

**Challenges of e-procurement: A case study of JICA assisted
Northern Bangladesh Integrated Development Project (NOBIDEP)
under Local Government Engineering Department (LGED).**

Dissertation submitted in partial fulfilment of the requirements for the Degree of
Masters in Procurement and Supply Management (MPSM)

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Certificate of Authentication

This is my pleasure to certify that the dissertation entitled as “**Challenges of e-procurement: A case study of JICA assisted Northern Bangladesh Integrated Development Project (NOBIDEP) under Local Government Engineering Department (LGED)**” is prepared by **Md. Abu Sayed**. The research work is completed under my direct guidance and supervision. So far I know, the dissertation is an individual achievement of the candidate’s own efforts and it is not a conjoint one. I also certify that I have gone through the draft and final version of the paper and found it satisfactory for submission to the BRAC Institute of Governance And Development (BIGD), BRAC University in partial fulfilment of the requirements for the degree of Masters in Procurement and Supply Management (MPSM).

I wish him every success in profession.

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Statement of the Author

This is hereby declared that the dissertation entitled as “**Challenges of e-procurement: A case study of JICA assisted Northern Bangladesh Integrated Development Project (NOBIDEP) under Local Government Engineering Department (LGED)**” submitted to the BRAC Institute of Governance And Development (BIGD), BRAC University for the degree of Master in Procurement and Supply Management (MPSM) is an exclusive work. This paper neither partly nor fully has been produced to any other University or Institute for any degree, diploma or for other similar purposes.

Dhaka: November, 2016.

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Executive Summary

Procurement is the acquisition of goods, works or services through externally sourcing. In sourcing, the needs of the organization for goods, works or services including requirement definition, identification of potential suppliers, schedule of requirement etc. are taken into account. E-procurement is the acquiring of goods, works or services through on-line bidding from potential suppliers. Public procurement means procurement using public funds. Public procurement systems in Bangladesh has been evolved, modified and developed over time. Chronologically milestones of the processes are PPR 2003, PPA 2006 & PPR-2008. E-GP system is launched in Bangladesh by the year 2011 which results public procurement more accessible, fair, transparent and efficient. Objective of this paper is to identify the challenges of e-GP through a case study of JICA assisted NOBIDEP project implemented by LGED and recommends measures to be adopted by the concern stakeholders in their arenas. For this purpose, a Questionnaire survey has been conducted among the different stakeholders of LGED, bidders' community & others in collecting primary data. Besides, Key Informant Interview has been carried out to collect valuable opinions of some senior officials; their perception regarding the challenges of e-Procurement and suitable suggestions to overcome negative impacts. The summary of each chapter is summarized below:

The Chapter One termed as Introduction illustrates the background of e-GP system in Bangladesh covering public procurement reform and the evolution of e-GP system. The Chapter Two titled as Literature Review explains the worldwide e-procurement issues like its adoption, operations, benefits, challenge & risks etc. It also explains how e-GP in Bangladesh were gradually adopted and become successful with special attention to LGED, Bangladesh.

The Chapter Three Titled as Methodology of study describes how the study was carried out including coverage area, sample size and data collection using the designed questionnaire. The Chapter Four Termed as Data Analysis represents the data gathered from different respondents in bar diagrams using excel spread-sheet. The bar diagrams are self-explanatory. The Chapter Five Titled as Findings illustrates E-GP related issues like internet connectivity, internet speed, power availability, user friendliness, Knowledge & expertise of the personnel handling the programme, suitability of different time frame for conducting the procurement activities, confidentiality and risks etc.

Finally, the Chapter Six termed as Conclusion & Recommendation includes conclusions about the different challenges of e-Procurement and a set of recommendations that different Organizations and Government could do to overcome those challenges.

Abbreviations

AE-	Assistant Engineer
BAIDP-	Bangladesh Agriculture Infrastructure Development Project
BDT-	Bangladesh Taka
BRAC-	Bangladesh Rural Advancement Committee
BWDB-	Bangladesh Water Development Board
CPAR-	Country Procurement Assessment Report
CPTU-	Central Procurement & Technical Unit
DOFP-	Delegation of Financial Power
DPD-	Deputy Project Director
e-CMS-	Electronic Contract Management System
e-GP-	Electronic Government Procurement
ERP-	Enterprise Resource Planning
GDP-	Gross Domestic Product
ICT-	Information & Communication Technology
IDA-	International Development Agency
IMED-	Implementation, Monitoring & Evaluation Division
JICA-	Japan International Co-operation Agency
NOBIDEP-	Northern Bangladesh Integrated Development Project
LGD-	Local Government Division
LGEB-	Local Government Engineering Bureau
LGED-	Local Government Engineering Department
LGI-	Local Government Institution
MDGs-	Millennium Development Goals
MLGRD&C-	Ministry of Local Government, Rural Development & Co-operatives
MRO-	Maintenance, Repair & Operation
NOA-	Notification of Award
PD-	Project Director
PE-	Procuring Entity
PMO-	Project Management Office
PPA-2006-	Public Procurement Acts-2006

PPPA-Public Procurement Processing & Approval
PPR-2003- Public Procurement Regulations
PPR-2008- Public Procurement Rules-2008
PPRP-Public Procurement Reform Project
PROMIS-Procurement Management Information System
REB-Rural Electrification Board
RFP-Request for Proposal
RFQ-Request for Quotation
RHD- Roads & Highway Department
RWP-Rural Works Programme
SDGs- Sustainable Development Goals
Sr. AE- Senior Assistant Engineer
STDs- Standard Tender Documents
TEC- Tender Evaluation Committee
TIP- Thana Irrigation Programme
TOC- Tender Opening Committee
TTDC- Thana Training & Development Centre
USAID- United States Aids for International Development
WB- World Bank
WP- Works Programme
WPW-Works Programme Wing
XEN- Executive Engineer

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CHAPTER-ONE

Introductions

1.1. Background of the study

The thesis is being carried out as a course requirement of Procurement and Supply Management under BRAC University and is being titled as **Challenges of e-procurement: A case study of JICA assisted NOBIDEP Project.**

Procurement: Procurement is the acquisition of goods, works or services through externally sourcing. In sourcing, the needs of the organization for goods, works or services including requirement definition, identification of potential suppliers, schedule of requirement etc. are taken into account. Procurement is significant for any government organization if it spend a large amount of its annually allocated budget on purchasing works, goods or services.

E-Procurement: e-procurement is the acquiring of goods, works or services through on-line bidding from potential suppliers. Presently, e-procurement has become a top most priority rather than traditional procurement methods for most of the public sector organizations throughout the world. Public sector organizations in Bangladesh purchases goods, works or services using e-GP portal towards achieving benefits such as increased efficiency and cost savings (faster and cheaper) in government procurement and improved transparency (to reduce corruption) in procurement activities.

1.2. Background of e-GP in Bangladesh

Since the independence of Bangladesh, all the government procurements were being carried out using the contractual form 2911 & 2909. But, those contractual forms failed to ensure transparency, competitiveness and value for money in the procurement processes because of different shortfalls in the bidding documents. Also, different irregularities as well as non-transparent activities were regular phenomena in the government procurement processes. Besides, in foreign aided projects, the development partners advised the procuring authorities to use their bidding documents for ensuring transparency, competitiveness & value for money in the procurement processes. Therefore, the Bangladesh Government took initiatives to

improve the procurement processes ensuring transparency, competitiveness & value for money. The result of such initiatives by the Government is the “Public Sector Reform Project”.

Public Procurement Reform in Bangladesh: The Government of Bangladesh took initiatives for improving the performance of public procurement progressively towards ensuring overall governance in the arena. Towards that end, [Central Procurement Technical Unit \(CPTU\)](#) was established in 2002 under IMED division of Planning Ministry as implementing unit in the field of procurement reform and reform implementation monitoring. Hence forth, Reform process was carried out resulting a unified procurement processing system (Public Procurement Regulations 2003), Implementation Procedures for PPR 2003, Public Procurement Processing and Approval Procedures (PPPA), Revised Delegation of Financial Powers (DOFP) and several Standard Tender Documents (STD's)/Standard Request for Proposal Document for the procurement of Goods, Works and Services. Later on in 2006, the [Public Procurement Act](#) was passed by the Parliament (PPA 2006) and in 2008, a new set of [Public Procurement Rules \(PPR 2008\)](#) was issued. The PPA 2006 and PPR 2008 were made effective on 31 January, 2008

Public Procurement Reform Project II (PPRP-II):

To strengthen and sustain the public procurement reform, 'Public Procurement Reform Project II (PPRP-II)' was approved by the Government and implementing by CPTU/IMED. PPRP-II has four (4) major components:

- Component 1: Furthering Policy Reform and Institutionalizing Capacity Development
- Component 2: Strengthening Procurement Management at Sector Level & CPTU/IMED
- Component 3: Introducing e-Government Procurement (e-GP)
- Component 4: Communication, Behavioural Change, and Social Accountability

Massive training was given to the technical staffs of four targeted organizations namely LGED, BWDB, RHD& REB about PPA-2006 & PPR-2008 under component 1.

Besides as per the provision in component 3, the e-GP web portal was designed and introduces the government procurement through e-GP portal.

[Source: <http://www.cptu.gov.bd/ppruwup.aspx>]

1.3. Statement of the problems

Bangladesh is a developing country. The allocated budget under Annual Development Programme (ADP) is almost 1/3rd of the total annual budget. A large number of projects (New & on-going) are included in the ADP every year. E.g. the total budget allocation for FY 2016-17 is about BDT 34060 Millions & ADP allocation is about BDT 11070 Million which is almost 33% of the total proposed expenditures. So, the proper implementation of development projects maintaining quality is a prime issue as because it directly contributes to the national Gross Domestic Product (GDP) thus contributing to the national economic growth of the country.

The primary stage of the implementation of a development project is the selection of contractors/ suppliers; a difficult task for the project director as well as for the procuring entities. If an improper and inefficient contractor/supplier is supposed to be selected for the implementation of the project, then it may result in the delay of the project implementation requiring additional time and costs which produces negative impact in the national GDP. So, the selection of right contractors/suppliers for the timely and effective implementation of the project is very crucial. There are two ways of selecting the contractors/suppliers for implementation of the projects namely traditional methods of tendering & on-line procurement through e-GP portal. Strictly, it can't be said that if we select the contractors through e-GP system, it would solve all the problems. Although, the e-GP provides a set of benefits; however, e-GP itself faces many challenges. The objective of this research is to identify challenges of e-GP and way out its relevance in JICA assisted NOBIDEP project.

Evolution of e-GP in Bangladesh: There were no proper rules and regulation in our country to ensure fair competition among the bidders till 2003. World Bank takes first initiatives to restructure the public procurement activities in 2003. Thereafter, the Government of Bangladesh has introduced Public Procurement Regulation (PPR) 2003; that was legitimated as Public Procurement Act (PPA) 2006 and accordingly forth

result was Public Procurement Rules (PPR) 2008. Henceforth, it was in action that all public procurement activities would be conducted following the act PPA 2006 as well as rules PPR 2008 very strictly. In PPR-2008, Rule 128 covers the electronic government procurement. To fulfill the aims of the law, government introduces the Public Procurement Reform Project with the aid of WB and set-out the electronic government procurement i.e. e-GP. Initially, targeted organizations were BWDB, REB, LGED and RHD. To fulfill the government target, LGED initiates its procurements through e-GP portal of CPTU under Planning Ministry from 2011-12 FY.

Increasing the coverage area by the previous years, now LGED is performing more than 95% of its procurement activities through e-GP portal. Under this coverage, JICA assisted Northern Bangladesh Integrated Development Project (NOBIDEP) is doing its 100% works procurement through e-GP system. In carrying out the aforementioned activities, the project is facing various challenges like network problem, load-shedding, ensuring value for money, license hiring, leakage of information from intermediary stakeholders in the tendering process, lack of knowledge & skills of the bidder as well as Tender Evaluation Committee (TEC) to some extent in the evaluation of the bids/tenders etc. The thesis would focus on the challenges of the e-procurement activities of the project and finally making some recommendations.

For implementing the electronic procurement System, Bangladesh Government has introduced the e-Government Procurement (e-GP) Guidelines under section 65 of Public Procurement Act 2006 and Rule 128 of Public Procurement Rules, 2008 for the use of the e-GP System. The guidelines are prepared also in consistent with the prevailing ICT Act 2009, Right to Information (R2I) 2009 and international provisions & practices on e-GP system. These guidelines revealed government's commitments to achieve the greater openness and accountability in government procurement process. Towards the development of the e-GP System, Central Procurement Technical Unit (CPTU) under IMED, Ministry of Planning were responsible for developing the software and hosting the e-GP portal to support all software facilities and providing support services to the relevant stakeholders.

The e-GP software System consists of **9 major modules** like:

- Centralized Registration System

- Work Flow Management System
- E-tendering (e-publishing/e-advertisement, e-lodgement, e-valuation, e-contract awards) system.
- E-Contract Management System.
- E-Payment System.
- Procurement Management Information System (PROMIS).
- System security administration.
- Handling error and exceptions.
- Application usability and help.

1.4. Research Questions

1. What are the challenges faced by the stakeholders in the operation of the e-GP system?

1.5. Objectives of the research

The research aims

- to identify problems faced by Procuring Entity (PE), Approving Authority (AA), bidders & other stakeholders in the management of e-procurement
- to deliver some recommendations to deal with the problems

1.6. Research Methodology

The research is to be carried out on the challenges of e-procurement using e-GP system at JICA assisted NOBIDEP project of LGED. Towards the fulfilment of the objectives, the study is largely based on the primary data available. Beyond primary available data, secondary data are to be collected in support of the primary data. The primary data will be collected from the relevant stakeholders using questionnaire survey method. In collecting the secondary data, different research and evidences, web sites need to be searched. Also, related project documents, reports may be used as secondary source of data. For enhancing the data, informal interview of different stakeholders may be carried out and their experience and knowledge will contribute to the data bank. The survey questionnaire is formulated and finalized in

consultation with the experts involved in e-GP in LGED. The primary data is collected from the 30 respondents of different arena (PMO officials of NOBIDEP project, PESand TOC/TEC members at the project districts, Suppliers/Contractors, Procurement unit of LGED, GoB financed Rubber Dam Project & Chittagong and Coxes Bazar Infrastructure Development Project, USAID financed Bangladesh Agricultural Infrastructure Development Project (BAIDP)). This is how, the opinion of different procurement related stakeholders are replicated in the study.

1.7. Scope & Limitations

LGED, being a large Government organization, is conducting its different procurements through e-GP system under more than 100 projects. Presently, the annual spending of LGED is about BDT 85000 million for Works, Goods and Services procurement through a huge number of contracting. Therefore, a huge number of contractor/ suppliers & other stakeholders are involved in the procurement processes. In conducting an extensive research work, it needs a long period of time to carry out one to one interview and questionnaire survey of all stakeholders. But, the university allowed a very limited time, say mostly two months for the research work. My focus was bounded to the e-Procurement of JICA assisted NOBIDEP project. The project allocated budget is about BDT 27050 million over a period of six years starting from March 2013 to June 2019. More than 225 contracts are on-going and all the procurement activities are done through e-GP system. Therefore, a selected segment of stakeholders are considered for data collection with a view to finding out the challenges of the e-GP system. Some of the challenges might have undiscovered or not faced by the questionnaires as well as by the respondents. However, I believe that the findings of the study would help in mitigating the challenges to be faced by the different stakeholders in future.

1.8. Outline of the Dissertation

Chapter 1: Introduction

Background of the Study, Background of e-GP in Bangladesh, Statement of the Problems, Research Questions, Objectives of the Research, Research Methodology, Scope & Limitation of the Research, Outline of the Dissertation

Chapter 2: Literature review

What is E-Procurement? Classification of e-procurement, Procurement process, e-procurement implementation, Benefits of e-procurement, Challenges and risks of e-procurement, E-GP system in Bangladesh, e-GP adoption in LGED

Chapter 3: Methodology of study

Methodology, Selection of study area, Sample size, Data collection and timeframe of the research work, Data processing and Analysis

Chapter 4: Data Analysis

Chapter 5: Findings

Chapter 6: Conclusion & Recommendation

CHAPTER-TWO

Literature Review

2.1. What is E-Procurement?

E-procurement is the generic term applied to the use of integrated database systems and wide area (commonly web-based) network communication systems in part or all of the purchasing process. The procurement process encompasses the initial need identification and specification by users, through the search, sourcing and negotiation stage of contracts and order placement and on to include mechanisms that register receipt, trigger payment and support post-supply evaluation. (http://ippa.org/jopp/download/vol5/issue-3/SympAr3_CroomJones.pdf)

In today's rapidly changing business environment the companies with the most competitive supply chain will remain winners (Presutti 2002). Companies that have successfully integrated the Internet into management of the supply chain hold a competitive advantage over those who have not (Lankford 2004). E-procurement solutions aim to automate workflows and streamline the procurement process in order to make the supply chain more efficient (Davila et al. 2003).

2.2. Classification of e-procurement

Among different cost structures, procurement generally covers the large portion of what the company expenses per annum and may significantly influence the performance of the company. Procurement is one of the most important activities in all organizations ranging from public to private or governmental.

There are a hugenumber of different applications and systems of e-procurement in the literature. De Boer et al. (2002) divide e-procurement into six forms:

- e-MRO
- web-based ERP
- e-sourcing
- e-tendering
- e-reverse auctioning
- e-informing

Submarian and Shaw (2004) define e-procurement system (figure 1) as a Web-based client/ server application used to replace the manual procurement process. Simply, e-procurement refers to the purchasing of goods and services using the Internet. In figure, three major e-procurement areas are (i) procurement transactions, (ii)

procurement management and (iii) market-making. Four major operative procurement activities are (a) searching of products or services, (b) order processing, (c) monitoring and control, and (d) coordination of relevant information. On the buyer side the e-procurement solution is usually connected to other existing information systems, such as ERP allowing companies to leverage critical enterprise data present on these systems. On the supplier side, the solution is mostly connected to the suppliers order fulfilment system or product catalogues on the website of the supplier. (Subramaniam & Shaw 2004)

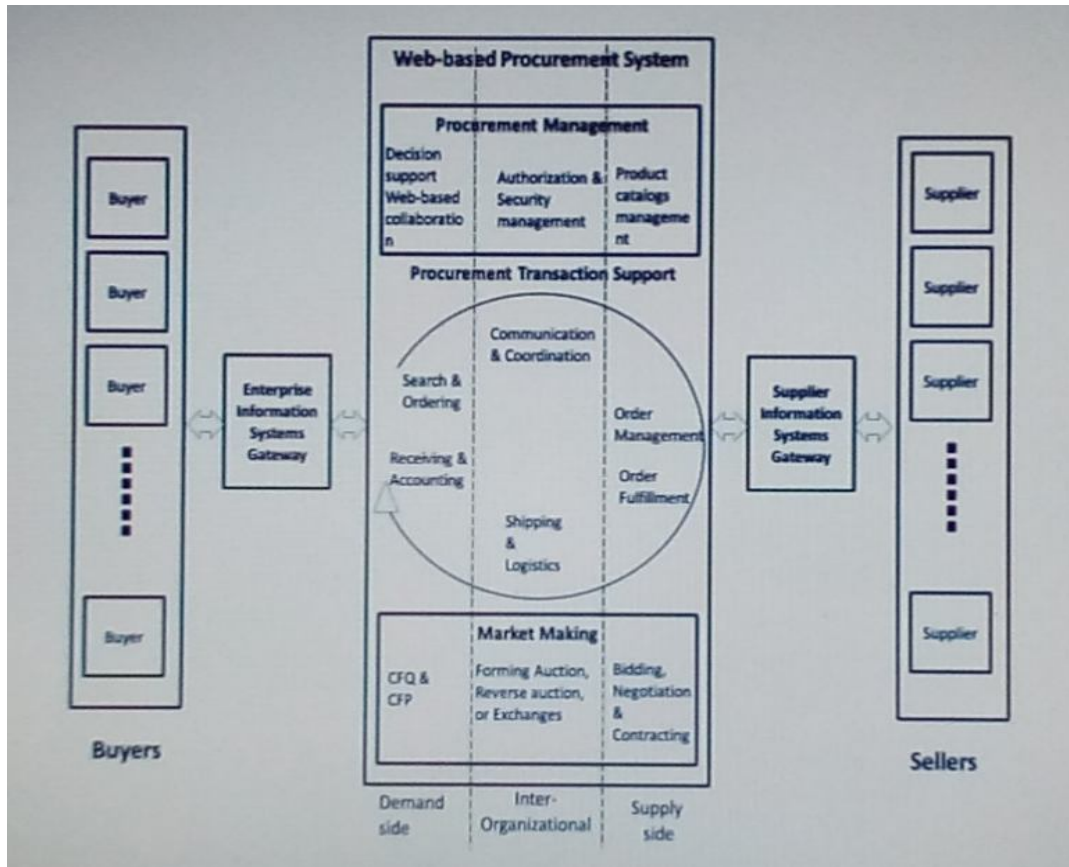


Figure- 1:A web-based e-procurement system modified from Subramaniam and Shaw (2004)

2.3. Procurement process

Being one of the most important processes of a company, the procurement process usually varies from company to company because of activity durations and relationships with the suppliers (Trkman & McCormack 2010). A basic procurement process (shown in figure 2) starts with the forecasting plan and ends with settlement and payment.

E-procurement simplifies the procurement process improving the effectiveness and efficiency of the purchasing process and enabling buyers to focus on more strategic tasks (Presutti 2002; Puschmann & Alt 2005). Process improvement through adopting e-procurement system can often result greater savings.

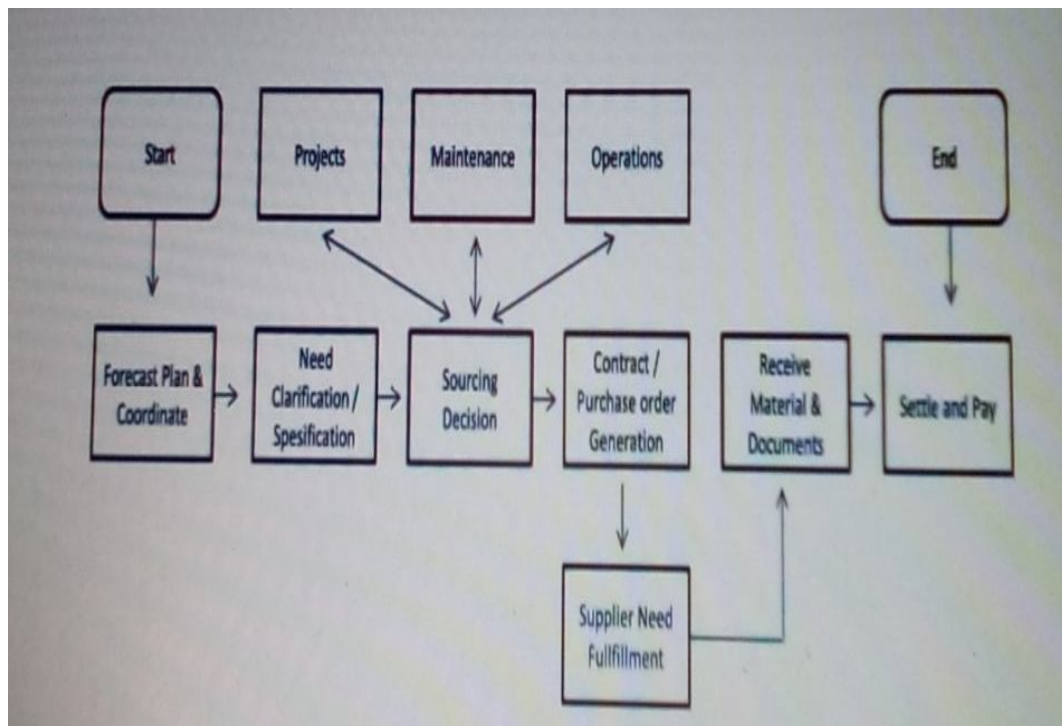


Figure-2: Basic procurement processes by Trkman and McCormack (2010)

Kalakota and Robinson (2001, s.308) have listed the following five key challenges in procurement:

- “Reducing order processing cost and cycle times
- Providing enterprise-wide access to corporate procurement capabilities
- Empowering desktop requisitioning through employee self-service
- Achieving procurement software integration with company’s back office systems

- elevating the procurement function to a position of strategic importance within the organization”

E-procurement can help companies to achieve the targets listed above.

2.4. E-procurement implementation

E-procurement implementation is a complex task. According to Yu, Yu, Itoga and Lin (2008) companies implementing e-procurement need to clearly understand the purpose of launching such a system. It involves careful analysis about how e-procurement will affect a company and its strategy and in which area it will obtain financial and non-financial benefits.

A wide range of drivers and problem factors companies have to encounter in adopting e-procurement technologies. Smart (2010) has identified some of the common drivers and problem factors (Table 1) related to e-procurement implementation that are listed in **Table 1**.

Drivers	• Optimize strategic sourcing policy • Support spend savings targets • Establish common processes • Standard platform for managing procurement spend • Knowledge sharing between business units • Move procurement managers from transactional to strategic activities • Improving productivity of purchasing personnel • Spend compliance • Visibility of global spend • Improved supplier management and selection • Integration with suppliers • Auditable spend management data • Achieve buying leverage • P.O. (Purchase order) cost reduction • Efficient payment and invoice settlement
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	• Centralize control • Reduce supplier numbers • Raise standards within procurement function
Problem Factors	• Unclear original business case • Poor legacy systems and data • Visibility on spend not solved • Need to use suppliers' systems to get best deals • Change management • Training requirements • Different accounting / reporting rules globally • Misunderstanding of what the technology could deliver • Finding new people with right skills • Integration to external platforms • Wrong targets set initially • Re-defining task and roles • Role of internal communications • Not possible to add all suppliers • Buying systems not user-friendly • Software needs updating over time • Reducing supplier numbers proved difficult

Table 2.1 E-procurement drivers and problem factors modified from Smart (2010)

2.5. Benefits of e-procurement

The benefits of adopting e-procurement technologies have been widely researched in the literature (Kalakota and Robinson 2001; Attaran&Attaran 2002; de Boer et al. 2002; Davila et al. 2003; Croom and Brandon-Jones 2005). The results of e-procurement adoption are primarily cost reductions and process efficiencies. The cost reductions in goods purchased are due to consolidation of purchase specifications; reducing the number of suppliers and; through improved compliance with existing

contracts [Croom and Brandon-Jones (2005)]. A research by Quesada et al. (2010) proposes that e-procurement technologies affect positively to organization's procurement practices and performance.

According to Davila et al. companies using e-procurement solutions report savings of 42 percentages in purchasing transactions costs. Another research by Croom and Johnston (2003) found that e-procurement implementation can have up to 75 % cost reduction in procurement process costs and 16% – 18 % reduction in purchasing price for indirect purchases. Croom and Johnston (2003) also found that e-procurement can have a major impact on compliance on many different levels of the procurement process. It supports managerial budgetary control; reduces data entering failures; offers greater transparency and accessibility to corporate wide spending; improves system reliability; and improves the access to managerial information. A summary of the benefits of e-procurement found in the literature is presented in **Table 2**.

Authors	Category		
	<u>Operational</u>	<u>Strategic</u>	<u>Opportunity</u>
Attaran & Attaran (2000)	• Improved financial control • Elimination of paperwork • Improved auditing and better security • Shortened delivery time • Elimination of time zone obstacles • Reduced inventory levels • Maximize labor • Enhanced efficiency • Flexible access anytime	• Consolidation of purchasing practices • Accelerated information flow • Freeing stuff to do other work • Faster response to the markets • Boosted compliance • Improve chance to win new business	• Enhanced image • Improved buyer / supplier relationships • Better accuracy

Croom & Johnston (2003)	<u>Cost efficiency</u> • Reduced transaction costs • Reduced purchasing price • Reduced internal processing costs • Reduced storage and handling costs	<u>Process compliance</u> • Improved budgetary control • Robust process performance • Greater transparency and accessibility across the whole process • Improved system reliability • Improved managerial information	• Internal customer satisfaction • Increased employee satisfaction • More control over own spending

Authors	Category			
	<u>Customer</u>	<u>Business process</u>	<u>Learn and growth</u>	<u>Financial</u>
Piotrowicz & Irani (2010)	• Increased customer service (including internal customers)	• Elimination of non-value added activities • Improved order processing • Improved procurement process • Improved supplier searching • Improved control • Elimination of exceptions • Reduced problems with suppliers • Elimination of paperwork	• Improved access to information • Increased reporting capabilities • Increased corporate control • Competitive advantage • Improved cooperation and communication with other business units	• Reduced bank transfer costs • Reduced transaction costs • Reduced buying costs • Reduced service costs • Increased efficiency • Faster payments • Reduced Warehousing costs • Fraud prevention

Authors	Category
Davila, Gupta & Palmer (2003)	<u>Category not classified</u> • Reduced transaction costs • Faster cycle time • Reduced number of suppliers • Lower managerial complexity • Reduced purchasing price • Headcount reduction • Purchasing order fulfilment time
Hawking, Stein, Wyld, Foster (2004)	<u>Category not classified</u> • Price reduction • Improved contract compliance • Shortened cycle times • Reduced administration costs • Enhanced inventory management • Improved visibility • Enhanced decision making

2.6. Challenges and risks of e-procurement

A research by Smart (2010) identifies that there are numerous obstacles (see table1) in implementing projects to achieve targeted benefits from using e-Procurement. Although, the gains of utilizing e-procurement systems are significant, some internal and external challenges and risks related to the adoption of e-procurement are persisted. Also, Smart (2010) drew a conclusion that there has been a long term problem with identifying value from IT investments. So, every organization should have a clear roadmap for implementing e-procurement systems.

According to Kalakota and Robinson (2001) before going to the implementation of e-procurement system, an organization must clearly identify the business problems it intended to address by the adoption of e-procurement system.

A study by Angeles and Nath (2007) identifies three important challenges to e-procurement implementation:

- lack of system integration and standardization issues
- immaturity of e-procurement-based market services and end user resistance
- maverick buying and difficulty in integrating e-procurement with other systems

Lack of system integration and standardization issues indicates that e-procurement is relatively new business application. Another challenge is software immaturity and the lack of certain key features like invoicing, payment reconciliation or managing of different geographical jurisdictions, tax structures, currencies etc. There are also hidden costs in association with the adoption of e-procurement systems, such as system integration, content aggregation and rationalization, catalogue and search engine maintenance, supplier enablement, end user training and procurement process re-engineering.

The second challenge relates to the immaturity of e-procurement service providers and the lack of supplier preparation, and the resistance of end-users to the system. The service providers may be unable to provide complete services in the area like more complex projects. The immaturity and lack of preparedness of suppliers are also challenges for many organizations. The other challenge is the resistance of end-users towards adoption of e-procurement system. Towards the elimination of such resistance, Angeles and Nath (2007) state that companies should encourage the use of new e-procurement technologies through intensive training and educational sessions with end-users.

The third challenge is concerned with organizational employee's purchasing behaviour like maverick buying even after adoption of e-procurement system. The solution towards the prevention of employee's such behaviour may be conducting the intensive end-user training and educational programs. Organizations also need to be aware of the problems in integrating the e-procurement system with other systems (Angeles & Nath 2007). According to Gilbert (2000) integrating e-procurement systems

with other business applications (e.g. accounting) can be more complex than businesses think. Davila et al. (2003) identifies four risks associated with the adoption of e-procurement technologies in the organization. The risks are-

Internal business risks:

The organization should carefully integrate the e-procurement technologies with other business functions like accounting, human resources, accounts payable and cash management etc. Companies having massive investments in the above mentioned areas should ensure the integration of e-procurement as smoothly as possible.

External business risk:

The organization's e-procurement system should be able to cooperate with suppliers IT-infrastructure so that the suppliers have access through the Internet and provide catalogues to satisfy the needs of their customers. Also, mechanism should be developed so that the new suppliers can meet the expectations and standards of the buyers relating to supplier quality, service and delivery capabilities.

Technology risks:

The selection of appropriate e-procurement system for meeting the specific needs of the organization is very important. There is lack of widely accepted standards that prohibits the adoption of e-procurement systems across the supply chain. The adoption of widely accepted standards for coding, technical, and process specifications in e-procurement are very important to deliver the promised benefits.

E-procurement process risks:

It is concerned with the security and control of the e-procurement process itself. Such issues can be related to the data security and fraud prevention e.g. fake suppliers, fake bids etc.

2.7. Global e-GP implementation history

E-procurement has been recognized as one of the more effective and efficient tools for ensuring good governance to the procurement process. The e-procurement initiatives have been substantially supported by the donor community including the World Bank, the Asian Development Bank, the Inter-American Development Bank, and the African Development Bank. Numerous initiatives have already been taken place,

led by different organizations to define best practices and strategies for the implementation and development of E-procurement systems, and many countries have already been introduced e-procurement into their business practices through various business models and approaches. (UN 2011)

E-procurement has become a common phenomenon among many organizations for ensuring the transparency and good governance in procurement. The e-procurement status of some of the pioneer countries around the world is discussed below:

2.7.1. E-Procurement in South Korea

South Korea being a leader of the implementation of a fully integrated e-procurement system structured with all other electronic government operations, including financial management systems, company's registration and taxes systems. The implementation of the Korean KONEPS system (Korea On-line E-Procurement System) was just one of 11(Eleven) electronic government system initiatives across various institutions to support a fully integrated environment, including system support for the distribution and management of digital certificates to ensure the authenticity and security of the system and associated processes. Korean e-Procurement system is operated by Public Procurement Service (PPS), the Republic of Korea and it was started in the year 2000.

Korea has made investment of millions dollar over a number of years as its system evolved from an electronic tendering system to improve transparency in the procurement process to today's fully integrated e-procurement solutions that takes the advantages of the efficiencies of electronic systems. Though the investment in electronic procurement numbered in the millions and Korea continues to fund millions dollar each to support system operation and business development activities, the results of the system outweigh the investment with an estimated \$6 billion USD economic impact in savings to government and participating suppliers. KONEPS currently supports over 41,000 public entities, 191,000 registered suppliers and over \$50 billion in annual procurement activity (UN, 2011).

2.7.2. E-Procurement in the Philippines

In the Philippines, the e-procurement initiative has focused more on e-tendering with the primary objective to improve transparency, open access and competition. Since 2001, PhilGEPS (Philippine Government Electronic Procurement System) has served as the central procurement portal for all government procurement activities for goods, works and services.

The system started as a pilot basis with a few agencies and participating suppliers while the government began to initiate a procurement reform program that included a new procurement law introducing the use of PhilGEPS as the official procurement portal for all government procurements.

PhilGEPS now supports more than 8,000 government agencies and 50,000 suppliers, and publishes an average of 600 notices each day. PhilGEPS continues to evolve each year with the recent introduction of an e-catalogue and e-payment services. It has provided a technical foundation to support program reforms and grow the supplier marketplace by allowing suppliers to find and participate in tenders in different regions around the country. The system also provides management with access to a wealth of procurement data that was previously impossible to collate, allowing them to better understand and analyse the procurement activity being conducted across agencies. (UN, 2011)

2.7.3. E-Procurement in Canada

For the Government of Canada, the initial implementation of e-tendering took place 20 years ago at a time of government restraint and budget cuts. The introduction of an e-tendering business model in partnership with the private sector allowed the government to outsource the manual and electronic distribution of bid documents and removed the need to maintain various supplier source lists as all suppliers could now access all procurement information from the website and participate in any tender they chose. The result was an open and transparent procurement environment supported through user fees at no cost to government.

This e-tendering approach helped the federal government realize over \$6 million dollars in annual savings by outsourcing the manual duplication and distribution of physical bid documents to potential suppliers that had previously registered in various source lists maintained by different agencies. The open access and transparency provided by the system also supported Canada's commitments under the WTO, NAFTA and other trade agreements by enabling the same access to foreign suppliers as it did to local suppliers. (UN, 2011)

2.7.4. E-Procurement in Singapore

GeBIZ (Government electronic Business) is a Government-to-Business (G2B) Public e-Procurement Business centre. The interested suppliers may perform electronic business with the Singapore Government. With special exceptions for security related issues, most of the public sector's invitations for quotations and tenders are published on GeBIZ. Interested suppliers search for government procurement tenders, reclaim relevant procurement documents and submit their bids online. Singapore's GeBIZ, the Government Electronic Business Centre, was established in June 2000 to make simple the government procurement and tender activities. As a one-stop centre for suppliers, GeBIZ would create an entry point for businesses to access G2B services in an enterprise-centric manner instead of an agency-centric manner. (Wikipedia, February 24, 2013)

2.7.5. E-Procurement in European Union

PEPPOL (Pan-European Public Procurement On line) is an EU initiated and funded e-procurement project started on May 2008. Many EU countries use electronic procurement (E-Procurement) to make bidding for public sector contracts simpler and more efficient.

PEPPOL will enable any company in any EU member country to respond to any tender across the EU. It will connect existing national systems, crucial for allowing businesses to bid for public sector contracts anywhere in the EU; an important step towards achieving the Single European Market.

The pilot project will facilitate the electronic cross border exchange of orders, invoices, and catalogues. It also includes the reuse of company information

required for bidding. The mutual recognition of electronic signatures will also be addressed.

The 12 EU member countries, namely, Austria, Denmark, Finland, France, Greece, Germany, Italy, Ireland, Norway, Portugal, Sweden and United States are using PEPPOL in current test phase.

A core team of EU Member Countries are involved in this project in order to ensure that the development of new technologies in different countries does not create new barriers to the Single Market. Both governments and their suppliers will benefit from more efficient, harmonized electronic procurement and invoicing processes. It is anticipated that the use of e-Procurement will save billions of Euros (at least 50 billions) not only by reducing administrative burden but also by increasing competition and transparency. Taxpayers will ultimately benefit from the increased efficiency of the procurement processes and the savings achieved through better competition. (www.ec.europa.eu/information_society)

Government of different countries have taken different approaches and applied different solutions with the implementation of their e-procurement systems. The nature and scope of the solutions varies based on the overall objectives, business model applied and the environment in which they operate. Countries like Singapore and Hong Kong have a significantly different operating environment, from the technical infrastructure available to support e-government initiatives to their ability to institute national regulations and policies, when compared to countries like Indonesia and the Philippines which are comprised of thousands of islands with varying levels of technical infrastructure or large countries like India, China and Russia that have a significant number of rural areas with varying degrees of capacity (UN, 2011).

The nature of the security methodology and supplier authentication processes also has an effect on the e-procurement system as does the structure of the information associated with a supplier or tender record. The use of standards for technical implementation security and the exchange of data help facilitate integration and data exchange with other systems. In environments like the EU, cross border access to procurement opportunities is one of the foundations of open trade between jurisdictions which makes streamlining the registration

processes and facilitating the exchange of documents through a standard process critical to procurement operations within each jurisdiction. The PEPPOL project in the EU is attempting to facilitate the interaction with suppliers and procuring entities across jurisdictions by establishing open data exchange standards and processes (UN, 2011)

2.8. E-GP system in Bangladesh:

Before the adoption of e-GP worldwide, Public procurement referred to the acquisition of goods, works or services through purchasing, hiring or obtaining by any off-line contractual means. Corruption, snatching tenders, coercion, fraudulent practice and poor governance were the common phenomena in public procurement process. These were acting as retardants to economic growth of the country and achievement of social welfares of the human being. Economic growth and corruption are two opponent phenomena. Since independence of Bangladesh, the only contractual means for GoB purchases were CPW form 2911 & 2909. These two forms used to cover very limited area of contractual matters. Thus it fails to fulfil the purpose of the government procurement as well as transparency. From the lagging of ensuring value for money, efficiency & effectiveness as well as transparency, it emerges a need for effective & transparent procurement system. Towards that need, with the help of financial & technical assistance of WB, Bangladesh Government takes initiatives for reforming its legal and institutional framework in public procurement. The WB carried out an assessment (**Country Procurement Assessment Report (CPAR) and the Public Procurement Reform Project (PPRP)**) of the slow procurement performance under different projects led to the country procurement assessment of prevailing public procurement policy, framework, institutions and staff skills in 2001. It identified the following deficiency in existing procurement system at that period.

- Absence of sound legal framework governing public sector procurement
- Complex bureaucratic procedure causing delay
- Absence of planning
- Multiple layers in the approval and review process
- Lack of adequate professional competence of staff to manage public procurement

- Generally poor quality bidding documents and bid evaluation
- Ineffective administration of contracts
- Absence of adequate mechanism for ensuring transparency and accountability.

With the above mentioned drawbacks, Bangladesh Government perceived needs for improving governance in the public procurement management arena. Towards that end, the first "Public Procurement Reform Project" with IDA assistance was approved in 2002; clearly defining its implementation objectives as improving performance in public procurement through adopting measures to make the public procurement system compliant with internationally agreed norms for efficiency, transparency and accountability with the enhancement of procurement performance of officials through training and creation of a pool of national procurement professionals.

Under the PPRP (2002/03 to 2006/07) government made considerable improvements by completing following major policy reform actions;

- Issuance of Public Procurement Regulations 2003 (PPR) with the procurement processing and implementation procedures and passing procurement Act-2006 in the Parliament.
- The Central Procurement Technical Unit (CPTU) was established to implement, manage and support the recommended procurement reforms;
- CPTU established a website (www.cptu.gov.bd) publishing Invitation to Tenders, RFPs, RFQ, contract awards on procurement for public access;
- Developing a centralized Procurement Management Information System (PROMIS);
- A comprehensive set of Standard Tendering Documents were developed in compliance with the Public Procurement Regulations 2003
- Preparing public procurement rules and supporting procedural guides ;

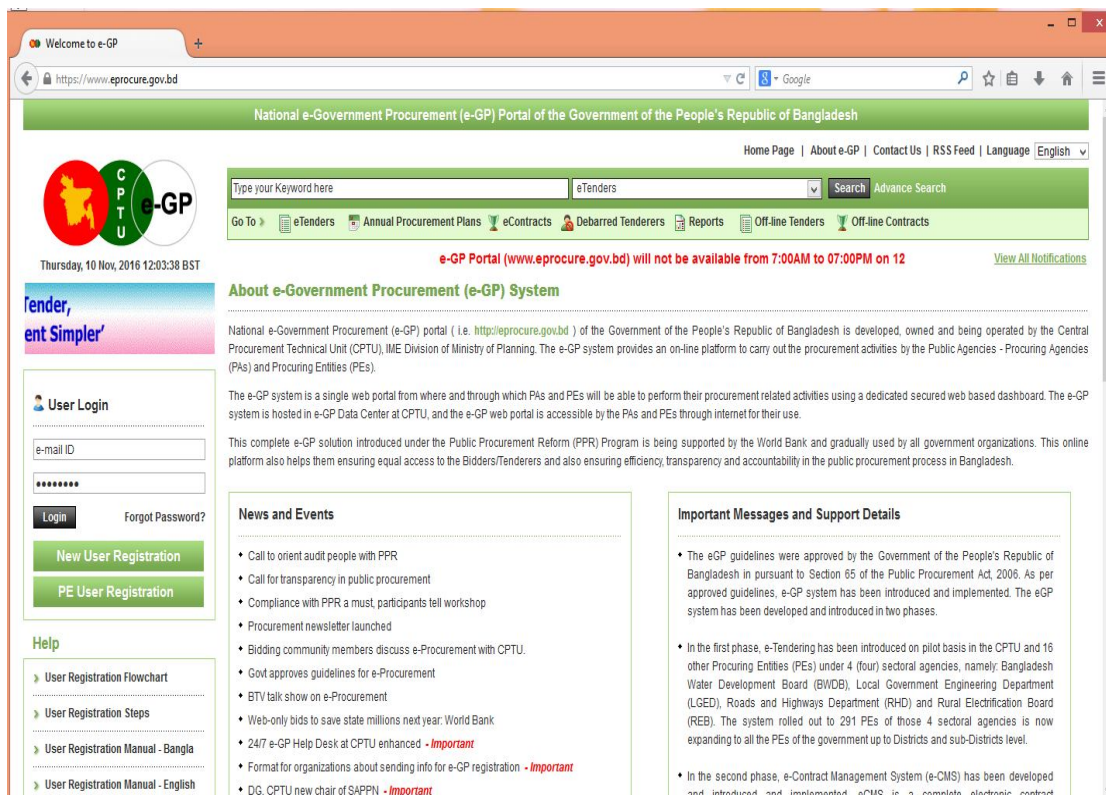
Subsequently the Public Procurement Regulations 2003 was replaced by Public Procurement Rules, 2008, framed under Public Procurement Act, 2006.

Public Procurement Reform Project II (PPRP-II):

To strengthen and sustain the public procurement reform, a new technical assistance project titled 'Public Procurement Reform Project II (PPRP-II)' was undertaken by the Government in 2007 which is now under implementation by the CPTU/IMED. In implementing those initiatives and addressing the issues PPRP-II contains a comprehensive set of four (4) major components:

- Component 1: Furthering Policy Reform and Institutionalizing Capacity Development
- Component 2: Strengthening Procurement Management at Sectoral Level & CPTU/IMED
- Component 3: Introducing e-Government Procurement (e-GP)
- Component 4: Communication, Behavioural Change, and Social Accountability

Under component 1,2&3 of PPRP-II and in compliance with the provision of PPR-2008: Rule -128, the e-GP portal was established and capacity development was carried out. Also, the e-GP guidelines were approved by the Government of the People's Republic of Bangladesh in pursuant to Section 65 of the Public Procurement Act, 2006. As per approved guidelines, e-GP system has been launched by the CPTU and come into forth in two phases. **In pilot phase**, e-Tendering has been introduced in the CPTU and 16 other Procuring Entities (PEs) under **4 (four) agencies**, namely: **Bangladesh Water Development Board (BWDB), Local Government Engineering Department (LGED), Roads and Highways Department (RHD) and Rural Electrification Board (REB)**. Based on the fruitful results of the pilot phase, the e-GP is now expanding to different organizations of the government ranging from ministries to departments, autonomous bodies; central to districts and upazila, etc. **In second phase**, e-CMS has been developed, launched and put into operation. The e-CMS is completely an electronic contract management system enabling platforms for activities like work planning, defining milestone, progress monitoring, report generation, quality checking, billing system, vendor rating, issuance of completion certificate etc. (www.eprocure.gov.bd). The snap short of e-GP portal is given below:



2.9. About LGED & it's e-GP adoption

LGED is a public sector organization under Ministry of Local Government, Rural Development & Co-Operatives (MLGRD&C). Its prime responsibilities are planning, implementation of rural, urban and small scale water resources infrastructure development programs in line with the Government Plan, Policies, and Strategies; also in line with previously MDGs and currently SDGs of the United Nations in broader perspectives. Another important area where LGED plays a significant role is the maintenance of the so developed infrastructures which prolonged the longevity of the infrastructures. LGED works closely with the relevant stakeholders to ensure people's participation and bottom-up planning in all stages of project life cycle. The broader objectives of LGED's development activities are to improve the socio-economic condition of the country through providing infrastructures at local level and capacity building of the stakeholders. LGED promotes labour-based technology to create employment opportunities at local level and uses locally available materials in construction and maintenance activities to optimize the projects implementation costs ensuring the desired quality. LGED works in a wide range of diversified programs like

construction of roads, bridges/ culverts, union parishad complex, river ghats, markets etc. which enhance social mobilization, women empowerment and environmental protection.

The organizational background of LGED can be outlined as back to early sixties when implementation of works program (WP) comprising Rural Works Program (RWP), Thana Irrigation program (TIP) and Thana Technical Development Committee (TTDC) was started. A “Cell” was established in the Local Government Division (LGD) under the Ministry of Local Government, Rural Development and Cooperative (MLGRD&C) in 1970s. To administer WP nationwide, the Works Program Wing (WPW) was created in 1982 under the Development Budget. It was reformed into the Local Government Engineering Bureau (LGEB) under Revenue Budget of the Government in October, 1984. LGEB was upgraded as the Local Government Engineering Department (LGED) in August, 1992.

The Vision of LGED:

LGED would continue to remain professionally competent, efficient and effective public sector agency for performing the interrelated and complementary functions of:

- Developing, maintaining and managing transport, trading and small scale water resources infrastructure at the local level by ensuring LGI and community participation and taking care of environmental and social issues.
- Providing technical and institutional support to strengthen the local government institutions and serving local communities and other stakeholders.

Mission of LGED:

Development and management of local level infrastructures for increasing farm/non-farm productions, generating employment, improving socio-economic condition, promoting local governance, reducing poverty and acting as “Change Agent” at the local level.

Currently, LGED is dealing with more than 100 running projects in the above mentioned three areas. The yearly development budget allocation of LGED is about 1200 cores. It carries out the procurements of works, goods & services using this huge

budget allocation. Almost 100% of the projects are carrying out their works procurement through electronic government procurement portal referred to as “e-GP” portal of Central Procurement Technical Unit (CPTU) under IMED division of Planning Ministry. In conducting the e-GP through CPTU portal, the challenges faced by LGED are employees & suppliers’ capabilities, logistics and technological barriers, transparency, efficiency and effectiveness, ensuring value for money etc.

The LGED have its own web-portal including information like its organizational evolution, all projects history, organogram, functionalities, Road database, Digital Maps, Library etc. The image of LGED web-site is given below:



CHAPTER-THREE

Methodology of study

3.1. Methodology

The study was carried out through reviewing the existing literatures, legal and other documents of different institutions and organizations. The special emphasis was given on reviewing the WB Report-2006, PPA-2006, PPR, 2008 and e-GP guide lines proclaimed by the Government of Bangladesh. Then a few numbers of key officials of LGED supposed to have smart knowledge about procurement & e-GP system were interviewed. They are Project Directors (PD), and Executive Engineers in concerned units. Also, a set of Questionnaires were developed and surveys were conducted using the so developed questionnaires among the respondents of Executive Engineer, Senior Assistant Engineer & Assistant Engineer of PMO, NOBIDEP Project as well as NOBIDEP Project District offices, Two District XEN beyond NOBIDEP project districts and contractors/Suppliers. Besides, secondary data were collected from different offices of LGED Headquarter.

Both qualitative and quantitative methods were trailed in this research. The set of questionnaire used for the survey is attached in Appendix 1.

3.2. Selection of study area

The research work was limited to the challenges of e-procurement with a case study of JICA assisted Northern Bangladesh Integrated Development Project. The project covers 14 districts [Rangpur, Kurigram, Gaibandha, Nilphamari, Lalmonirhat, Dinajpur, Thakurgaon, Panchaghor, Tangail, Jamalpur, Mymensing, Sherpur, Netrakona, Kishoregonj] of Northern region of the country & 18 pourashavas under these districts. Only the challenges like hindrances, laggings etc. related to the e-GP were considered for the study. Under the project, the procurements are performed in Project Management Office (PMO), District & Pourashava level Offices. So, in my study PMO, 14 District offices performing the e-GP functionalities are treated as respondents. As there are many other projects and units in LGED also performing the

procurement activities through e-GP system, therefore some respondents are considered from some of those projects and units.

3.3. Sample size

Representative sample selection is very vital for any research. If the selected sample is not representatively drawn, then the results obtained may not characterize the actual situation. In this study the size of total stakeholders were difficult to be ascertained as the numbers of contractors and suppliers were fully indeterminate and out of reach. Considering procuring entities in LGED&Pourashava under the project, selected sample was representative to the population as far as possible. For questionnaire survey, a sample of total 30 persons encompassing 4(Four) Project Directors, 2(Two) Deputy Project Directors, 9 (Nine) Executive Engineers, 11(Eleven) Senior Assistant Engineers, 1(One) Assistant Engineer and 3(Three) contractors were selected.

3.4. Data collection and timeframe of the research work

The research work was completed within a timeframe of 3 months. The distribution of total time used in this research work was 1 month for literature review, 1 month for data collection and interviews, 15 days for data analysis and 15 days for Report writing.

3.5. Data processing and Analysis

The collected data were stored in my laptop first. Then analysis of the collected data was performed using spread sheet of MS Office Program. The data are presented in graphical and tabular form as appropriate.

CHAPTER FOUR

Data Analysis

The study was concentrated on the detection of the challenges in conducting the procurements through e-GP system focusing on the works procurement of JICA assisted NOBIDEP project. The study is carried out depending on the primary data collected through the so designed questionnaire among the respondents. The respondents are different officials of LGED, consultants, bidders & other organizations. Specifically, opinions of 30 respondents were gathered among different projects of LGED like NOBIDEP, Rubber Dam project, Chittagong & Coxes bazar Infrastructure Development Project-II, Bangladesh Agricultural Infrastructure Development Project, Procurement Unit of LGED, Bidders and Other Departments (**Table 4.1**). 21 (Twenty One) questions were furnished in the questionnaire in relation with the e-GP (Sample Questionnaire attached).

Table 4.1: Respondent

Category	NOBIDEP	Rubber Dam Project	CCIDP-II	BAIDP	Others	Sub-Total
Project Personnel (PD/DPD/ XEN/Sr.AE/ AE)	6	1	1	1		9
Procuring Entity					7	7
Convener of TEC/TOC					9	9
Bidder					3	3
Procurement Unit of LGED					1	1
Other Department					1	1
Total	6	1	1	1	21	30

4.1. Respondents:

The total respondents were 30 for the survey. Among them, there were 4 (Four) Project Directors, 2 (Two) Deputy Project Directors, 9 (Nine) Executive Engineers, 11 (Eleven) Senior Assistant Engineers, 1 (One) Assistant Engineer and 3 (Three) Bidders. The composition of the respondents in percentage is denoted in the following chart.

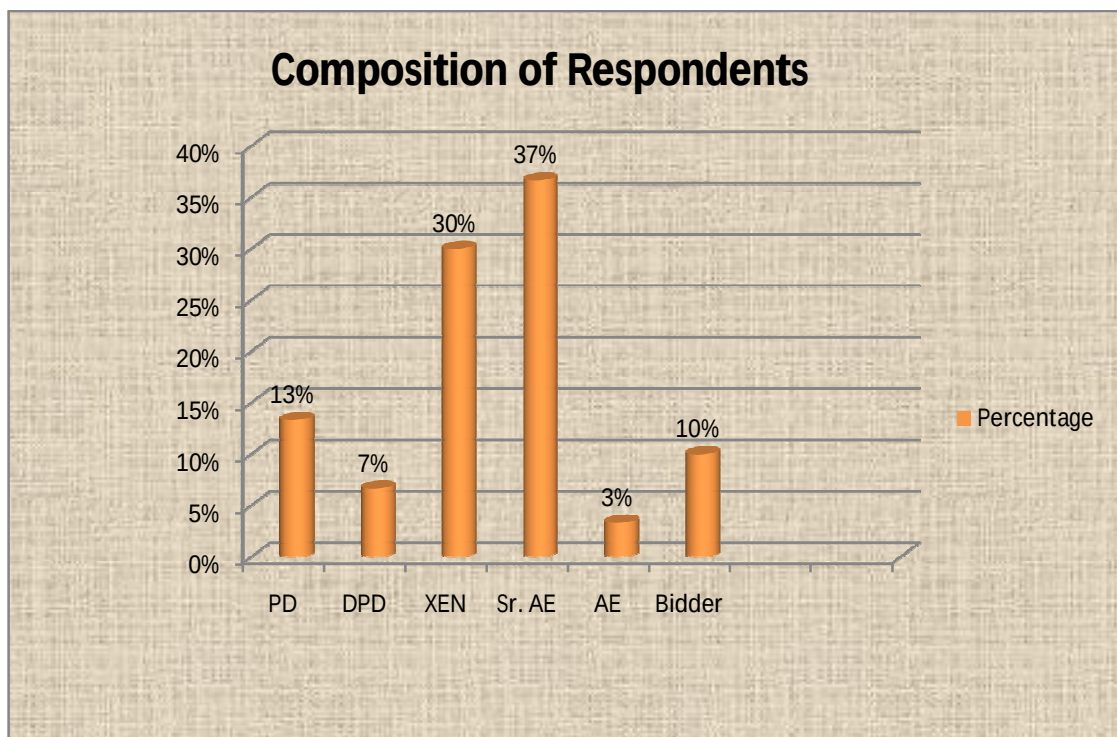


Figure 1: Composition of Respondents

4.2. Analysis of the questionnaire survey:

The questionnaire was constituted having 4 sections. The sections are discussed below:

Section 1- Personal Information: This section includes the questions regarding the personal qualification and experience in procurement system; especially e-procurement system. It also includes the training issues about Public Procurement Rules 2008 and e-GP.

Section 2-e-Procurement Issues: This section includes the questions in relation with the internet speed, e-GP systems, TOC & TEC members' capabilities, different time frames

for Tender floating, evaluation, approval, NOA issues, contract signing etc. It also includes the questions regarding license hiring and confidentiality of information.

Section 3- Project Management Office Capacity, Capabilities Issues:4 (Four) questions were set here about the PMO personnel expertise, competency, accountability, responsibility & practices as well as logistics available.

Section 4- Other issues & Comments:It was an open-ended portion of the questionnaire about the challenges of e-GP and the possible remedial measures.

Data collected by the mentioned questionnaire are presented through the diagrammatic presentation method. It would be easy to the reader to understand the situation rather than that of tabular form. The charts would be self-explanatory to the readers.

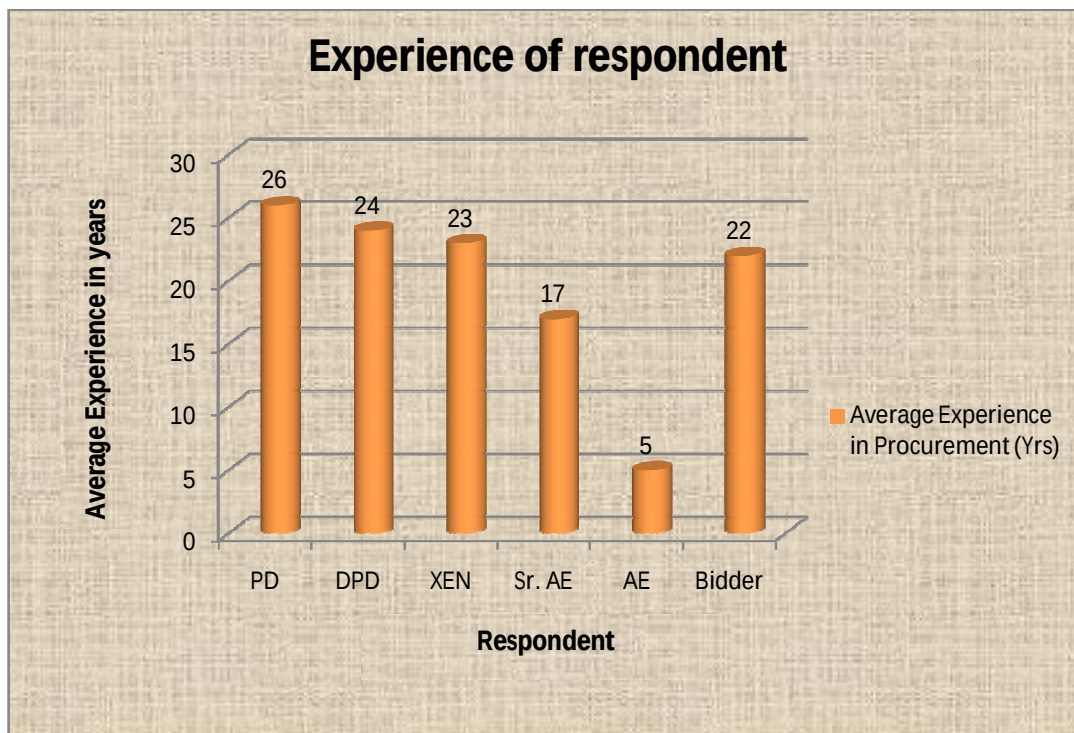


Figure 2: Experience of respondents

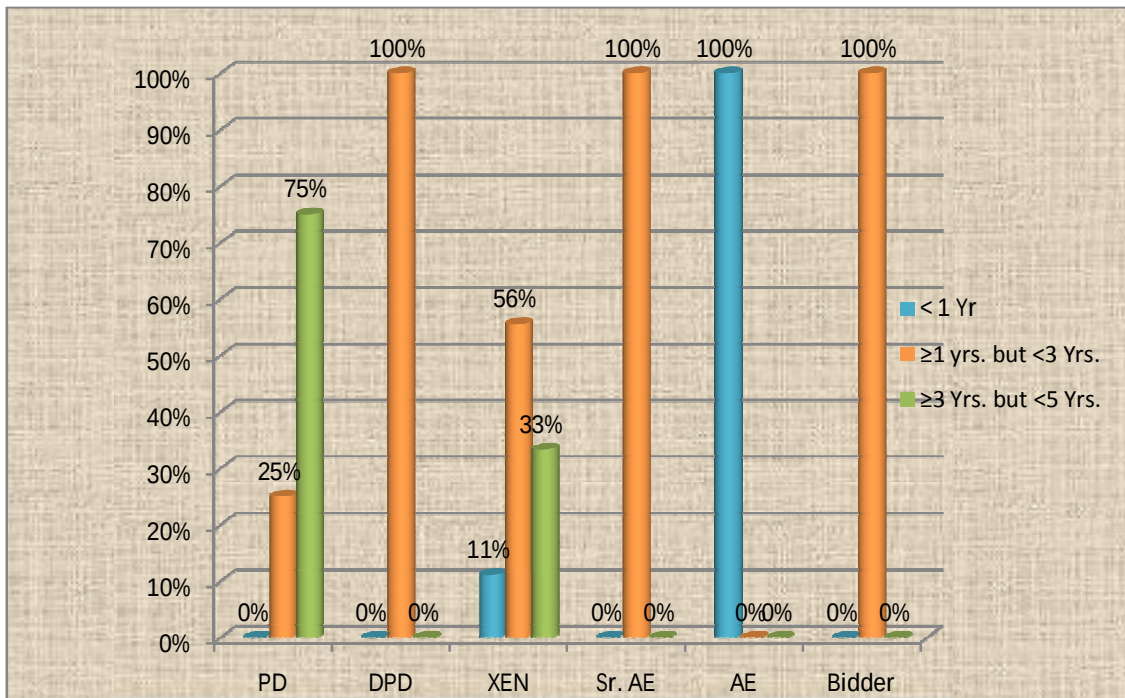


Figure-3: Experience in e-procurement system

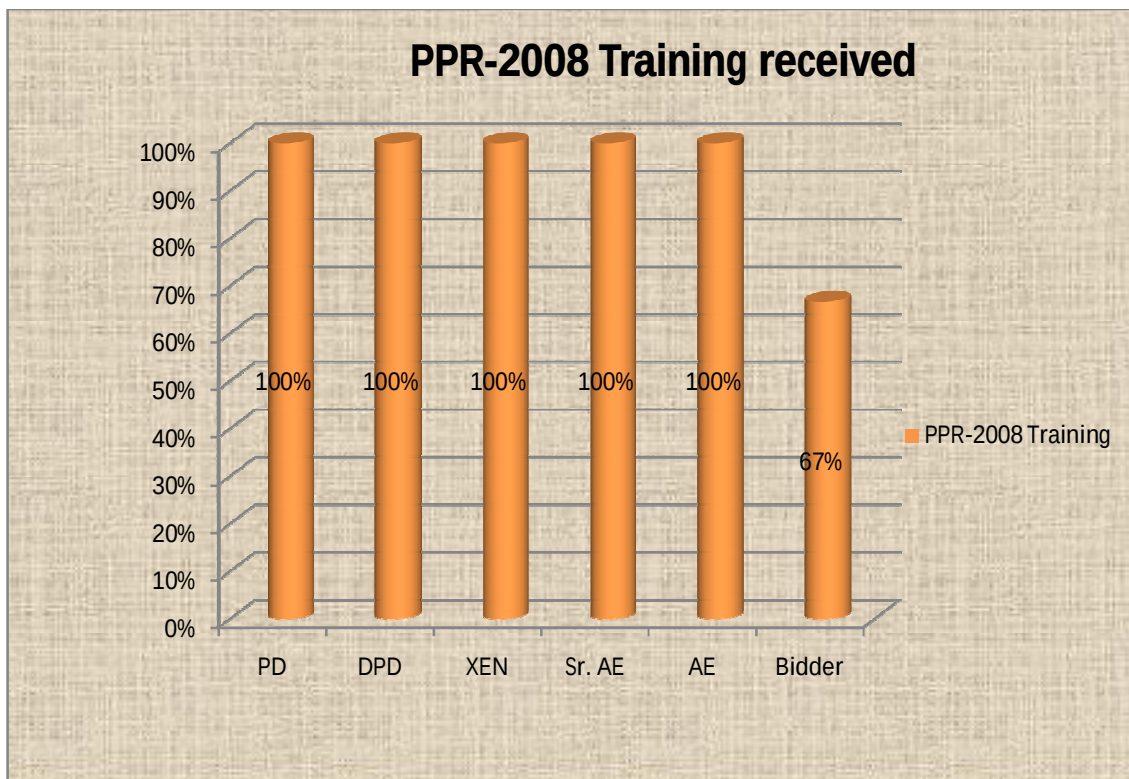


Figure 4: PPR-2008 Training received

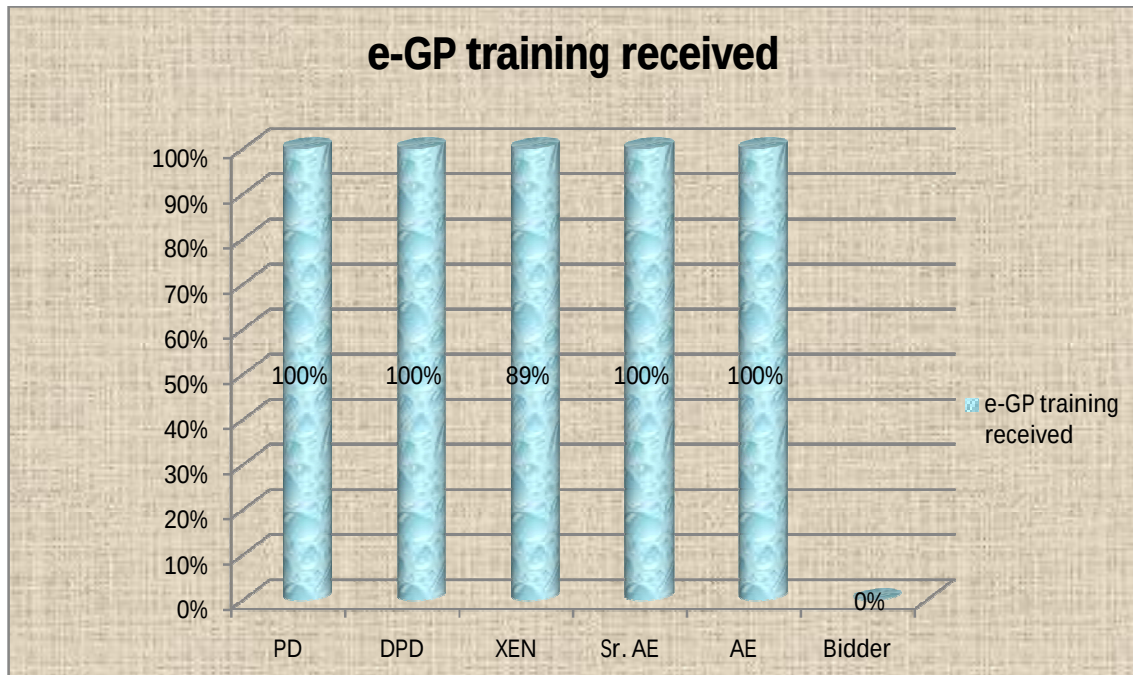


Figure-5: e-GP Training received

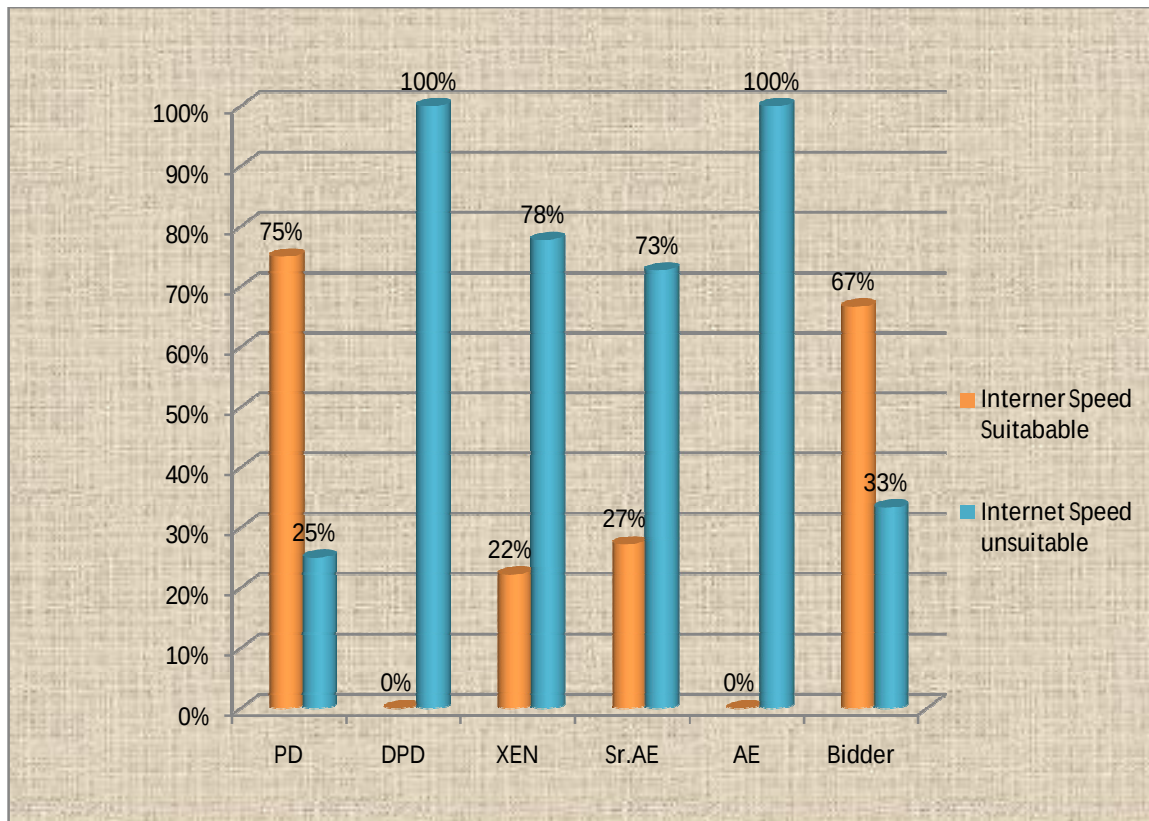


Figure-6: Suitability of Internet Speed

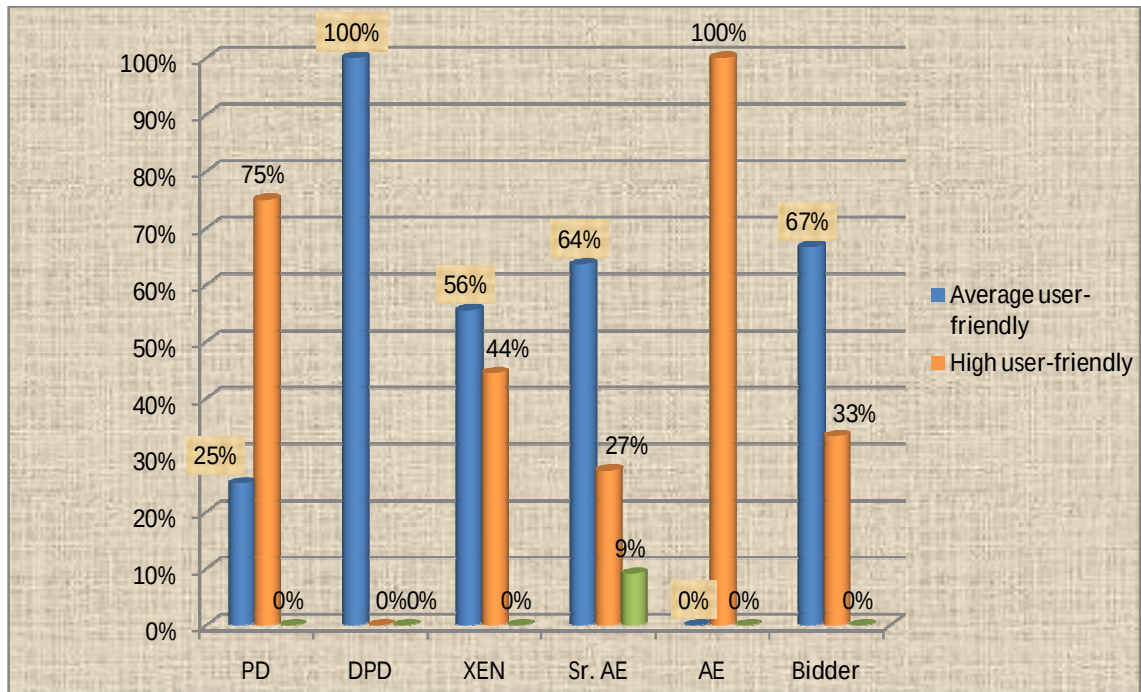


Figure-7: System user-friendliness

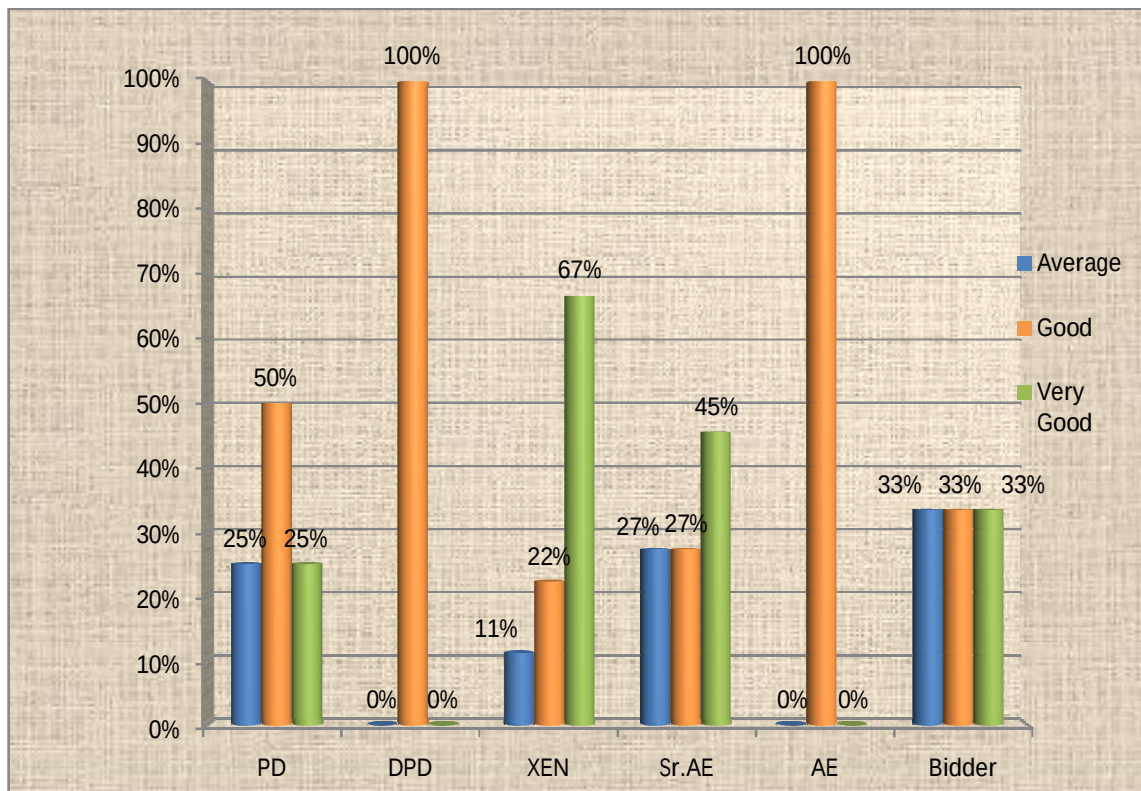


Figure-8: Knowledge & Experience of TEC & TOC about PPR-2008 & PPA-2006

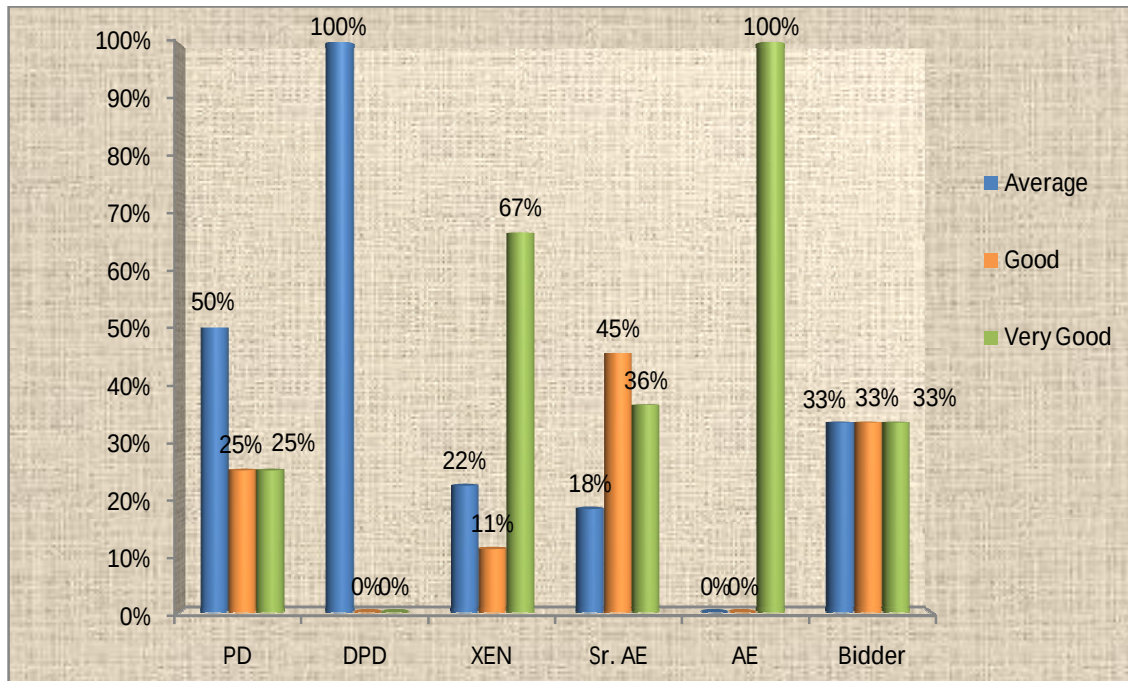


Figure-9: Knowledge & Experience of TEC & TOC about e-GP system

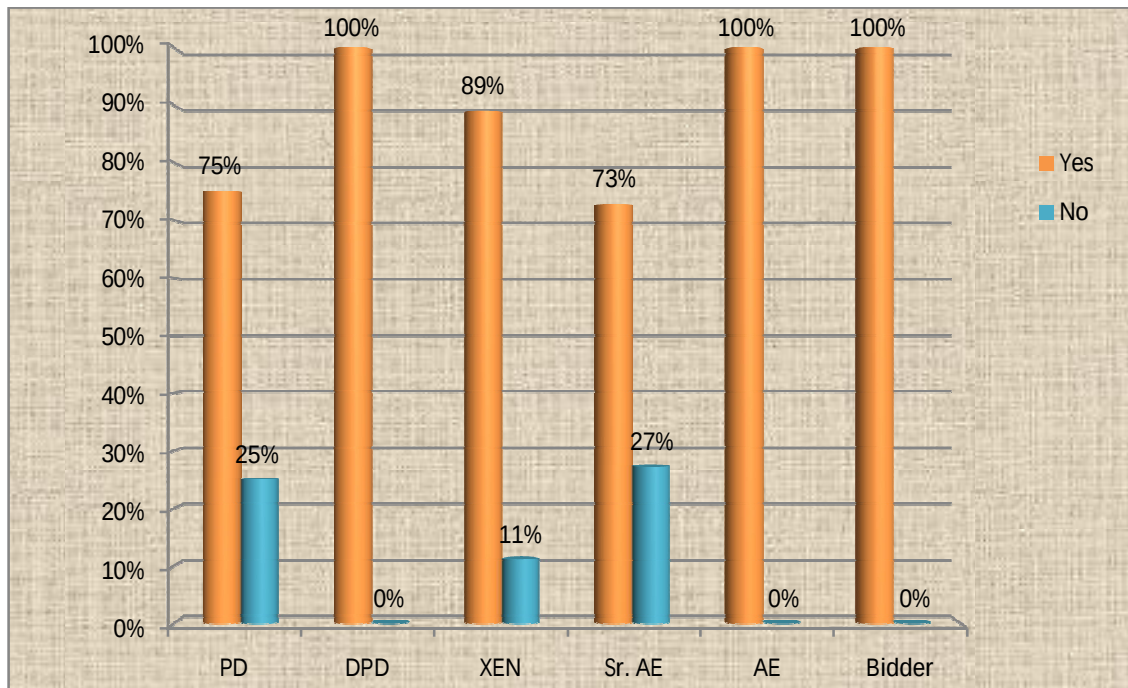


Figure-10: Justification of evaluation time

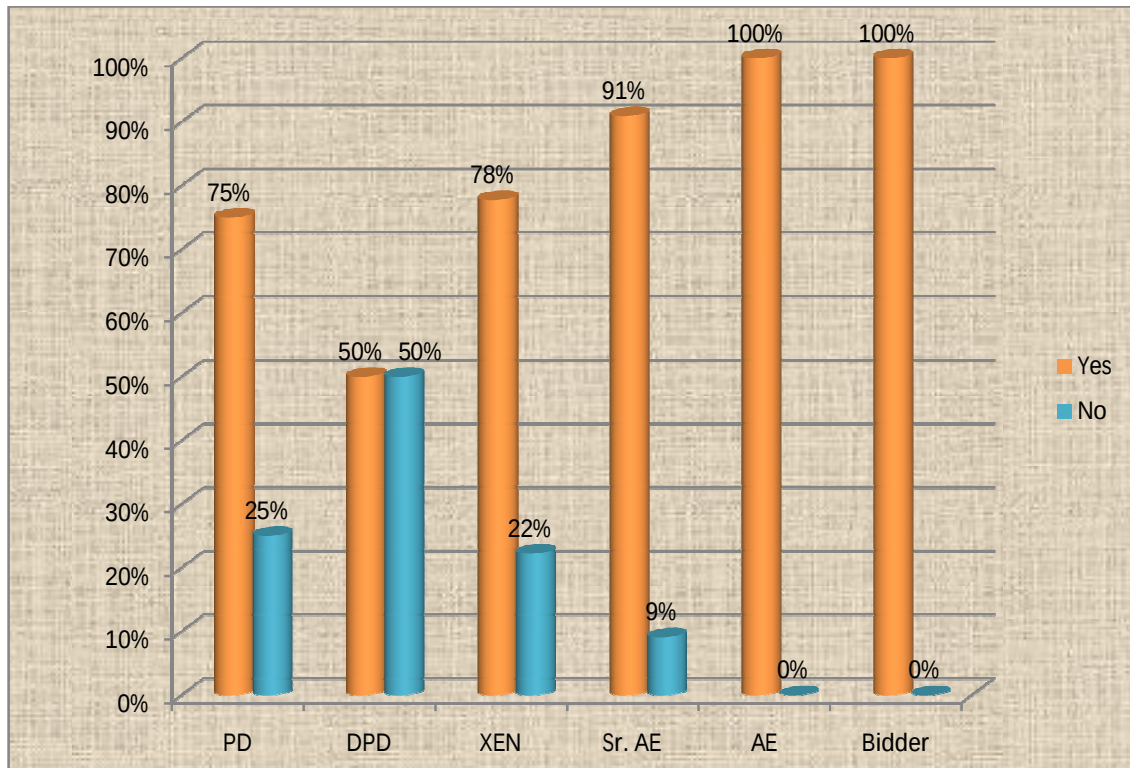


Figure-11: Justification of Tender approval time

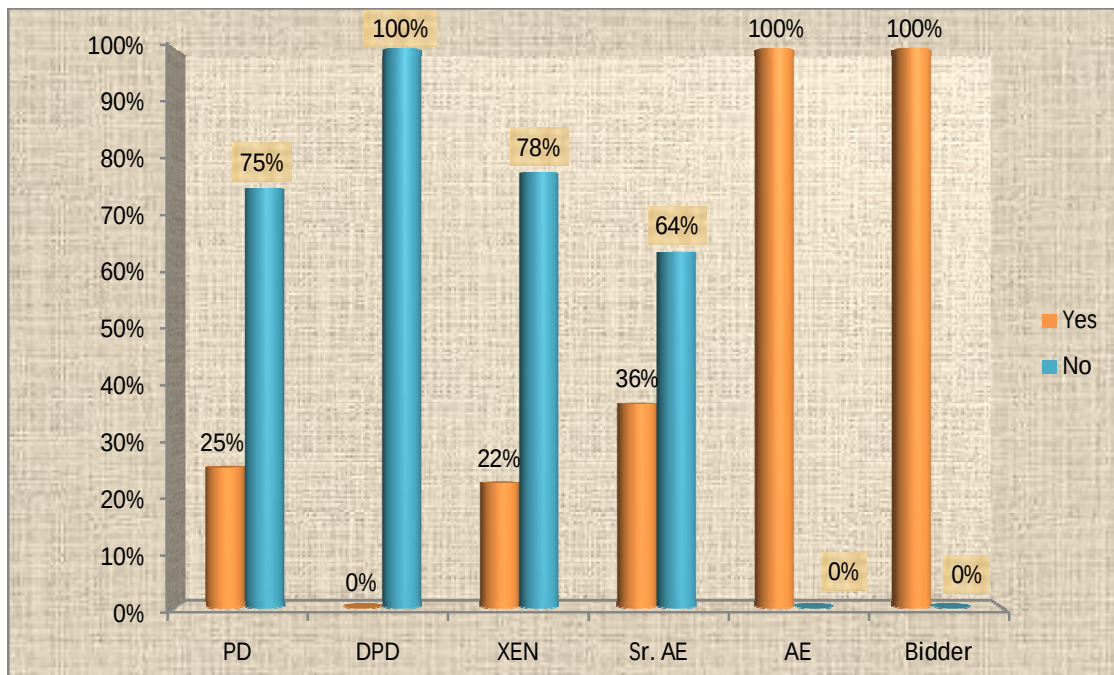


Figure-12: Reduction of NOA issuance time

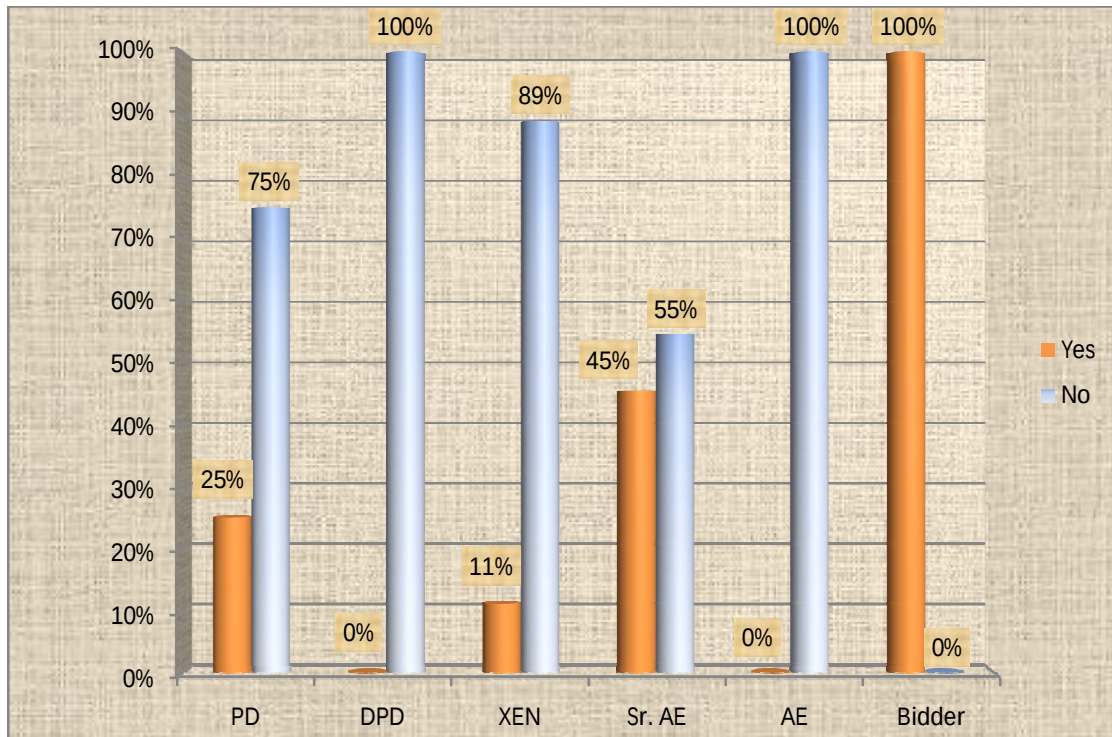


Figure-13: Reduction of NOA receiving time

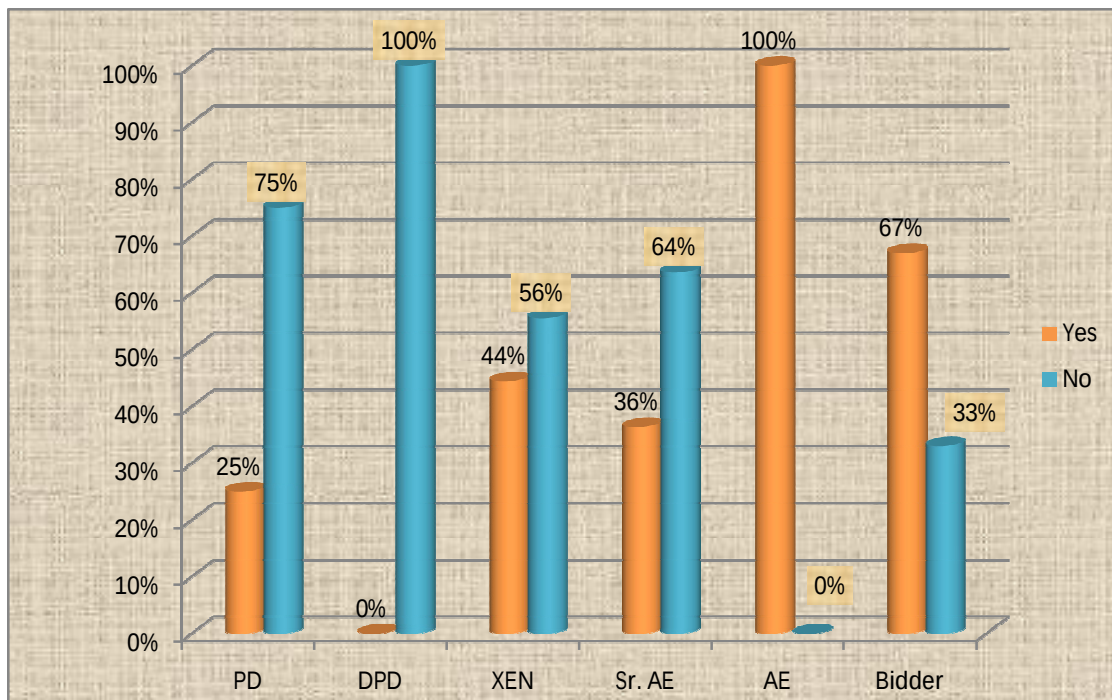


Figure-14: Reduction of time for performance security submission & Contract signing

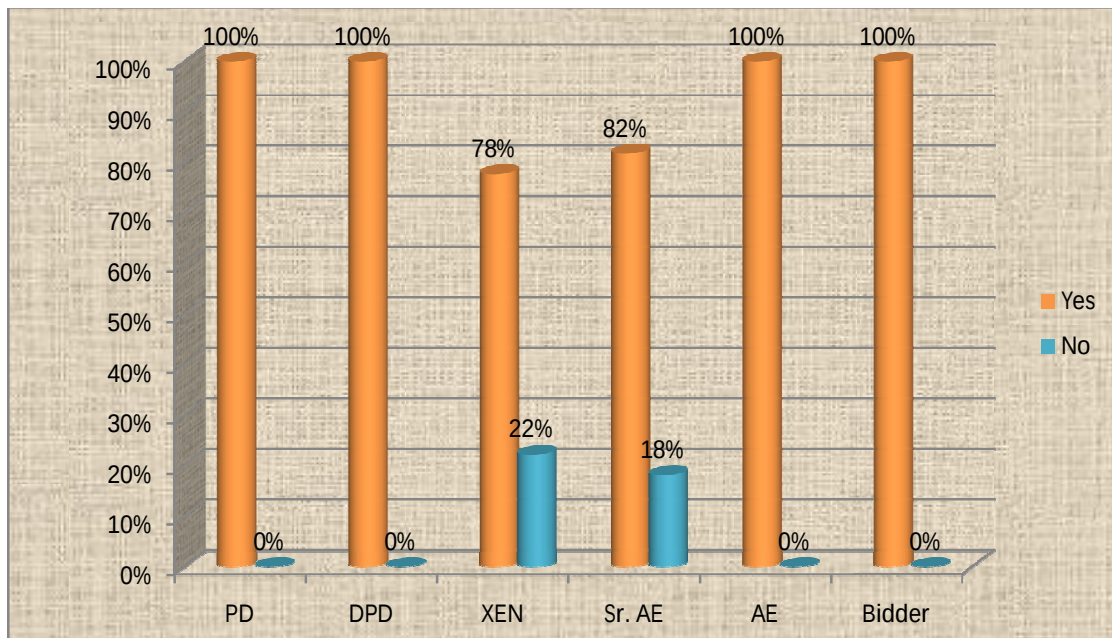


Figure-15: Bounding the e-tender publishing time

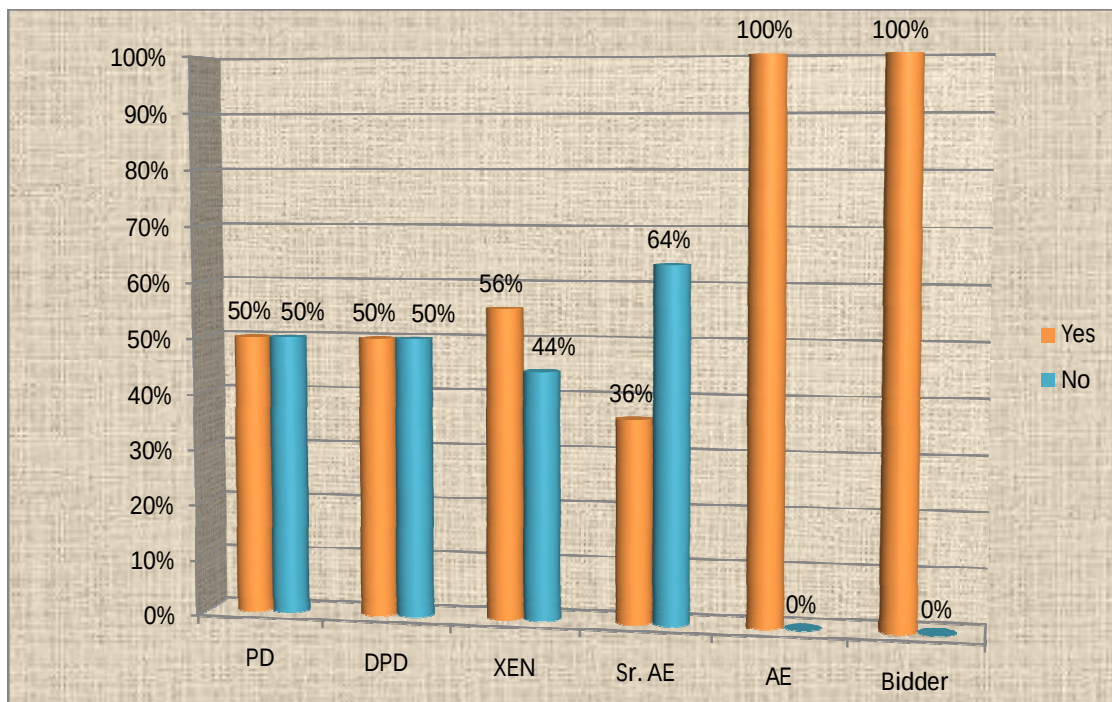


Figure-16: License hiring

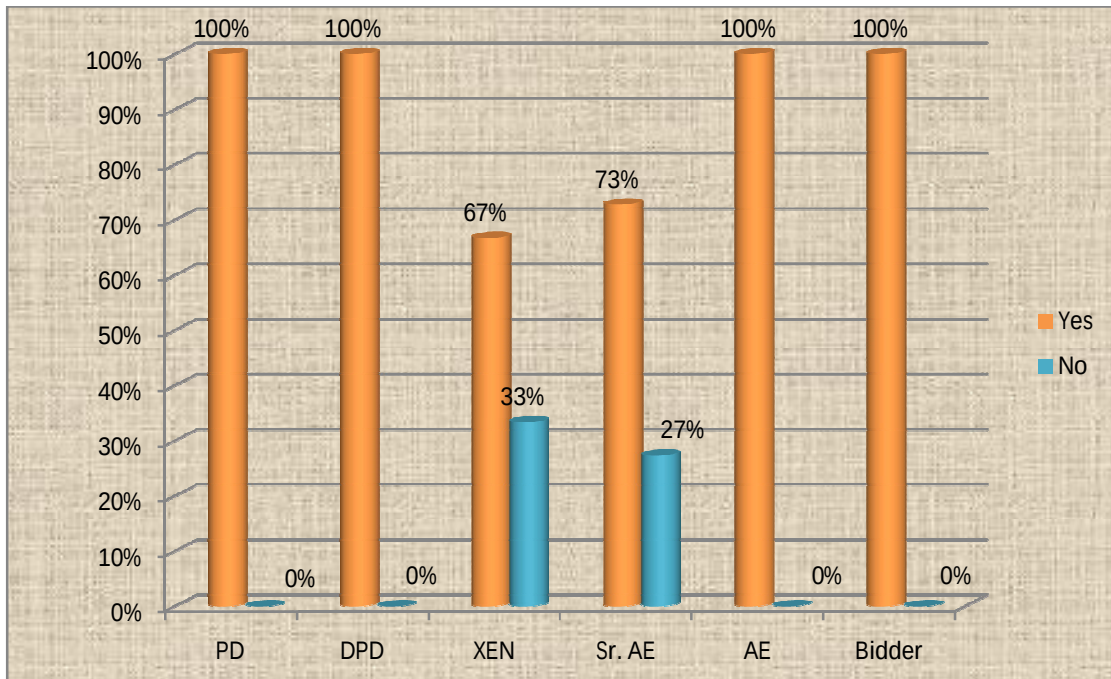


Figure-17: Is license hiring hindrance to Value for Money

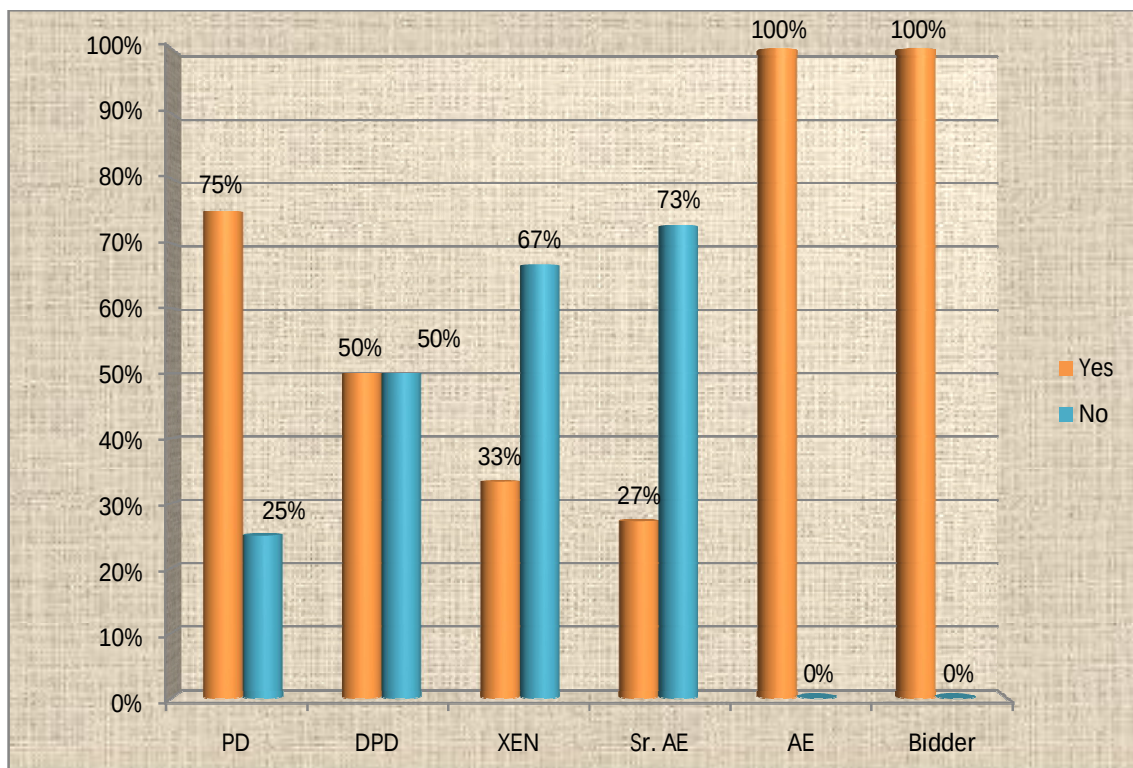


Figure-18: Disclosure of confidentiality

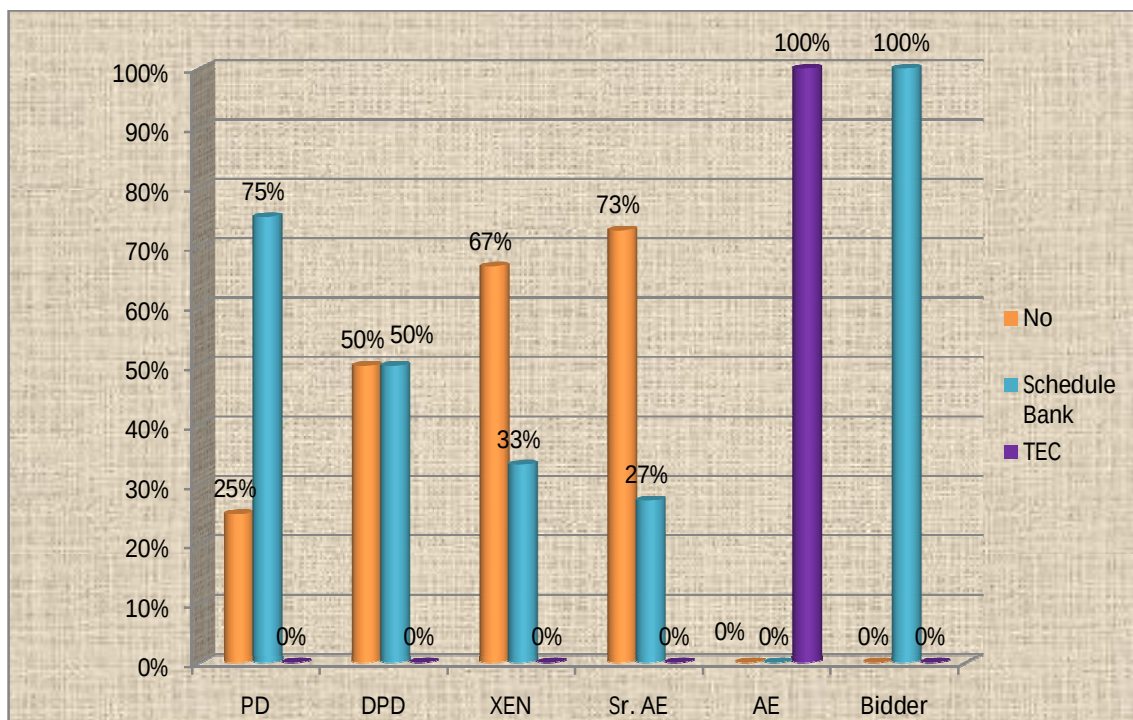


Figure-19: Vulnerable Point to Confidentiality

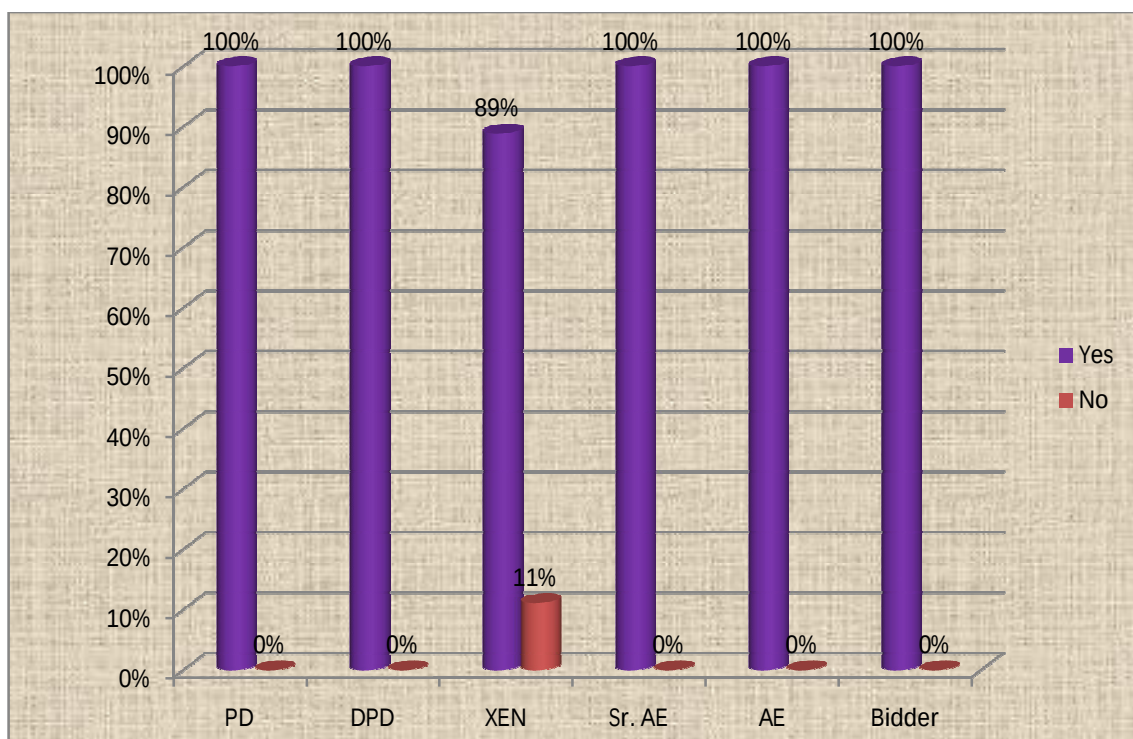


Figure-20: Sufficiency of e-procurement personnel & logistics in PMO

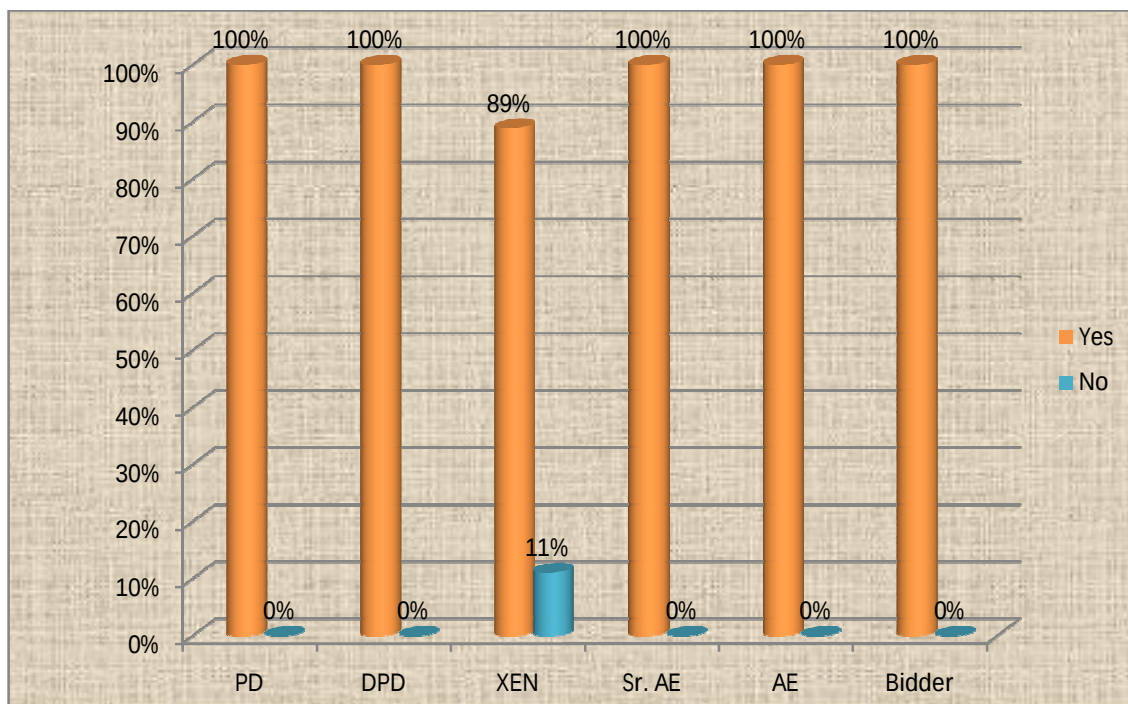


Figure-21: Sufficiency of expertise & competence of PMO personnel

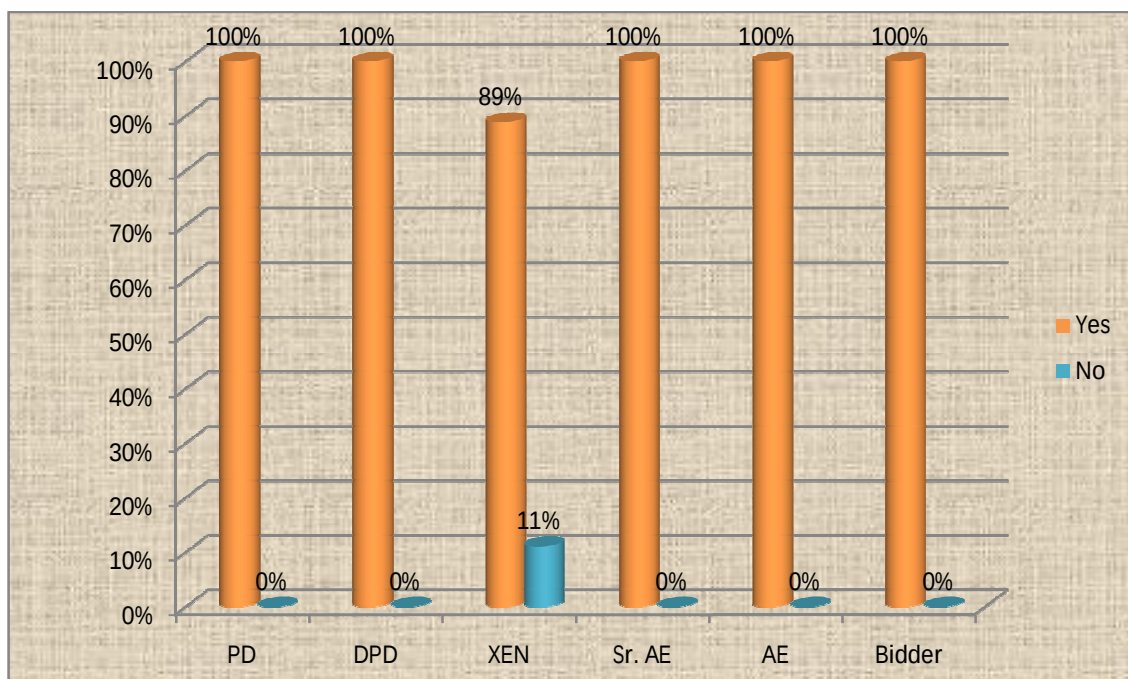


Figure-22: Enough accountability & responsibility of e-procurement personnel of PMO

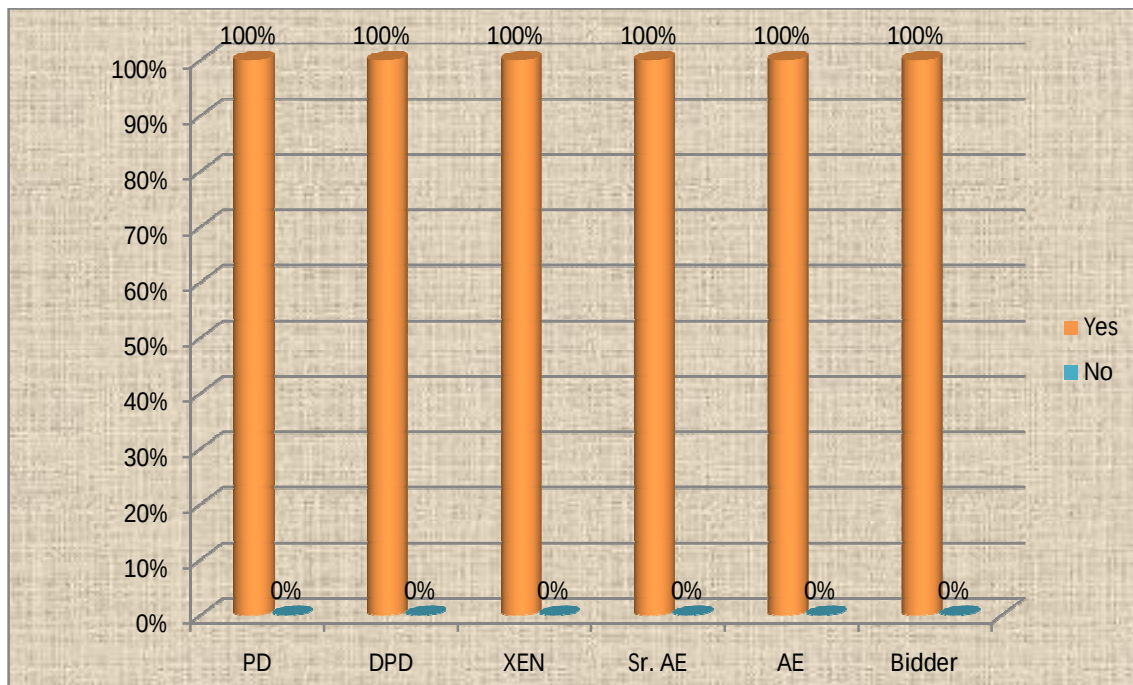


Figure-23: e-procurement has reduced corruption, fraudulent, collusive & coercive practices significantly

CHAPTER-FIVE

Findings of Study

According to the designed questionnaire, the survey was conducted among the selected respondents. The findings of the survey are discussed below:

5.1. Section 1- Personal Information: The survey was conducted among the Assistant Engineer (Procurement, NOBIDEP), Senior Assistant Engineers (District TEC Convener), Executive Engineers (District Procuring Entity and Design Unit), Deputy Project Directors of NOBIDEP, Project Directors of different projects of LGED and bidders of CPTU. Their experience in procurement ranges from 5-26 years; especially involving in e-procurement practices ranges from 1-4 yrs. Whereas GoB has introduced e-GP only by 4 years. Except bidders, all the respondents have been obtained training on PPR-2008 and e-GP. Now, they are confident enough about e-GP system. So, it can be said that the selection of respondents have been performed correctly. They have gathered enough knowledge about how to operate the e-GP system and how to play their roles in carrying out the e-procurement successfully using e-GP system. It may be mentioned here that they had enough knowledge and experience about the manual procurement system as earlier and the difficulties they faced in conducting the manual procurement. The bidders need to be trained to play their roles effectively in e-GP system.

5.2. Section 2-e-Procurement Issues: In this section, the respondents were asked to provide their views regarding 21 questions setting out in the questionnaire. About 63% respondents' views about internet speed is negative; that is the speed is not sufficient to operate the system effectively as and when necessary. The response about user friendliness is average to high user friendly. About 43% respondents comment as the system is high user-friendly. The remaining portion is agreed with average user-friendliness of the system. The knowledge and expertise of the TEC & TOC about PPA-2006, PPR-2008 and e-GP mostly ranges from good to very good. Different existing time frames for tender evaluation, tender approval, NOA issuance, NOA receiving, PS submission and contract signing seems to be okayed. But, most of

the respondent asked for bounding the tender publishing time for the procuring entity. More than 75% respondents thought that license hiring is a problem for ensuring value for money in e-GP system. About 43% respondents' answer is that there is confidentiality problem in the e-GP system and that may occurs probably from the schedule Banks. This disclosure may lead to corrupt, fraudulent, collusive or coercive practices.

5.3. Section 3- Project Management Office Capacity, Capabilities Issues: About 97% of the respondents are satisfied with the e-procurement personnel and logistics availability in the Project Management Office of NOBIDEP, expertise and competency, authority, power, accountability & responsibility of the personnel as well. 100% percent of the respondents are agreed with the reduction of unwanted issues like corruption, fraudulent, collusion or coercive practices by the e-GP system.

5.4. Section 4- Other issues & Comments: This section deals with the various challenges of e-procurement and their possible remedial measures. The challenges identified by the respondents and their suggested measures are given below:

Sl. No.	Challenges	Remedial measures
1	Contractors' feel insecure to work anywhere in the country.	Political influence should be overcome
2	Shortage of competent tenderers	To increase potential tenderers gradually
3	Audit system is nil yet	Enhancing audit in e-GP system
4	Tenderers' insufficient knowledge about the e-GP system	Training to be given to the bidders about e-GP system
5	Frequent transfer of experienced personnel	Propensity of transfer is to be reduced
6	To train the person in desired level of expertise	Refreshers course of training is needed

7	Hiring of license by the less capacity local bidders	There should have measures to penalize or De-barred the license holder.
8	Insufficient trained staffs in some organization	More training needs for personnel involved to procurement for those organization
9	Banking system not fully electronic transfer system aided. That's why banking people may disclose information.	Bank engaged with e-procurement should have electronic transfer system as well as bankers should have high level of integrity
10	Willingness of politicians for better procurement	Politicians should have honesty & Integrity
11	Non-availability of internet	To ensure the internet throughout the country.
12	Low internet speed & continuity	Continuous high speed internet to be ensured
13	Verification of papers from PE & Banks are time consuming	e-experience certificate should be introduced and preserved in e-GP system
14	Browser compatibility & limitations	e-GP system should be all types and version of browser friendly.
15	One person handle many tenders' ID due to tenderer's incapability to operate the system	Training to be provided to the tenderers to operate the e-GP system
16	Accounts and billing system, contract management system not yet available	e-GP system should be updated with e-payment & contract management.
17	Fake experience uploaded by some bidders	Drastic action to be taken against the bidder who uploads fake certificates
18	BOQ preparation is laborious task	Rate schedule may be integrated in the system

5.5. The Challenges faced by the PMO, NOBIDEP in implementing the e-GP system.

I am working as an Executive Engineer in NOBIDEP project, LGED, serving as the Focal Person for e-procurement of the project. Project Management Office (PMO), Northern Bangladesh Integrated Development Project (NOBIDEP) encountered the following challenges in conducting the works procurement through e-GP system.

- Capacity building of the pourashava officials, consultants in electronic tendering processes as they were very new to the system.
- Most of the bidders have no training to operate the e-GP system for which they would have to be dependent on the other persons who have knowledge about the system
- Network & internet speed in the project districts as well as pourashava is not continuous and satisfactory
- Power supply is not uninterrupted
- E-GP system is incompatible with all and updated browser which create problems with other activities to be performed by the same computers
- E-GP server sometimes seems to be very slow.
- No facility is available for fixed item from the procuring entity's end in the BOQ although the approved estimates contains some such types of item.
- Insufficient support facilities specially in the pourashava level
- Frequently transfer of the assistant engineer from the pourashava creates problems because the new comer may have no training on e-GP system.

CHAPTER-SIX

Conclusion & Recommendation

6.1. Conclusion: Following the WB CPAR report and the Public Procurement Reform Project (PPRP) findings, Bangladesh Government adopt Public Procurement Reform Project II (PPRP-II) for further strengthening the country's procurement system under the finance of IDA including procurement policy reform, capacity development, procurement management, e-government procurement etc. For conducting online procurement, e-GP systems have been launched. 4 (Four) agencies of pilot phase including Local Government Engineering Department (LGED) successfully perform the online procurement through e-GP system. Then, CPTU launched the e-GP system countrywide. Now, the Government intends to conduct its all procurement activities through e-GP portal. The aim of this research was to find out the challenges of e-procurement highlighting the case study of JICA assisted Northern Bangladesh Integrated Development Project (NOBIDEP), implemented by LGED.

Through the questionnaire survey among the respondents involving in e-procurement, it was observed that the key challenges are capacity building of staffs involved in procurement systems, bidders community & Bankers, Slow internet speed & its non-fulfillment coverage, lack of uninterrupted power supply etc. LGED becomes very much successful in managing the encountered challenges with the proper guidance of the Honorable Chief Engineer and its associates. In a summary, the main challenges of e-GP implementation are:

- ❖ Slow internet speed and net non-availability throughout the country
- ❖ Contractors' feel insecure to work anywhere in the country due to political interference and pressure groups
- ❖ Verification of papers submitted by bidders from different Procuring Entities & Banks are time consuming
- ❖ Tender security uploaded by the bankers which may act as a point of confidentiality disclosure in the local level
- ❖ E-GP system doesn't support all types and version of the browsers causing problems in handling the e-procurement activities.

- ❖ Sometimes, some bidders used to upload the fake experience certificate with on-line tenders causing hindrance to ensuring value for money.
- ❖ The bidders need extensive training on e-GP system which is a massive task to be performed so that they would be able to submit e-tender themselves confidentially.
- ❖ License hiring to the non-listed or less capacity bidder is a major problem for e-GP implementation
- ❖ Frequent transfer of skilled & experienced person causes problems to the proper implementation of e-GP system.
- ❖ Interrupted power supply causes hindrance to perform activities in the e-GP system.
- ❖ BOQ preparation is a laborious tasks in e-GP system

Facing the above mentioned challenges it could be anticipated that LGED would be able to conduct 100% procurement activities through e-GP system within a very short time. By doing these, LGED would ensure free, fair, transparent, efficient and effective e-Procurement System in the organization.

6.2. Recommendations

The challenges of e-procurement so identified should be addressed by different organizational levels as well as by the Government of Bangladesh. Categorically it is recommended as follows:

6.2.1. What LGED should do

- Fresh training as well as refresher courses on e-GP and PPR-2008 should be conducted among the personnel related with the e-procurement activities.
- Massive e-GP training should be given to the contractors/bidders about tender submission as well as contract performance;
- Take initiatives to integrate the Rate Schedule of LGED to the e-GP system to enhance the document preparations in the bidding process;
- Experience procurement person should be replaced by experienced one in case of transfer if needed.
- Legal action must be taken in case of fraudulent practices by the bidder like fake certificate producing in the system

6.2.2. What CPTU should do

- Introducing an e-library on the e-GP system where experienced certificates, Bank certificates to be uploaded so that TEC can verify from the system.
- Tender security uploaded by bankers should be strictly confidential. In case of disclosure, administrative action must be taken & to publish in the e-GP system.
- To take initiatives to develop a common estimate software for all civil works departments
- To take initiatives to upgrade the e-GP system & quick response to the customers query.
- Upgrading the e-GP system compatible to the latest version of browsing software like Mozilla Firefox, Google Chrome and so on;

6.2.3. What Government should do

- To ensure continuous and high speed internet throughout the country
- To ensure the continuity of electricity in a reasonable level throughout the country;
- To take proper action to reduce the political interference in the contract implementation stage in the local level
- To provide policy support in the e-procurement process

References

- The Public Procurement Act 2006 (PPA-2006)
- The Public Procurement Rules 2008 (PPR 2008)
- Bangladesh e-government procurement (e-GP) guideline 2012
- Hassan, Md. Mahboob (2014), Operational Risk in e-GP Implementation of Bangladesh-LGED Perspective
- Rahim, Md. Abdur (2014), Electronic Tendering in Public Procurement: A Case Study on Local Government Engineering Department (LGED)
- Munir, Siddiquee (2013), Implementation of Electronic Government Procurement (e-GP): An Assessment on Organizational Capacity of Local Government Engineering Department
- World Bank (1999), "Country Procurement Assessment Report for the People's Republic of Bangladesh".
- The World Bank (2003), Electronic Government Procurement (e-GP), World Bank Draft Strategy
- The World Bank (2006), Electronic Government Procurement (e-GP), Opportunities & Challenges
- The World Bank (2006), Report on Electronic Government Procurement (e-GP) Readiness Assessment, The Government of the People's Republic of Bangladesh.
- Uddin, Md. Nasir (2015), The Prospects and Challenges of e-Procurement in Government purchases: a study on e-Procurement in LGED, Narayanganj District
- JOARDER, MD. SAIFUR RAHMAN (2015), Assessment of e-Tendering (e-GP) process in LGED: a case study for selected offices
- ViljamiVanjoki 0297809, Problems related to the adoption of e-procurement for indirect purchases
- Local Government Engineering Department (LGED), <http://www.lged.gov.bd>
- Simon R. Croom and Alistair Brandon-Jones, KEY ISSUES IN E-PROCUREMENT: PROCUREMENT IMPLEMENTATION AND OPERATION IN THE PUBLIC SECTOR
- <http://www.cptu.gov.bd/ppruwup.aspx>

Sample Questionnaire

BRAC Institute of Governance and Development (BIGD)

BRAC University

Survey Questionnaire

Research Topic: Challenges of e-procurement: A case study of JICA assisted NOBIDEP Project, LGED under Ministry of LGRD&C, Government of Bangladesh.

Hereby, a survey questionnaire is designed to collect data towards the identification of potential challenges to e-procurement in general, especially challenges faced by the procurement personnel of the JICA assisted NOBIDEP project in the rural and urban works procurement through e-GP system. It's a part of academic requirement for acquiring the degree of Masters of Procurement and Supply Management (MPSM) at the BRAC Institute of Governance and Development (BIGD) under BRAC University, Bangladesh. Your earnest honest response to the questionnaire would be treated as valuable asset to the researcher. The researcher will maintain the confidentiality of your information and will be used only for academic purpose.

Section 1: Personal Information

a) Name (Optional):

Pl. put tick mark on the correct answer for b) &c)

b) How long have you been involved in the procurement system?

< 5 Yrs.	≥5 yrs. but <10 Yrs.	≥10 Yrs. but <15 Yrs.	≥15 Yrs. but <20 Yrs.	≥20 Yrs.
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c) How long have you been involved in the e-procurement System?

<1 Yrs.	≥1 yrs. but <3 Yrs.	≥3 Yrs. but <5 Yrs.	≥5 Yrs.
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d) Where are you rendering your service presently?

e) Have you got training on PPR-2008?

Yes/No

f) Have you got training on e-GP?

Yes/No

Section 2: e-Procurement issues

1. Is the internet speed now suitable to perform e-GP smoothly?

Yes/NO

2. To what extend is the e-GP system user-friendly to you?

- a) Very high user-friendly
- b) High user-friendly
- c) Average user-friendly
- d) Poor user-friendly
- e) Not user-friendly

3. Do you think the TOC & TEC members have adequate knowledge and experience about Government Procurement according to PPA-2006 & PPR-2008?

Very Poor	Poor	Average	Good	Very Good	Excellent
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4. Do you think the TOC & TEC members have adequate knowledge and experience about e-GP system?

Very Poor	Poor	Average	Good	Very Good	Excellent
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5. The tender evaluation time in e-GP system is generally 14 days; do you think the time is justified?

Yes/ No

6. If the answer is No, what are the causes behind such type of additional time requirement?

- i) Reluctance of the committee;
- ii) Shortage of support staffs;
- iii) Lack of competency & Motivation;
- iv) Others if any (Pl. specify clearly).

7. The tender approval time in e-GP system is generally 7 days? Do you think the time is justified?

Yes/ No

8. If the answer is No, What may be the causes behind such type of additional time requirement?

- i. Reluctance of the reviewer
- ii. Shortage of support staffs
- iii. Lack of competency & Motivation
- iv. Ignorance of PD/AA/HOPE
- v. Others if any (Pl. specify clearly)

9. The NOA issuance time is 7 days; do you think it should be reduced?

Yes/No

10. The NOA receiving time for the successful bidder is 7 working days; do you think it should be reduced?

Yes/ No

11. The time allowed for submitting Performance Security and contract signing is 21 days; do you think it should be shortened?

Yes/ No

12. Unbounded time taken by the PEs for publishing the e-tender in e-GP portal is a major cause for delaying. Should it be bounded for?

Yes/No

13. Does the original license holder allow his license in hiring to the non-listed bidder to participate in the e-tendering process?

Yes/No

14. Do you think license hiring in the e-GP system create hindrances to the accomplishment of value for money?

Yes/ No

15. Is there any scope of disclosing confidential information in e-GP system?

Yes/No

16. If the answer of the question (15) is yes, then which one is the most vulnerable point in your sense that may lead to corrupt, Fraudulent, Collusive or Coercive practices?

- a) Procuring Entity
- b) TEC
- c) Schedule Bank

Section 3: PMO Capacity, Capability issues

1. Do you think the e-procurement personnel and logistics in the PMO are sufficient?

Yes/No

2. Do you think the e-procurement personnel in the PMO have sufficient expertise & competency?

Yes/No

3. Do you think the e-procurement personnel of PMO have the enough authority, power, accountability & responsibility?

Yes/No

4. Do you think the unwanted issues like corruption, fraudulent, collusion, coercion practices have been reduced significantly?

Yes/No

Section 4: Other Issues and Comments

1. From your point of view what are the challenges of e-Procurement& possible solutions?

	Challenges	Remedial Measures
1		
2		
3		
4		
5		