and procurement process efficiency increased due to introduction of this system. Regarding system usability, satisfaction levels were moderate; most participants expressed neutrality or moderate satisfaction with the website's interface, navigational convenience, workflow and system upgradation. However, a significant portion showed dissatisfaction with helping tools like manuals, process flow diagram, Evaluation reporting processes, training materials and video tutorials.

To improve the system, respondents emphasized enhancements in navigation instructions, user training materials, and ease in evaluation reporting. Recommendations include incorporation of modern technology like Artificial Intelligence (AI), introduction of e-auction, and integrating sustainable procurement criteria. Additionally, survey participants highlighted the importance of introducing advanced functionalities like real-time notifications, mobile app integration, special consideration for DPM of government organization.

Regular feedback from stakeholders was strongly recommended (90.4%) to ensure continuous improvement of the e-GP system, facilitating better transparency, efficiency, and long-term user acceptance.

5.3 Recommendations

To further enhance the e-GP system's effectiveness, several measures should be prioritized. Firstly, addressing infrastructural limitations, especially improving internet connectivity nationwide, is critical. Government should consider alternatives to increase data bandwidth all over the country, not solely relying on private companies. Public companies like BTCL should be utilized to strengthen the system and regular follow-up is needed. BPDB, side by side BPPA, may work on infrastructure support and logistics like computer, printer, scanner, router etc. to give support to the users. Now for the e-GP online portal, the system interface requires user-friendly navigation tools, detailed instructions, and updated training and video materials which will be beneficial for stakeholders should go through transformation. Introducing automated evaluation processes using AI, e-auction, real-time messaging, and notification features will significantly reduce delays and enhance user satisfaction. Furthermore, implementing sustainable procurement guidelines can support long-term environmental and economic benefits. Regularly conducting stakeholder surveys and gathering continuous feedback should become integral to policy-making processes to maintain improvements and facilitate ongoing enhancements of the e-GP system, thus ensuring sustained transparency and efficiency.

5.4 Future Research and Development Opportunities

Several areas of improvement have emerged as opportunities for future research and development in Bangladesh's e-GP system. Firstly, further studies should prioritize enhancing technical functionalities. This specifically involves implementing automated tender evaluation procedures, enabling comparison between individual critical item prices and prevailing market or estimated values. Such automated comparison mechanisms could highlight significant price deviations, thereby reducing risks associated with contract management, especially front-loading concerns that emerge during later stages. Additionally, the development and integration of user-friendly mobile applications should be explored to enhance the accessibility and convenience of the system.

Moreover, the introduction of mobile-based alert systems to notify users about procurement activities in all stages could significantly improve response times and user engagement. Given that cybersecurity remains a major concern, extensive research into securing data through advanced encryption and authentication measures is essential. Protecting sensitive procurement information from unauthorized access will reinforce users' trust in the platform.

Future studies should also examine the integration of sustainable procurement practices within the existing e-GP framework and its challenges. Research may include developing criteria for evaluating environmental and social sustainability within procurement decisions, such as comparing individual critical item prices against market benchmarks to detect and prevent risks like front loading, thereby mitigating contractual complications during the contract management phase.

In addition, future research could explore the perceptions and feedback of all stakeholders, including procurement officials, bidders, suppliers, and policymakers. Such comprehensive stakeholder feedback would illuminate existing challenges and generate practical insights for systemic improvements.

The scope of this study was deliberately confined to ensure a manageable and focused research task. Consequently, several critical areas that demand attention for the future development of the e-GP system were not explored. These include the necessity for continuous technological advancement within the e-GP platform itself, such as integrating emerging technologies like artificial intelligence for automated document checking or blockchain for enhanced security. This encompasses upgrading hardware, servers, and power backup systems.

Lastly, comparative research into global e-procurement best practices could be highly beneficial. Studying effective international examples, such as those of United Kingdom, South Korea, Estonia, Portugal, Australia or Ukraine, may provide valuable insights into effective strategies, technological innovations, and policy frameworks. Establishing systematic feedback loops and benchmarking Bangladesh's e-GP system against these global standards will ensure ongoing enhancements, adaptability, and sustained effectiveness in public procurement practices.

References

[1]	Bangladesh Public Procurement Authority (BPPA) official website, https://cptu.gov.bd/about-cptu/central-procurement-technical-unit.html
[2]	Chartered Institute of Procurement & Supply (CIPS) official website, https://www.cips.org/
[3]	Public Procurement Rules, (2008), People's Republic of Bangladesh
[4]	e-GP guidelines, (2011), People's Republic of Bangladesh
[5]	Public Procurement Act, (2006), People's Republic of Bangladesh
[6]	Sustainable Public Procurement Policy, (2023), People's Republic of Bangladesh
[7]	Public Procurement (Amendment) Ordinance, (2025), People's Republic of Bangladesh
[8]	e-Government Procurement (e-GP) Guidelines (Revised), 2025, People's Republic of Bangladesh
[9]	e-government procurement (e-GP) Portal of Bangladesh, http://www.eprocure.gov.bd/
[10]	Bangladesh Public Procurement Authority (BPPA) official website, https://www.bppa.gov.bd/
[11]	Bangladesh Power Development Board official website, https://www.bpdb.gov.bd/
[12]	Annual Report 2023-24 Bangladesh Power Development Board, Source: https://www.bpdb.gov.bd/

Appendix A: Survey Questionnaire

Survey Questionnaire on e-GP System

This survey is about e-GP practices by officials of government, semi-government, and autonomous organizations. Your response is valuable for the researcher. The researcher assures you that the information given by you will be kept confidential & will be used only for academic purposes.

* Indicates required question

1. Name *

2. Designation *

3. 1. Last educational qualification *

Mark only one oval.

- ◯ PhD/ Post Doctorate
- ◯ MSC/ MEng/ MBA or equivalent
- ◯ BSC or equivalent
- ◯ Diploma or equivalent
- ◯ Other:

4. *

2. Year of service

Mark only one oval.

- ◯ 0 - <5 years
- ◯ 5 - <10 years
- ◯ 10 - <20 years
- ◯ >20 years

5. 3. Do you have any formal training on the e-GP system by BPDB/CPTU/BPPA or any organization? *

Mark only one oval.

- ◯ Yes
- ◯ No

6. 4. Do you use e-GP regularly for procurement purposes? *

Mark only one oval.

- ◯ Yes
- ◯ No

7. 5. Please select your roles in the e-GP system from the options given below. *

Check all that apply.

- ☐ Authorised Officer (AO)
- ☐ Authorised User (AU)
- ☐ Procurement Entity (PE)
- ☐ TOC/ TEC/ TSC Member
- ☐ Other

8. 6. What are the external obstacles/barriers that you are currently facing while working on e-GP? *

Check all that apply.

- ☐ Logistical support/ infrastructure
- ☐ Uninterrupted electricity
- ☐ Internet connectivity
- ☐ Operating system
- ☐ Browsing softwares with versions
- ☐ Other: _____

9. 7. After implementing the e-GP system in procurement by BPDB, which of the following do you think benefits most?

Check all that apply.

- [ ] Increased transparency
- [ ] Reduced corruption & coercion
- [ ] Increased competition & reaching wide range of suppliers
- [ ] Reduced procurement time
- [ ] Overall cost savings

10. 8. What extent does e-GP contribute to a reduction in the time taken for the overall procurement cycle at BPDB?

Mark only one oval.

- ◯ Very significantly
- ◯ Significantly
- ◯ Moderately
- ◯ Slightly
- ◯ Not at all

11. 9. How has the e-GP improved the efficiency of procurement processes at BPDB?

Mark only one oval.

- ◯ Significantly improved
- ◯ Moderately improved
- ◯ Slightly improved
- ◯ No improvement

12. 10. How satisfied are you with the present setup of the e-GP system? *

Mark only one oval per row.

	Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied
Website Display	◯	◯	◯	◯	◯
System upgradation	◯	◯	◯	◯	◯
Navigation between pages	◯	◯	◯	◯	◯
Helping tools	◯	◯	◯	◯	◯
Repetitive movement of TEC reports among members	◯	◯	◯	◯	◯
Workflow	◯	◯	◯	◯	◯
Training materials	◯	◯	◯	◯	◯
Video tutorials	◯	◯	◯	◯	◯

13. 11. What is your marking on the present e-GP website's user-friendliness on a scale of 5? *

Mark only one oval.

	1	2	3	4	5	
Very	◯	◯	◯	◯	◯	Highly satisfied

14. 12. Which of the following things do you think the e-GP system should focus on to improve its application? *

Check all that apply.

- [ ] Website visual design
- [ ] Navigation Instruction
- [ ] Users' real-time mobile phone notification & alerts
- [ ] Updated demo video & training materials
- [ ] Ease in tender evaluation reporting

15. 13. Which of the following things/features do you think BPPA may consider incorporating into the e-GP system in the future? *

Check all that apply.

- [ ] Focus on quality of tenders than Quantity
- [ ] Sustainable procurement
- [ ] Artificial intelligence in document checking/financial evaluation
- [ ] e-Auction
- [ ] Incorporation of government owned manufacturing organisations for DPM
- [ ] Development of mobile application

16. 14. Do you think BPPA should take feedback from all stakeholders regularly for continuous development of e-GP system? *

Mark only one oval.

- ◯ Yes
- ◯ No
- ◯ Maybe

17. 15. If you have any recommendations to improve the effectiveness and efficiency of the e-GP system within BPDB's procurement framework