

**The Prospects and Challenges of e-Procurement in
Government purchases: a study on e-Procurement in
LGED, Narayanganj District.**

A Dissertation by

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January, 2015



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LETTER OF TRANSMITAL

January 26, 2015

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Sub: Submission of Dissertation Report.

Dear Sir,

I am grateful to submit herewith my dissertation report on “**The Prospects and Challenges of e-Procurement in Government purchases: a study on e-Procurement in LGED, Narayanganj District.**” as a partial requirement for achieving the degree Masters in Procurement and Supply Management. It is a great opportunity for me to work under your active supervision, care and guidance.

I have collected data from Local Government Engineering Department (LGED) Narayanganj for preparing the report. I had concentrated my efforts to prepare this report in most realistic and proficient way. If any mistake is found please see in the eye of forgiveness. I will be available enthusiastically at any clarification when required. I believe and hope that you would be kind enough to accept my report for assessment and oblige thereby.

Sincerely yours.

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Masters in Procurement and Supply Management

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**For partial fulfillment of
Masters in Procurement and Supply Management
January 2015**

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Statement of the Author

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Md. Nasir Uddin

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Abstract

Procurement is the acquisition of goods, services or works from an outside external source and performance of Services by any contractual means. Public procurement means procurement using public funds. Public sector organizations acquire goods, services and works from third parties. The system or process of public procurement in Bangladesh has been evolved, modified and developed over time. Under the primary legislation PPA 2006, the Public Procurement Rules 2008 was framed and issued, which replaced the Public Procurement Regulations 2003 of purchasing, hiring or obtaining of goods, works or services by any contractual means. Corruption and poor governance are impeding Bangladesh's efforts to reduce its massive poverty by reducing economic growth and lowering the achievement of social objectives. Electronic procurement makes public contracting more accessible, more secure and more efficient. Through the web interface, procurement information becomes accessible and competition and transparency are enhanced - making collusive bidding difficult. Objective of this paper is to discuss the e-Government Procurement implementation, its prospects and challenges and recommends measures to be adopted in public procurement system in Bangladesh. For this purpose a Questionnaire survey has been conducted in LGED to gather primary data. In addition, Key Informant Interview has been conducted to collect invaluable opinions of some senior officers and concerned contractors; their perception regarding the impact of e-Procurement, the reasons behind and suitable suggestions to overcome the negative impacts. Implementation of e-Government Procurement will supplement the present government's vision for building a Digital Bangladesh by 2021. The idea of a virtual bidding process could save more than 15% of the government's procurement costs, according to a World Bank study and it becomes easier to eradicate corruptions from the country. As the country marching forward for "Digital Bangladesh", introducing the system of submitting the tender over internet is a very positive step. Basis on this study, it was found that For e-procurement solutions to be successful, tenderers have to find ways of easing the problems and making the implementation process smoother. This paper addressed both technical and non-technical issues. The main technical issues are infrastructure and skilled manpower. Obtaining the performance result of the e- GP system, the paper-based system can be replaced by e-GP. In Bangladesh, it can be a very effective tool to ensure transparency and accountability in the process of public procurement.

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Abbreviations

AA	: Approving Authority
BSTI	: Bangladesh Standard and Testing Institute
CPAR	: Country Procurement Assessment Report
CPTU	: Central Procurement Technical Unit
CPWD	: Central Public Works Department
DP	: Development Partner
DPP	: Development Project Proposal
ERD	: Economic Relations Division
ERP	: Enterprise Resource Planning
e-CMS	: e-Contract Management System
e-GP	: Electronic Government Procurement
e-Procurement	: Electronic Procurement
GPPC	: Government Procurement Process Cycle
HOPE	: Head of Procuring Entity
IMED	: Implementation Monitoring and Evaluation Division
IEC	: International Electro-technical Commission
ISO	: International Organization for Standardization
IT	: Income Tax
LGED	: Local Government Engineering Department
NOA	: Notification of Award
OGC	: Office of the Government Commerce, UK
OMME	: Operation, Maintenance and Management Entity

PE	: Procuring Entity
PA	: Procuring Agency
PEFA	: Public Expenditure and Financial Accountability
PPA 2006	: Public Procurement Act 2006
PPR 2008	: Public Procurement Rules 2008.
PPRP	: Public Procurement Reform Program
PROMIS	: Procurement Management Information System
PWD	: Public Works Department
REB	: Rural Electrification Board
RHD	: Roads and Highways Department
TEC	: Tender Evaluation Committee
VFM	: Value for Money

INTRODUCTION

Procurement is the acquisition of goods, services or works from an outside external source. It is favorable that the goods, services or works are appropriate and that they are procured at the best possible cost to meet the needs of the acquirer in terms of quality and quantity, time, and location. Corporations and public bodies often define processes intended to promote fair and open competition for their business while minimizing exposure to fraud and collusion.

Procurement is an important and expensive business activity for organizations, because organizations usually spend a large portion (even up to 70%) of their revenue/operational budget on purchasing goods and services. A number of public sector agencies worldwide have identified Electronic Procurement (e-Procurement) as a priority for e-Government agenda and have implemented or are in the process of implementing buy-side e-Procurement systems. However, the scholarly evaluation of e-Procurement initiatives, especially in relation to the use of Critical Success Factors (CSFs) in e-Procurement is very limited. A review of e-Procurement literature, primarily from the last five years, shows a lack of core constructs around CSFs. The reason for this might be that implementation of e-Procurement initiatives in the public sector is still in the early stages. Tonkin (2003) argues there was little history of extensive use of e-Procurement in the public sector and, therefore, the academic literature covering early public sector adoption of e- Procurement is limited. This paper will assess the CSFs that are likely to influence the success of e-Procurement initiatives in the public sector mainly LGED.

In this electronic age, commercial electronic procurement (e-Procurement) is common for the developed countries. Regarding government procurement, it is different for different countries, for different cultures and different rules of different government. e-GP of Bangladesh requires fully secured and confidential system at a real time environment. The system must ensure the unbiased competition among the bidders (those who participate in the open tendering process). So the e- GP of a developing country like Bangladesh requires a technology that should have a one-to-one mapping of the existing Government procurement system (Nazia Majadi et al, 2012). e-Procurement (electronic procurement, sometimes also known as supplier exchange) is the business-to-business or business-to-consumer or business-to-government purchase and sale of supplies, work, and services through the Internet as well as other information and networking systems, such as electronic data interchange and enterprise resource planning.

The e-procurement value chain consists of indent management, e-Tendering, e-Auctioning, vendor management, catalogue management, Purchase Order Integration, Order Status, Ship Notice, e-

Invoicing, e-Payment, and contract management. Indent management is the workflow involved in the preparation of tenders. This part of the value chain is optional, with individual procuring departments defining their indenting process. In works procurement, administrative approval and technical sanction are obtained in electronic format. In goods procurement, indent generation activity is done online. The end result of the stage is taken as inputs for issuing the NIT.

Elements of e-procurement include request for information, request for proposal, request for quotation, RFX (the previous three together), and e-RFX (software for managing RFX projects).

Public sector organizations use e-procurement for contracts to achieve benefits such as increased efficiency and cost savings (faster and cheaper) in government procurement and improved transparency (to reduce corruption) in procurement services. e-Procurement in the public sector is seen rapid growth in recent years.

1.1 OBJECTIVES

The purpose of this study is to assess the effectiveness and the challenges of e-procurement in Public Purchases.

Specific objectives of the report are

1. To identify the problems of e- procurement in Government purchases.
2. To compare the e-Procurement system with manual system.
3. To evaluate the effectiveness of e-Procurement system.
4. To identify the benefit of e-procurement system versus manual procurement system.
5. To suggest recommendations for further improvement of e-procurement system in Bangladesh

1.2 RESEARCH QUESTIONS

In this thesis the research problem and the sub question are presented as questions.

1. What impact can e-procurement have on cost reduction in government purchases in Bangladesh?
2. To what extent e-procurement is different from Paper based procurement?
3. How can e-procurement reduce the costs of government purchases?
4. Have the costs of LGED's purchases been reduced after the introduction of e-procurement?
5. How risk can be minimized of e-procurement of Bangladesh like LGED?
6. What are the advantages of e- procurement function?

1.3 METHODOLOGY

This thesis is a qualitative research. Qualitative research aims to produce new knowledge about how things work in real-life business context relies on several methods of data collection and analysis. In the second chapter, the theory of the thesis is examined. The theory in this thesis has been collected using scientific articles and other literature to create a basis for the research. The empirical data was collected through interviews.

Population : All Officers of LGED, Narayanganj and all tenderers listed under LGED, Narayanganj.

Sampling Method : For this study purposive sampling method was used. Interviewer for this study was chosen from officers and tenderers of Local Government Engineering Department (LGED) of Narayanganj District.

Sample Size : Total 12 Users of e-GP including government officers and tenderers.

The interviews used in this research were semi-structured. Semi-structural interview are useful if the researcher has a clear theoretical understanding of the topic, which allows the researcher to create an appropriate questionnaire. Semi-structured interview means that there is some flexibility in the wording and order of the questions. The script of the interview is preplanned and the order of the questionnaire fixed. The questionnaire used in the interviews is presented in appendix 1.

1.4 RESEARCH PROCESS

The Study report was written between November and December of 2014. First the theory of this study put together using earlier literature related to e-business and e-procurement. At this stage the research problem and its sub question were created and the methodology of the research was decided. After the theoretical context of the research was formed then collect the empirical material. In this study, it was conducted 12 interviews to collect the empirical data for analyzing. Finally, the empirical data was analyzed by using the theory part as a basis for the analysis.

1.5 COLLECTING THE MATERIALS

The material for this research was collected from two different sources. All the material for the theory part of the research is collected using academic literature such as scientific articles, books, Published Documents and from different websites. After the material for the theoretical part collected, the research is started to form the theory; suitable for the target of the thesis. The empirical material is collected through interviews. Fifty percent of the interviews were collected from government officials

of the LGED, Narayanganj and other fifty percent of interviews were collected from the tenderer who participate in the different procurement activities under LGED, Narayanganj. The interviews are semi-structured and the questionnaire used in the interviews included six questions.

1.6 ANALYZING THE MATERIALS

The analyzing of the data in this research began with summarizing the data collected. The research is tried to identify if there were any similarities or other linkages between the answers. Once all the data was carefully analyzed, Researcher tried to find all the appropriate information related to the research problem and sub question. By identifying the essential information related to the research problem, the focusing and reducing of data was made much easier. Finally, when all the data was thoroughly analyzed and focused to answer the research questions, the last part was drawing conclusions.

1.7 LIMITATIONS

While there are several different forms of e-procurement solutions, this thesis only concentrates on solutions which are aimed to the purchasing of Works, goods and services. The growing awareness towards e-procurement and how to make it more efficient has brought new e-procurement solutions designed specifically for Government purchase. Secondary data from different website (mainly from- www.cptu.gov.bd and www.lged.gov.bd) was reviewed and analyzed. This research is also limited to the LGED, Naryanganj District, since all the interviews have been conducted in LGED Narayanganj district.

1.8 KEY TERMS

The key terms related to this thesis are e-GP, Government Procurement, LGED, PPA-2006, PPR-2008, e-business, e-procurement, e-procurement solution, procurement process and indirect materials; the terms are explained here to make it easier for readers of this thesis to fully understand the topic at hand.

CPTU: CPTU means Central Procurement Technical Unit. The CPTU was established in April 2002 as a unit within the Implementation Monitoring and Evaluation Division of the Ministry of Planning. It is headed by a Director-General, who reports directly to the Secretary, IMED. The DG has a staff complement of Directors, Deputy Directors, Assistant Directors, Systems Analyst, Programmer and other support staff. The CPTU is a permanent institution of the government, funded under the revenue budget and established for carrying out the purposes of Section 67 Section 67: For carrying out the purposes of the Act, the Government shall, through a Central Procurement Technical Unit or any

other unit established by it relating to procurement monitoring, coordination and management, perform the following responsibilities, namely –

- Providing for monitoring compliance with and implementation of this Act through the authority as designated by the Government.
- Arranging for performance of the necessary functions and responsibilities incidental thereto, through the authority as designated by the government.
- Performing any other responsibilities as described in PPR-2008.

LGED: Local Government Engineering Department (LGED) is one of the largest public sector organizations in Bangladesh entrusted for planning and implementation of local level rural urban and small scale water resources infrastructure development programs.

Government Procurement: Government Procurement means the public procurement activities of the government of Bangladesh by following the public procurement act-2006 and public procurement rules-2008.

PPA 2006: The Public Procurement Act, 2006 (Act 24 of 2006)

PPR 2008: S.R.O. No 21-Law/2008, “In-exercise of powers conferred under section 70 of the Public Procurement Act, 2006 (Act 24 of 2006), The Government is pleased to make the following Rules, namely - the Public Procurement Rules, 2008.”

e-GP: National e-Government Procurement (e-GP) portal (i.e. <http://eprocure.gov.bd>) of the Government of the People’s Republic of Bangladesh is developed, owned, being operated and maintained by the Central Procurement Technical Unit (CPTU), IME Division of Ministry of Planning. The e-GP system provides an on-line platform to carry out the all procurement activities by the Public Agencies - Procuring Agencies (PAs) and Procuring Entities (PEs).

e-Business: We can define e-business as “the use of systems and open communication channels for information exchange, commercial transactions and knowledge sharing between organizations”.

e-Procurement: e-Procurement is a specific area of e-business that covers both internal processes as well as B2B processes; e-Procurement allows companies to leverage Internet technology in the purchasing process. Technology designed to facilitate the acquisition of goods over the Internet can be defined as e-procurement.

e-Procurement solution: There are several different e-procurement solutions for companies to choose from. E-procurement solution is a web-based client / server which automate the buying process and captures the necessary data from purchases for spend analysis. Different solutions can be

used for indirect purchases, auctioning, sourcing, tendering and many other procurement related tasks.

Procurement process: Procurement process refers to the purchasing of goods and services. However, it does not only comprise out of buying and paying but involves many other activities too, such as need clarification, purchase order generating etc. The goal of the procurement process is to satisfy the need of the company by acquiring goods and services from preferred suppliers for the most favorable price.

LITERATURE REVIEW

2.1 NATIONAL e-GOVERNMENT PROCUREMENT (e-GP) SYSTEM

Bangladesh has very recently reformed its legal and institutional framework governing public procurement. Since the adoption of privatization as an economic policy reform in 1976, public procurement by contractual means in Bangladesh has been increasing day by day. Public procurement in Bangladesh including government's activities of purchasing, hiring or obtaining of goods, works or services by any contractual means. Various government agencies or procurement entities, especially the ministries, divisions, departments/directorates and other autonomous/semi-autonomous bodies or corporations in Bangladesh often acquire/purchase goods, services or works by contractual means. Although limited tendering method or direct procurement method can be used for some specific reasons, procurement and contracts in Bangladesh often take place through open competitive biddings. Corruption and poor governance are impeding Bangladesh's efforts to reduce its massive poverty by reducing economic growth and lowering the achievement of social objectives. Corruption destroys citizens' faith in their government. Economic growth is essential to reduce poverty; however, corruption slows economic growth.

Bangladesh is encouraged to pursue its plans to pass the constitutive elements of its procurement framework at the level of a parliamentary law. An amendment to a law is designed to remove the lacunas of existing law and find the way to implement the provision more effectively. But unfortunately the recent amendment introduced to the public procurement rule (PPR) would perhaps put a damper on a vital front of governance. Corruption, terrorism and mismanagement in the public purchase are the common scenario for the last decades. Mishandling and mismanagement of public procurement in absence of a uniform law contributed largely to the situation. Reforms in the public sector procurement and finance were initiated during the previous regime of all government. Later on the laws were passed in 2006. But public procurement act (PPA) and PPR were made effective during the caretaker government in 2008. It has been modernized and brought to international standard through the enactment of successive law and rules, (Shakeel Ahmed Ibne Mahmood,2010).

Public procurement reforms are a crucial building block in improving public sector management, governance and accountability. Public procurement expenditure constitutes over 75% of the annual development program in Bangladesh; thus procurement plays a important role in the development agenda of the Government. It is well-documented that weaknesses in public sector procurement have a cumulative negative effect on investment and economic growth. Poor public procurement skews

investment toward areas where rent-seeking is prevalent, rather than toward the areas that need it more for poverty reduction and development.

The PPRP II follows up the successes of PPRP I to progressively improve performance of the public procurement system, particularly focusing on large spending areas, ministries and agencies. After piloting, the PPRP II has been rapidly expanding the electronic procurement (e-GP) and online procurement performance monitoring systems (PROMIS) in four key government agencies, namely the Roads and Highways Department, the Local Government Engineering Department, the Bangladesh Rural Electrification Board and the Bangladesh Water Development Board. Electronic procurement makes public contracting more accessible, more secure and more efficient, thereby enhancing the implementation of priority development programs. Through the web interface, procurement information becomes accessible and competition and transparency are enhanced - making collusive bidding difficult (Word bank, 2011).

National e-Government Procurement (e-GP) portal of the Government of the People's Republic of Bangladesh is developed, owned and has been operated by the Central Procurement Technical Unit (CPTU), IME Division of Ministry of Planning. The e-GP system provides an on-line platform to carry out the procurement activities by the Public Agencies - Procuring Agencies (PAs) and Procuring Entities (PEs). The e-GP system is a single web portal from where and through which PAs and PEs will be able to perform their procurement related activities using a dedicated secured web based dashboard. The e-GP system is hosted in e-GP Data Center at CPTU and the e-GP web portal is accessible by the PAs and PEs through online for their use (www.cptu.gov.bd).

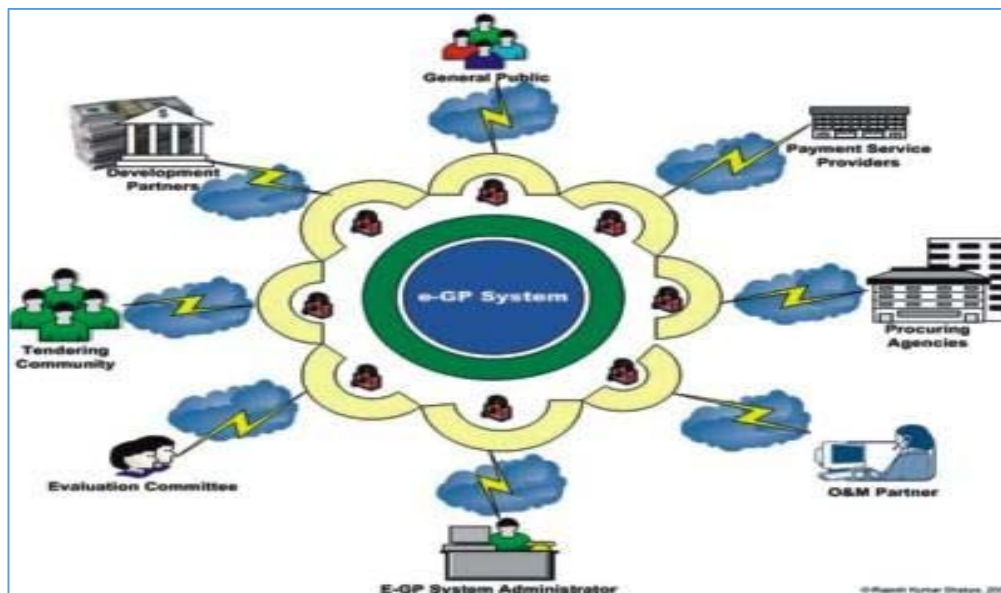


Figure 1: E-GP system access diagram.

This complete e-GP solution introduced under the Public Procurement Reform (PPR) Program is being supported by the World Bank and gradually used by all government organizations. This online platform also helps them ensuring equal access to the Bidders/Tenderers and also ensuring efficiency, transparency and accountability in the public procurement process in Bangladesh.

The government has sought opinions from all ministries to finalize e-government procurement (e-GP) system, which is expected to minimize traditional meddling in bidding processes by musclemen. The countrywide major development projects are conducted by different agencies starting from the Prime Minister's Office to local government entities. The CPTU is responsible for monitoring and implementing the law and rules in public procurement. The entity thinks that if the government goes for an online bidding process, no one can exert or show muscle power.

e-Government procurement (e-GP) as the collaborative use of Information and communications technology (especially the Internet) by government agencies and other sectors of procurement community in conducting all activities of Government Procurement Process Cycle (GPPC) for the acquisition of goods, works, and consultancy services with enhanced efficiency in procurement management. It would also connect the government body and the national and international contractors on an online platform, which automates the entire government's procurement process by introducing centralized registration of contractors, e-tendering, e-contract management system, e-payment, e-signature and e-security (www.eprocure.gov.bd).

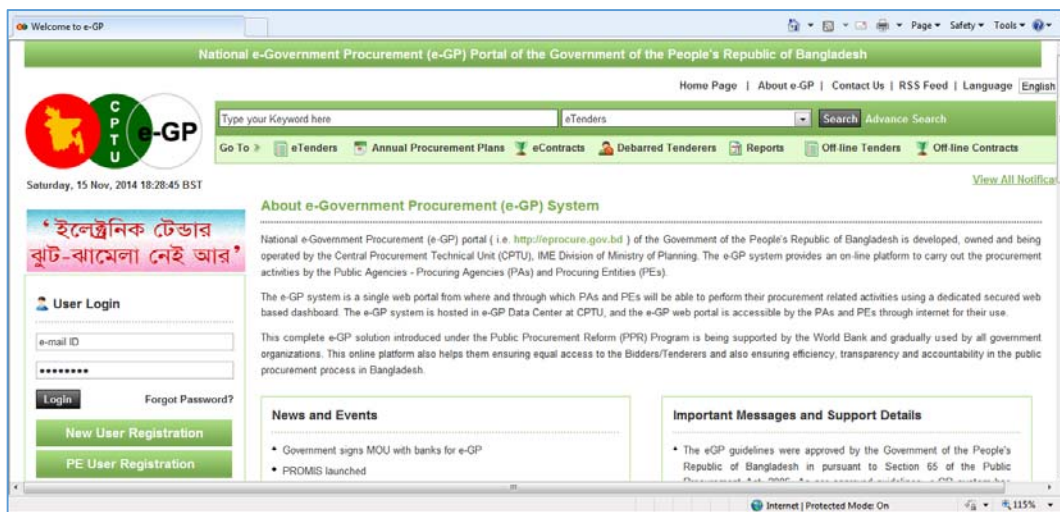


Figure 2: Home page of e-GP

The amount of government procurement of Bangladesh is approximately US \$5.0 billion per year. Each department and public sector entity has its individual manuals and procedures. Project

Implementations are often delayed due to the delay in procurement activities of goods or services or works. Hence the need for improved governance in public sector procurement has been arisen.

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 introduced and implemented. The e-GP system has been developed and introduced in two phases.

In the first phase, e-Tendering has been introduced on pilot basis in the CPTU and 16 other Procuring Entities (PEs) under 4 (four) sectoral agencies, namely:

1. Bangladesh Water Development Board (BWDB),
2. Local Government Engineering Department (LGED),
3. Roads and Highways Department (RHD) and
4. Rural Electrification Board (REB).

The system rolled out to 291 PEs of those 4 sectoral agencies is now expanding to all the PEs of the government up to Districts and sub-Districts or upazila level.

In the second phase, e-Contract Management System (e-CMS) has been developed and introduced and implemented. E--CMS is a complete electronic contract management system which provides platform for preparation of work plan and its submission; defining milestone, tracking an monitoring progress, generating reports, performing quality checks, generation of running bills, vendor rating, generation and issuance of completion certificate(www.weprocure.gov.bd).

2.2 PHASES OF e-PROCUREMENT

The e-GP System has been implemented in two phases:

e-Tendering System: Covering complete e-Tendering processes such as centralized user registration, preparation of Annual Procurement Plan (APP), preparation of Bid\Tender document, preparation of Bids/Tenders, invitation of Tenders, sale of Tender Documents (e-TD), conducting online pre-bid meeting, collection of bid\Tender security, on-line Bid\Tender submission, Bid opening & evaluation, negotiations (where applicable), and contract awards.

e-Contract Management System (e-CMS): Covering complete e-Contract Management processes, such as preparation of work plan and its submission, defining milestone, tracking and monitoring progress, generating reports, performing quality checks, generating running bills, vendor rating and generating completion certificate.

e-Tendering and e-CMS (e-GP) is launched successfully on pilot basis and eventually being rolled out to all PEs of those four Sectoral Agencies. All the stakeholders, including Bidders/Tenderers/Applicants/ Consultants (National and International), PEs, procurement related Committees, payment service providers, Development Partners (DPs), media, Operation, Maintenance and Management Entity (OMME), e-GP system administrators, auditors and general public are getting access to e-GP system and information as per the Terms and Conditions of Use and Disclaimer and Privacy Policy. The e-GP system shall be used by all concerned, for procurement of goods, works and services using public fund, following the ‘Government Procurement (e-GP) Guidelines’ prepared under the provision of Section 67 of the PPA -2006 and Rule 128 of PPR-2008 and issued (www.eprocure.gov.bd).

The e-GP System Comprises of following key Modules/Functionalities:

Centralized Registration System (Contractors/Applicants/Consultants, Procuring Entities and other actors of e-GP) Centralized Tenderer /Consultant registration Procuring Entity (PE) registration Media Registration Payment service providers registration Development partners registration e-Tendering (e-Publishing/e-Advertisement, e-Lodgment, e-Evaluation, e-Contract award) System Annual Procurement Planning (APP) preparation and publishing Standard Tender Document (STD) Library Preparation and publishing Invitation to Tender Preparation and publishing Tender Document Online Pre-Tender Meeting Publishing Tender Corrigendum / Addendum / Amendment Online Tender / Application / Proposal preparation by Tenderers / Applicants / Consultants Online Tender Submission / Tender Substitution / Tender Withdrawal and Online Tender Opening Online Tender Evaluation by Technical Committees Post Qualification Online Negotiations Issuance of Notice of Award (NOA)/ LOI Online Contracts Procurement Management Information System Compliance monitoring through key procurement performance indicators MIS reports and Workflow management System	e-Contract Management System (e-CMS) Work Plan Submission Progress Report generation, submission / acceptance Defining Payment Milestones Running Bill Payment Processing Variation Order / Repeat Order Quality certification Work Completion Certificate Final Payment Supplier Rating Complaint and resolution database e-Payment System Registration Fee, Tender document purchase fee, and other services fee Collection Receive Tender Security and performance security submission Transactions for security release and forfeiture handling System and Security Administration E-Signature (Generation of Hash/Signature) PKI based digital signature Bid Encryption/ Bid Decryption 128 Bit SSL Handling Errors and Exceptions Application Usability & Help Integrated Inbox / Message Box Integrated e-Mail / SMS Gateway Dashboards for Procurement Performance Monitoring Manuals for all users and Help desk support
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Table-1: Functionalities of e-Procurement

2.3 TERMS AND CONDITIONS OF e-GP SYSTEM USER AGREEMENT

National e-Government Procurement (e-GP) portal (<http://eprocure.gov.bd>) of the Government of Bangladesh is developed, owned and operated by Central Procurement Technical Unit (CPTU), IMED, Ministry of Planning for carrying out the procurement activities of the public agencies (procuring agencies and procuring entities) of the Government of Bangladesh.

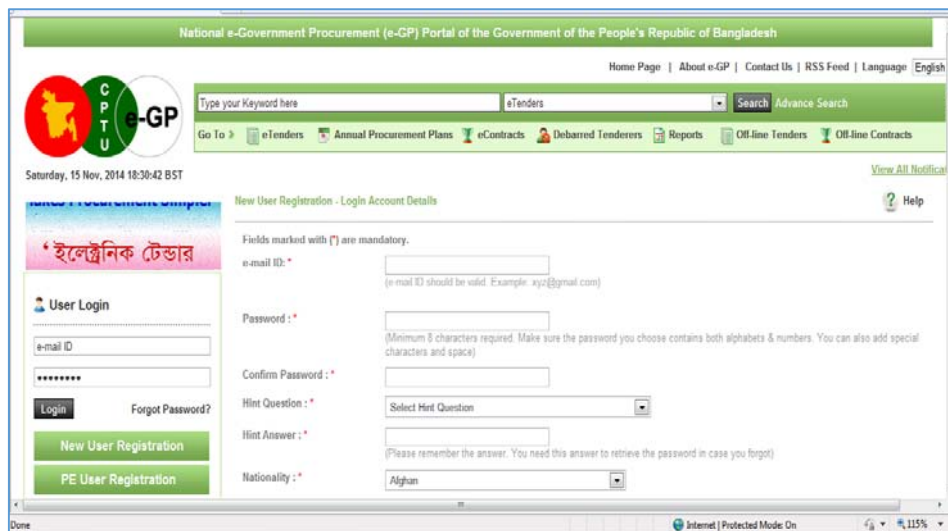
CPTU / IMED also runs a training server (<http://training.eprocure.gov.bd>) to allow the users to try and learn by themselves all the functionalities of e-GP system through an online mock-up of real transactional e-GP System. Users may try all activities, which is available in real transaction system. None of the activities done in training servers will be taken as real transactions.

For carrying out the real procurement transactions, users must use the National e-Government Procurement (e-GP) portal at <http://eprocure.gov.bd> or simply <http://eprocure.gov.bd> User account will be created only when the following Terms and Conditions of e-GP System User Agreement is read and accepted.

For accessing and using this e-GP user services, users shall be deemed to have accepted to be legally bound by these Terms and Conditions of Use and comply with all of the Terms and Conditions given below, and the guidelines as stipulated in e-Government Procurement Guidelines:

Registration and Participation

The Tenderers must be registered to this system before they can participate in the procurement process. A reliable system would be required to find the eligible firms to avoid any fraudulent actions.



The screenshot displays the 'New User Registration - Login Account Details' page on the National e-Government Procurement (e-GP) Portal. The page features a search bar at the top with the text 'Type your Keyword here' and a dropdown menu set to 'eTenders'. Below the search bar is a navigation menu with links for 'Go To > eTenders', 'Annual Procurement Plans', 'eContracts', 'Debarred Tenderers', 'Reports', 'Off-line Tenders', and 'Off-line Contracts'. The main content area contains a form with the following fields: 'e-mail ID' (with a note that it should be valid, e.g., xyz@gmail.com), 'Password' (with a note that it must be at least 5 characters and contain both alphabets and numbers), 'Confirm Password', 'Hint Question' (with a dropdown menu), 'Hint Answer' (with a note to remember the answer for password retrieval), and 'Nationality' (with a dropdown menu set to 'Alghan'). There are also buttons for 'User Login', 'New User Registration', and 'PE User Registration'. The page is titled 'National e-Government Procurement (e-GP) Portal of the Government of the People's Republic of Bangladesh' and includes a date and time stamp: 'Saturday, 15 Nov, 2014 18:30:42 BST'.

Figure 3: Tender Registration on e-GP Process

Email verification:

E-mail will be used as the user name for accessing e-GP System. Upon submission of basic user identity information opened by clicking on the "New User Registration" button from the home page of e-GP Portal, will receive in the email provided by user, an email from system@eprocure.gov.bd with a link to click, unique security key, and other instructions related to credential documents verification, and payment process. When click the link provided in user email, an email verification page with a form will be opened. User need to enter the email, password and the received security key, and Press the 'Submit' button. If user correctly enters the information, this process will complete the email verification process successfully.

With that, account will be successfully created and user will be displayed another form for entering specific information, upload digitally scanned mandatory credential documents (scanned documents of Company registration Certificate, Tax and VAT clearance certificate, Valid Trade license, National ID of Contact Person, must be easily readable).

Credential documents verification:

Tenderers, Applicants and Consultants may visit 'e-GP Users Registration Desk' in CPTU / IMED, Ministry of Planning, Sher-e-Bangla nagar, Block# 12, Floor# 2 with the original credential documents used during online registration process or send the documents via registered post or courier service for the post-verification for authenticity. Tenderers, Applicants and Consultants also must include envelope return address written or typed, and with required postal stamp or bank draft in the name of Director General, Central Procurement Technical Unit (CPTU). The verification process may take one day to two weeks.

After verification of the original credential documents, Tenderer, Applicants and Consultants gets the Confirmation email notification of registration and will instantly get full access to secured personal dashboard for user specific functions of the e-GP system as the e-GP System User. Procuring entities, Development partners, Payment network partners (Banks and others), and media will be registered through official communication with CPTU, IMED, Ministry of Planning.

Maintaining confidentiality:

Users are responsible for maintaining the confidentiality of their password and are fully responsible for all activities that occur using your account (email ID and password). e-GP system does not store user passwords, but it will store only the generated irreversible hash value of the password as e-Signature. User must notify CPTU (admin@eprocure.gov.bd) of any unauthorized use of your password or any other suspected security breaches. Users must ensure that they appropriately log-out every time from their unattended computers or from the computers are using in public places. CPTU

is not liable for any loss or damage arising from such compromise of one's user account and password.

The e-GP System allows modifying, updating their user details including password. But it does not allow to change the login email ID and the name of the company provided during registration process.

Internet Browser and Users Computer compatibility:

To access the e-GP System securely, users should use appropriate web browsers and their associated security settings. However because of the rapid development of new browsers and new security measures come up frequently, users need to update or install new components and configuration settings as and when these come into effect. Current version of e-GP system can be best viewed at Internet Explorer 8 or above versions and Mozilla Firefox 3.6 or above. Users are responsible to comply with the hardware, software requirements of the computer systems and also uninterrupted Internet connectivity with sufficient bandwidth required to operate, upload and download documents in e-GP System. CPTU, IMED, Ministry of Planning is not responsible for non-compliance for the above by user.

Applicable Time:

The e-GP System shall use the e-GP Data Center server time as the reference time for all time-bound activities of procurement processes. e-GP data center is located in CPTU/IMED, Ministry of Planning, Dhaka, Bangladesh.

Proprietary Rights:

This e-GP Portal is developed and maintained by the Central Technical Procurement Unit (CPTU), IMED, and Ministry of Planning of the Government of Bangladesh. The materials located on this e-GP web portal including the information and software programs (source code) are copyrighted to CPTU, IMED, Ministry of Planning, the Government of Bangladesh, and operating system, tools, and other software and contents used for the operation of e-GP Portal is licensed to or controlled by CPTU, IMED, Ministry of Planning, the Government of Bangladesh.

Auto alert and User Dashboard Inbox:

Users may choose to select automatic alert services through the configuration in preference section of their dashboard. Each auto alert will be sent to users via preferred channel (i.e. email or SMS), and by default same will be seen in the users' inbox available in their e-GP Dashboard. If the user does not receive auto alerts because of some third party component or system failure or for any other reason, the users must check their inbox for such alerts/notifications and communications.

Registration charges:

Tenderers/Applicants/Consultants will be charged Tk. 5000.00 for the user registration, and annually it should be renewed and Tk. 2000.00 will be charged each year for renewal of their account. For international Tenderers and Consultants, registration fee is USD \$100.00 (US Dollars One Hundred Only) and annual renewal fee is USD \$30.00 (US Dollars Thirty Only). Users must make sure the amount is deposited to CPTU designated account, or send bank draft in the name of Director General, Central Procurement Technical Unit (CPTU) before membership expires.

Users may be charged and/or waived specified amount of money for different categories of use including Registration, Subscription and periodic renewal, additional storage space, transactions, facilities to use specific features/modules of the e-GP System and different services from the operation, maintenance and management entity. CPTU / IMED shall have the rights to set reasonable charges or waiver to promote the use of the e-GP System and sustainability of the system in long run. CPTU/IMED will publish a public notice if any changes on the charges, waiver etc.

Tender Submission:

The Tenderers / Applicants / Consultants are responsible to plan their time sufficient to complete the documents upload, third party transactions like Tender security preparation and submission through banks, verify completeness of tender, and final submission of tender's documents for the specific tenders. Before final submission, the Tenderer / Applicant / Consultant may upload documents, fill-in required online forms, modify and verify the documents, and complete other activities part by part. But attempt to submit that incomplete tender will not be allowed by the e-GP System.

Payment process:

Until the e-Payment infrastructures are available in Bangladesh, the e-GP System uses the method to use the service of scheduled banks. Scheduled banks and other payment service providers get secured access to the e-GP System with their own dedicated and secured dashboard, from where, the banks can carry out the financial transactions related to public procurement collecting fees and charges, providing guarantees, tracking the guarantees, making payment transactions, and other service fees, etc.

Tenderers / Applicants / Consultants should pay to the bank, the required amount of money for the specific purpose of transaction with e-GP System. Bank will collect the charges and fees from Tenderers crediting the account opened by CPTU for specific service/transaction in e-GP system, and bank will immediately update the payment information in the e-GP system through the provided bank user access.

When Bank Guarantees and securities (tender security, Performance Security, etc.) are issued by the Bank, the same should be immediately update in the e-GP System.

When Procuring Entities or CPTU instructs the bank for releasing the Guarantees or Securities, and deposit in specific Procuring Entity or CPTU accounts, the bank will carry out the transactions, and update the transaction information in the e-GP System. The CPTU shall not be responsible for the transactions made by banks using bank rules with the e-GP system users. In case of International Tenderers / Applicants / Consultants, payments should be made to the Master Bank Account opened by CPTU through Bank Wire transfer or any other method clearly mentioning the purpose of payment. International Tenderers / Applicants / Consultants must communicate with the banks of e-GP Online Payment Network for updating their payment details in e-GP System. Any charges incurred for payment transfer, communication or any currency conversion should be paid by the Tenderers / Applicants / Consultants themselves. In case of Bank Guarantee, securities issues by International banks must be endorsed by the local scheduled bank in Bangladesh and the bank must be member of e-GP Online Payment Network in Bangladesh. International payments can be directed/ credited to Master Bank Account opened by CPTU as and when International payment gateway is integrated with the e-GP System.

Virus and Integrity of documents:

If the electronic records entered online and files containing the Tender / Application / Proposal are corrupt, contain a virus, or are unreadable for any reason, the tender will not be considered. It is strictly the responsibility of the Tenderer / Applicant / Consultant (National or International) to ensure the integrity, completeness and authenticity of the Tender / Proposal, and also should comply with the applicable laws of Bangladesh.

External Web References:

CPTU does not take any responsibility of its availability and authenticity of the external third party web references, links referred in the e-GP Portal, as CPTU / IMED does not have any control over those websites.

Operation, Maintenance and Management:

The CPTU / IMED reserves the right to outsource operation, maintenance and management services of e-GP Data center, e-GP system and other related services to any third party. The users of e-GP system are to be obliging such any agreement with any outsourced firm/company.

Governing Law:

This Terms and Conditions of Use Agreement of e-GP Portal shall all be governed by the laws of Bangladesh applicable to agreements made and to be performed in Bangladesh. Government of Bangladesh and CPTU reserve the right to initiate any legal action against those users violating any of the above mentioned terms & conditions of e-GP System User agreement.

Changes in e-GP System and Terms and Conditions of Use:

CPTU / IMED shall have the right to modify clauses of the terms and conditions without prior notice. CPTU reserves the right to modify, add, delete and/or change the functions, User Interface, contents, and other items in e-GP Portal at any time without any prior notice. User is responsible to use the updated e-GP portal functions and terms and conditions of use (www.eprocure.gov.bd).

2.4 PROCUREMENT PROCESS

The procurement process is one of the most important processes of a company. The procurement process usually varies between companies to companies due to activity times and relations with suppliers. A basic procurement process starts with the identification of needs and ends with settlement and payment. e-Procurement system has the power to transform the purchasing process because it has an effect on all of the steps identified.

e-procurement brings about important simplifications of the operational workload for Tenderers by decentralizing the operational procurement process, improving the effectiveness and efficiency of the purchasing process and enabling buyers to focus on more strategic tasks. When companies are adopting e-procurement solutions one has to remember that organizational changes (and/or process improvements) can often bring even greater savings than implementation of a simple technology, (Viljami Vanjoki, 2012).

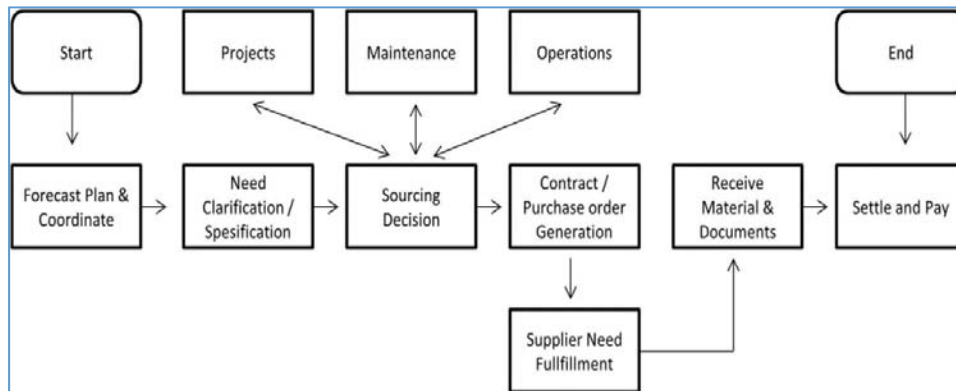


Figure 4. Basic procurement process.

2.5 STEPS OF e-PROCUREMENT

Electronic Tendering follows normal tendering procedures, except documents are electronic and communications are via the Internet.

The following sub-phases of the electronic public procurement process could be identified:

e-Sourcing: Preparatory activities conducted by the contracting authority/entity to collect and reuse information for the preparation of a call; potential bidders may be contacted, if admitted by the legal rules, by electronic means to provide quotations or manifest interest.

e-Noticing: Advertisement calls for tenders through the publication of appropriate contract notices in electronic format in the relevant Official Journal; electronic access to tender documents and specifications as well as additional related documents are provided in a non-discriminatory way.

e-Access: Electronic access to tender documents and specifications as well support to economic operators for the preparation of an offer, e.g. clarifications, questions and answers.

e-Submission: Submission of offers in electronic format to the contracting authority/entity, which is able to receive, accept and process it in compliance with the legal requirements.

e-Tendering: Is the union of the e-Access and e-Submission phases.

e-Awarding: Opening and evaluation of the electronic tenders received, and award of the contract to the best offer in terms of the lowest price or economically most advantageous bid.

e-Contract: Conclusion, enactment and monitoring of a contract / agreement through electronic means between the contracting authority/entity and the winning tenderer.

e-Orders: Preparation and issuing of an electronic order by the contracting authority/entity and its acceptance by the contractor.

e-Order Status: Preparation and delivery of status information against the e-Order.

e-Invoicing: Preparation and delivery of an invoice in electronic format.

e-Payment: Electronic payment of the ordered goods, services or works.

But e-GP (Bangladesh) consists of the following steps

- Pre-qualification and Registration
- Public Invitation
- Tender Submission
- Close of Tender
- Tender Evaluation
- Award Tender



Figure 5: Publication of Tender on e-GP website

2.6 IMPLEMENTATION OF AN e-PROCUREMENT SOLUTION

Implementing an e-procurement solution is not as simple as many businesses think. Companies that 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 be obtained financial and non-financial benefits. The drivers and problem factors behind adopting e-procurement technologies vary between companies. There are some of the common drivers and problem factors related to e-procurement implementation as follows:

Drivers	<ul style="list-style-type: none"> 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 and Visibility of global spend Improved supplier management and selection Integration with suppliers and Auditable spend management data Achieve buying leverage P.O. (Purchase order) cost reduction Efficient payment and invoice settlement Centralize control Reduce supplier numbers Raise standards within procurement function
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Problem Factors	Unclear original business case and Poor legacy systems and data Visibility on spend not solved Need to use suppliers' systems to get best deals Change management and 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
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Table 2. E-procurement drivers and problem factors

As seen in table 2, when businesses are adopting e-procurement solutions there are several factors to consider on many levels of the organization (Smart, 2010).

2.7 BENEFITS OF e-PROCUREMENT

There are potential for savings to be made from e-procurement is beyond dispute. The business case for e-procurement is based on yearly reductions in purchase prices and savings from lower process costs. However, the business cases are only the start of estimating potential savings versus the costs incurred in their realization.

It is continuous measurement of the effectiveness of the key performance measures that are vital to the successful management and delivery of benefits realization. Thus measurement, especially in difficult trading conditions, are likely to be a prerequisite for project approval and the only way to demonstrate success and identify problems early enough to manage them effectively.

Measurement drives behavior and is a key element in making a successful program – and is just as relevant to projects that are already underway. Consistency, discipline, and accuracy must be applied to obtain meaningful results.

Measurement provides new and reliable input into sourcing negotiations and presents an accurate picture of procurement as a basis for improved management, whatever the organization's starting point. In order to calculate recurring benefits, key savings drivers need to be identified and measured. The key drivers for e-procurement include transactional, payment, management information and price benefits, (David eakin 2003).

These drivers are interdependent, each enabling the others' delivery. The interaction between them is important, implying that the achievement of tangible benefit in the form of price improvement is

reinforced at each successive negotiation by the improving interaction of the drivers. The result is that e-procurement enhances subsequent negotiations with a supplier by yielding increases in business, and efficiencies in the transacting of that business.

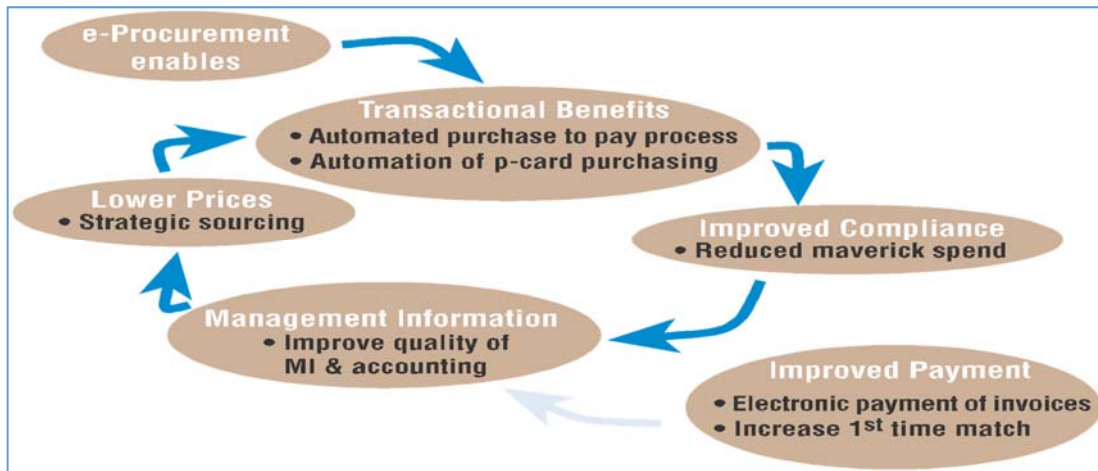


Figure 6: Interdependency of savings

Transactional Benefits: E-procurement enables the purchase-to-pay process online. A typical example uses a Web-based transacting tool whereby items are selected predominantly from pre-sourced catalogs and submitted for electronic approval. These tools are then linked to the back end ERP system for entry, payment of invoices, and collation of management information.

Electronic processing (including the automation of p-card purchasing) leads to great time savings and efficiency due to:

- Global, automated processes incorporating best practice and eliminating unnecessary activities;
- E-enabled relationship with suppliers, which speeds procurement cycle times and facilitates supplier performance improvements; and
- Greater data accuracy, which minimizes ordering inaccuracies and provides the essential foundation for better management through measurement and analysis.

Compliance Benefits: In many cases within an organization, compliance and maverick spending is a significant issue – not because employees deliberately purchase outside of preferred arrangements, but rather through lack of awareness. e-Procurement addresses this through tools such as catalogs and standard order processing and approval processes. Compliance will be achieved due to:

- A simple and quick requisition-to-payment process including a user-friendly interface and pre-sourced catalogs tailored to the requirements of the individual user;
- A simple and quick strategic sourcing process with standard procurement processes and tools, as well as easily accessible information; and
- The e-procurement system, the only purchasing mechanism available.

Management Information Benefits: The fact that key information (cost center, commodity codes, etc.) is hard coded against the user dramatically reduces coding errors and provides highly detailed and easily accessible data. This is essential to maximize the financial benefits of strategic sourcing. A successful e-procurement implementation will provide high quality, detailed management information and will negate the need for data warehousing or resource-heavy data mining.

Price Benefits: The ability to prove to one's suppliers that are using e-procurement as a tool to ensure end users do honor their contract status will enhance ability to negotiate down prices through:

- Greater enhanced capture and therefore, reliability of spending information; and
- Increased confidence that spending volumes can be guaranteed from increased compliance with the system, thus allowing volume price breaks and discounts to be achieved.

Payment Benefits: The successful operation of the first four benefits enables electronic payment of in-voices. This includes the ability to better control the business cash flow and to manage the efficient payment of suppliers due to more streamlined procurement processes providing more timely and accurate information to the accounts payable department. Potential benefits include reduced manpower (a "hard" benefit only if improvements lead to head count reduction) and reduced spending on postage and stationery.

During negotiations the procurement manager can more credibly guarantee the supplier a level of prompt payment, which was not possible prior to e-procurement. As well, e-invoicing benefits are often under-assessed and ignored.

It was suggested that the public sectors are likely to benefit more from the use of electronic commerce for the purpose of sourcing than for transaction management and that electronic commerce promotes economic efficiency in public sector procurement. The implications for supply chain transformation from the perspective of transaction cost optimization have been considered. The use of e-procurement is thought to have implications for information asymmetries or impactedness in inter-organizational relationships and in particular for search and monitoring costs. Alternative explanations for the benefits of e-procurement arise from the resource based perspective through which the resources of the firm may be leveraged to achieve competitive advantage with electronic commerce presenting opportunities to enhance firm resources.

While there is some evidence that electronic commerce in procurement may not result in reduced costs in acquisitions in particular markets, various cost reductions and benefits have been identified.

These include the implications of e-procurement for the following (Tonkin, 2003):

- The cost of expenditure on goods/services related directly to the production/service delivery.
- The cost of non-production goods and services.

- The cost of operational purchasing activities – e.g., requisitioning, ordering, expediting and administrative support.
- The cost of tactical procurement activities – e.g., formulating specifications, selecting suppliers, negotiating with suppliers, contracting, disposals etc.
- The costs of strategic procurement activities – e.g., spend analysis, transaction analysis, market analysis, planning, developing purchasing policies etc.
- Internal benefits arising from investments in particular inter-organizational relationships.
- The contribution of investments in particular inter-organizational relationships to revenues.

Despite a challenging environment, Bangladesh has been transforming its procurement environment for better outcomes in public contracting with improved efficiency, effectiveness, and transparency at key sectoral ministries and agencies. The Second Public Procurement Reform Project (PPRP II) has introduced electronic procurement and on-line performance monitoring at four sectorial agencies that accounts for majority of public procurement. PPRP II is working to improve performance of the public procurement system, particularly in sectors that hand out large or many contracts (World Bank, 2003).

In case manual tendering system, it was found that –

- Details Tender notice published in the daily newspaper which is costly.
- Preparation of tender schedule required more time. If no tender is found first time, then details re-tender notice is published in the newspaper. Pre-tender meeting required declared place and time the tenderer required to come for attending pre-tender meeting physically.
- In the purpose of purchase and submission tender schedule, the tenderer require to come physically and submit the tender. The name of the tenderer, who purchase tender schedule, is declared by unauthorized person and there is a possibility of collusive practice.
- Political and other barrier may occur in manual tendering system.

Electronic processing leads to great time, cost savings and efficiency due to:

Global, automated processes incorporating best practice and eliminating unnecessary activities; e-enabled relationship with suppliers, which speeds procurement cycle times and facilitates supplier performance improvements; and greater data accuracy, which minimizes ordering inaccuracies and provides the essential foundation for better management through measurement and analysis.

Tender Documents are prepared in electronically and published, so savings of cost occurred due to no paper works required for tender preparation.

In PPR-2008, following major areas as ethical behavior should not be followed as-

- Corrupt,
- Fraudulent,
- Collusive or Coercive Practices

The Government requires that Procuring Entity, as well as the Contractor shall observe the highest standard of ethics during implementation of procurement proceedings and the execution of Contracts under public funds. If corrupt, fraudulent, collusive or coercive practices of any kind determined by the Procuring Entity against the Contractor alleged to have carried out such practices, the Procuring Entity shall exclude the concerned Tenderer from further participation in the particular Procurement proceeding; or declare, at its discretion, the concerned Tenderer to be ineligible to participate in further Procurement proceedings, either indefinitely or for a specific period of time. So, The Corrupt, Fraudulent, Collusive or Coercive Practices can be eliminated in the e-Procurement System as no Physical place is required for submitting tender Documents.

- In tender submission purposes, The tenderer prepare tender documents and submit online, so the tenderer is not require to come physically for purchase and submit the tender.
- The winning bidders are informed automatically by e-mail and published in the concern website which reduce the time for prepare contract award and related documents.
- As the process is completed through on line, so no political and others interfere is occurred in the process of Government purchases and it is easy to ensure competition, accountability, transparency in the tender process which ensured best value for money.
- In e-Procurement Process, it is easy to ensure efficiency in procurement and provide equitable treatment of bidders and fairness in bidding offers.

e-Procurement advantages can only be fully realized when the systems and processes to manage it are in place. Software tools are needed to create the standard procurement documentation: electronic requests for information (e-RFI), requests for proposal (e-RFP) and requests for quotation (e-RFQ). These are proven methods to source goods and make the framework agreements that offer the best prices.

An adequate, fully integrated e-procurement approach is needed for overall success. Additional programs provide the framework for the supplier databases and spend management as well as holding key vendor information and being an electronic repository for contracts. All these facilities cost money and a clear business case must be made for e-procurement. In most cases this is fairly clear that cost savings are possible.

It pays for companies to spend money on e-procurement technology, this investment will boost efficiency. The longer term reduction in costs will enable companies to direct their resources to more strategic initiatives. e-Procurement advantages are significant bottom-line benefits, including cost reduction, process efficiencies, spending controls and compliance.

Companies using e-procurement gain additional control over maverick spending and can reduce the headcount supporting purchasing transactions. 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(Davila et al, 2003).

2.8 CHALLENGES OF e-PROCUREMENT

Even though the benefits, adopting e-procurement solutions can be significant, there are some internal and external challenges and risks related to the adoption of e-procurement. There has been a long term problem with identifying value from Information Technology (IT) investments and in creating a case for IT introduction in general. This is why companies need a clear plan for implementing e-procurement technologies.

There are three important challenges to e-procurement implementation (Angeles and Nath, 2007):

1. Lack of system integration and standardization issues.
2. Immaturity of e-procurement-based market services and end user resistance.
3. Maverick buying and difficulty in integrating e-procurement with other systems

Lack of system integration and standardization issues relates to the fact that e-procurement is still relatively new business application and it is not unusual to find a lack of remarkable reference models. 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. Also, companies need to be aware of the possible hidden costs related to implementation of e-procurement solutions, such as system integration, content aggregation and rationalization, catalog and search engine maintenance, supplier enablement, end user training and procurement process re-engineering. These costs can easily exceed software licensing and maintenance cost by five to ten times(Angeles and Nath, 2007).

The second challenge relates to the immaturity of providers of e-procurement services and the lack of supplier preparation, and the resistance of solutions end-users. In some cases the immature service providers may not be able to provide a complete suite of services, especially for more complex or advanced e-procurement implementation projects. The immaturity of tenderers and the lack of preparations are also a challenge for many organizations. After all, suppliers need to learn how to

generate catalogs, process electronic purchase orders, how to use invoicing mechanisms among other tasks (Angeles and Nath, 2007). The success of e-procurement solutions relies on the network effect that will be more effective if enough players are adopting the same technology. The other challenge here relates to the resistance of end-users towards operating the e-procurement solution. To prevent these companies should encourage using new e-procurement technologies through intensive training and educational sessions with End-users.

The third challenge is linked to the difficulty of changing purchasing-related behavior among the company's employees. Some companies find it difficult to eliminate maverick buying even after the implementation of e-procurement. This can be prevented by intensive end-user training and educational programs. Companies also need to be aware of the problems in integrating the e-procurement solution with other systems. Integrating e-procurement solutions with other business applications (e.g. accounting) can be more complex than businesses think.

There are four risks associated with adopting e-procurement technologies. These four risks need to be carefully addressed before these technologies are adopted.

Internal business risks: Business has to be careful while integrating e-procurement technologies with other business applications such as accounting, human resources, accounts payable and cash management. Most companies already have invested heavily in these other applications and the integration of e-procurement should go as smoothly as possible, or it can jeopardize the reliability of organizational information.

External business risk: e-procurement solutions also need to be able to cooperate with suppliers IT-infrastructure. For e-procurement solution to be successful suppliers must be accessible through the Internet and provide catalogs to satisfy the needs of their customers. In some cases suppliers might lack the resources to meet the demands of customers in catalog developing and updating. Companies also need to develop mechanisms that provide the buyers with assurance that new suppliers meet the expectations and standards relating to supplier quality, service and delivery capabilities.

Technology risks: Many companies are unsure which e-procurement solution best suits the specific needs of their company. The lack of widely accepted standards blocks the integration of different e-procurement solutions across the supply chain. The researchers insist that without widely accepted standards for coding, technical, and process specifications, adoption of e-procurement technologies will continue to be slow and will fail to deliver the promised benefits.

e-Procurement process risks: This risk relates to the security and control of the e-procurement process itself. Such issues can be related to, for example data security and fraud prevention e.g. fake tenderers, fake bids etc.

As identified in the examination of earlier e-procurement literature, adopting e-procurement solutions can provide substantial cost savings and other benefits, but there are also challenges and risks companies need to take into account when considering e-procurement adoption. Making the procurement process more efficient and faster can be achieved with the use of e-procurement solutions. None the less, this requires that the implementation process must be planned and executed thoroughly in order to minimize the challenges and risks companies might face (Viljami Vanjoki 2012).

ANALYSIS AND RESULTS

3.1 CURENT POLICIES CONCERNING e-PROCUREMENT

For collecting data of this study, a questionnaire survey conducted on the officers and tenderers of the Local Government Engineering Department (LGED), Narayanganj. They have practical experience of contract management for works. The respondents include Executive Engineer, Sr. assistant Engineer and Upazila engineer of this organization. In addition to the questionnaire survey, Key Information interview has been conducted. In this regard, 6 senior officers of the organization have been interviewed. Moreover, 6 contractors (suppliers), who are the part of contract implementation team, have also been interviewed to get their perception regarding e-Procurement.

Before presenting the results of this research the current state of e-procurement in the LGED, Narayanganj district is examined. First, it is explained how e-procurement is organized in LGED, is the purchasing of Works, Goods or Services, centralized to a separate function or department, or decentralized among Organization's employees. Second, the categorization of interviewer's are explained. When the interviews were conducted none of the respondents had a comprehensive e-procurement solution for procurement of goods, works and services in place (www.lged.gov.bd).

3.2 PROCUREMENT IN LGED: ORGANIZATION OVERVIEW

Local Government Engineering Department (LGED) is one of the largest public sector organizations in Bangladesh entrusted for planning and implementation of local level rural urban and small scale water resources infrastructure development programs. LGED works closely with the local stakeholders to ensure people's participation and bottom-up planning in all stages of project implementation cycle. The broad objectives of LGED's development activities are to improve the socio-economic condition of the country through supply of infrastructures at local level and capacity building of the stakeholders. LGED promotes labor-based technology to create employment opportunity at local level and uses local materials in construction and maintenance to optimize the project implementation cost with preserving the desired quality. LGED works in a wide range of diversified programs like construction of roads, bridges/ culverts and markets to social mobilization, empowerment and environmental protection. The organizational background of LGED can be traced 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 organizational evolution of LGED can be illustrated as follows.

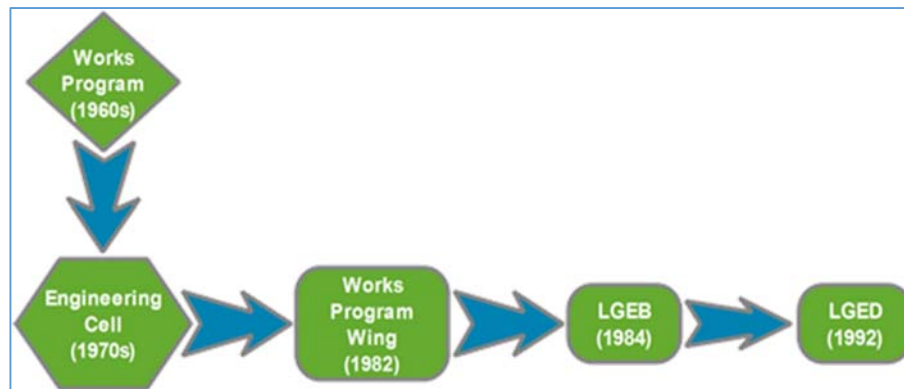


Figure 7: The organizational evolution of LGED.

LGED is highly decentralized organization where ninety nine percent of total manpower works at District and Upazila (Sub-District) level. The Chief Engineer is the head of the organization supported by four Additional Chief Engineers with subsequent supporting manpower. The total manpower under permanent payroll is 10287 both at headquarters and field levels. The detail organogram is described under the section of ‘Organization of LGED’ the thematic functional areas of LGED can be illustrated as follows.

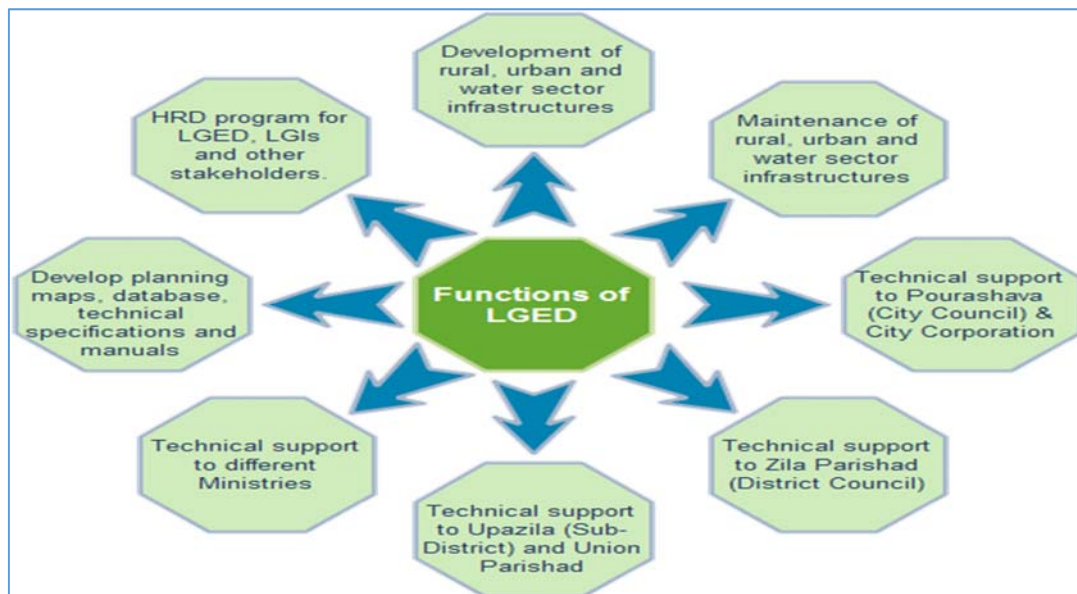


Figure 8: The detail Functions of LGED

Development and management of local infrastructure for increasing farm/non-farm production, generating employment, improving socio-economic condition, promoting local governance, reducing poverty and acting as agent of change at the local level.

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.

LGED is the primary agency in Bangladesh for planning, implementing, maintaining and monitoring rural roads and rural infrastructure. Its mandate has derived from 3 of the 4 original functions under the Comilla rural development model which included the provision of rural infrastructure, irrigation, training and urban development activities. LGED's mandate also derives from the Strategy for Rural Development Projects, prepared by the Planning Commission. The Strategy articulated three priority areas (including rural infrastructure provision) which resulted in the establishment of a rural engineering organization to address these priorities. This organization over time evolved into LGED. While the main focus of LGED centers upon its core functions in rural roads construction and maintenance, accounting for 70% of its annual budget allocation (2006-07), there has been a substantial increase in other areas such as primary school construction and urban infrastructure provision which now account for 18% and 7% respectively of its annual budgetary allocation. LGED is currently responsible for 22.3% of the Government's total ADP outlay amounting to Tk 44.6 billion in 2006-07, (World Bank Final Report,2009).

About Procurement system of LGED

The World Bank's (2002) Country Procurement Assessment Report (CPAR) identified, procurement as the single most significant issue affecting public sector performance, with enormous wastage of money. It pointed out deficiencies such as protracted bureaucratic procedures, inordinate delays in completing the procurement process and ineffective contract administration for ensuring transparency and accountability in public procurement. Since then, a number of deficiencies appear to have been addressed by the Public Procurement Reform Program supported by the World Bank. A Public Expenditure and Financial Accountability (PEFA) assessment scored Bangladesh well on procurement, recognizing "the enormous impact of the procurement reforms that have taken place".

These reforms led to the creation of Central Procurement Technical Unit (CPTU) of the Ministry of Planning and public procurement regulations (PPR) effective from 2003 and enacted as law in 2006. The structure and functions of the CPTU are described at Bangladesh Government (2008), as mandated by the Public Procurement Rules (PPR) 2008.

The World Bank's latest assessment of LGED's procurement function gives it an average risk rating, and concludes that LGED has the technical skills to support the procurement function but lacks the systems to ensure that the procurement activities are closely monitored for compliance.

In the prevailing socio political culture of the country, it is always a challenge to maintain a full proof procurement process. Never the less, LGED officials are striving to follow the procurement rules amidst challenges. There are some external factors that are not in full control of LGED. Therefore, LGED along with Central Procurement Technical Unit (CPTU) under Ministry of Planning is trying to establish some effective mechanisms for transparency in procurement system. Introducing electronic procurement (e-GP) is one of them. LGED is one of four target agencies of the country that has been working under the Public Procurement Reform Project-II (PPRP-II) of CPTU supported by the World Bank.

Most of the procuring officers of LGED were trained under this project regarding PPR, 2008. With a further initiative, LGED has trained its 750 officers for launching E-GP immediately. In the meantime, LGED has planned its own target for launching e-GP. The organization is determined to achieve 100% e-GP by 2016, 80% by 2015, 60% by 2014, and 30% by 2013. Till date, LGED is far advanced than its initial target of 2013(www.lged.gov.bd).

3.3 FINDINGS OF THE QUESTIONNAIRE SURVEY

The outcome of the survey is summarized below:

Sl no.	Basic questions	Total no. of respondents	Positive	not positive	Not answered	In depth review remarks
1	Do you know, what is e-Procurement?	12	10		2	
2	Have you ever been used e-Procurement?	12	10		2	
3	If You used e-Procurement, what benefit you have received from it?	10	Please check note Q.3			
4	Do you find any problem, when you used e-Procurement?	10	Please check note Q.4			
5	Do you Think that e-Procurement is better than manual tendering process?	10	Please check note Q.5			
6	What are your overall suggestions or Recommendations for the e-Procurement?	10	Please check note Q.6			

Table- 03: Summarization of Survey

Note Q-3: Among 12 participants, 10 participant's response the question 03. Between them 04 participants are tenderer and 06 participants are LGED Officials. All tenderers are response that no obstruction is occurred from political or other muscleman during purchasing or submitting the tender documents. 02 participants are said that they got benefit as the Tender schedules are available in bank branches.

The LGED officials (06 Participant's, responsibility as PE),05 participant's responses that by using e-Procurement tender schedule can be prepared easily and reduce time as required in manual tendering system. 02 participants's said that the tender evaluation process can be easily done. 02 participant's said that it is prevent political interfere corruption, save time and cost at a great scale.

Note Q-4: Among 12 participants, 10 participant's response the question 03. Between them 04 participants are tenderer and 06 participants are LGED Officials. 02 tenderers are strongly response that great difficulties occur during as no bank branches are available at upazila level where tender security money and purchase price can be deposited. 02 participants complain against server and software complexity. They said that, when electricity failed, the software used for e-GP is failed to save tenderers fill up data. 02 participants said that they sometimes failed to submit tender documents due to electricity failure. Another participant states that strong Internet network is not available at upazila level.

The LGED officials (06 Participant's, responsibility as PE), all participants' responses that Internet Network and electricity problem is the great barrier for implementing e-Procurement. 03 participants' state about software complexity and another official is said that data is hacked by unauthorized users.

Note Q-5: 10 respondents who practices e-Procurement responses that e-GP is better than manual tendering process.

Note Q-06: All of the respondents (10 Participants) recommended as follows

1. Internet network should be available at upazila level.
2. Require high band width network.
3. Security of the e-GP software should be improved.
4. CPTU server problems should be removed.
5. Ensure 24 hours Electricity.
6. E-tender Schedule should be available at all schedule Bank Branches at upazila level.
7. Tenderer require sufficient training to adopt e-Procurement.
8. Bank Branch officers related to e-Procurement require sufficient training.
9. Complexity of the software should be removed and Tenderer friendly.

3.4 ANALYSIS OF FINDINGS FROM THE QUESTIONNAIRE SURVEY

Problems related to e-procurement adoption.

All of the respondents could identify some reasons why they prefer traditional procurement over e-procurement in handling Tenders. At the same time they also recognized potential benefits that an implementation of such solution could bring about. Most of the benefits recognized were related

to cost savings and process efficiencies. Even though the respondents were aware of the benefits related to e-procurement for Procurement of goods and works. In this research following factors related to e-procurement adoption were identified.

1. E-procurement can deliver substantial benefits but requires important conditions for success.
2. Require strong Governance Leadership for its success.
3. Require frequent electricity all over the country but it is impossible as our country.
4. Require strong internet network.
5. A few no. of bidders of our country is able to use Internet which is great barrier to implement e-Procurement.
6. The depth of knowledge of the remote area's bidders is very low to use online procurement.
7. The software used for e-GP is too much complex.
8. The software (e-GP) has no save options or data stores for bidders, so it creates great trouble when electricity gone or the server goes out of order.
9. All of the scheduled Banks including all branches of our country are not willingly interested to work with e-GP process.
10. Bank branch officers are not trained properly to perform e-GP finance activities.
11. Public procuring entity office is not covered with high bandwidth internet connectivity (Infrastructure development) and officers are not properly trained.
12. Under e-GP; contractor selection, award of contract and agreement with the selected contractor can be done electronically but payment of the work is done manually (Following existing procedure) due to fluctuation of fund availability.
13. Unit price of same nature of works/goods are different in the different departments of our country which create complexity for the bidders to offer prices.
14. Different user departments use their departmental (personal) software to analysis rate of works/goods and there is no linking option in the e-GP software to link individual departmental software to prepare Bill of quantities (BOQ).

DISCUSSION AND CONCLUSIONS

Despite a challenging environment, Bangladesh has been transforming its procurement environment for better outcomes in public contracting with improved efficiency, effectiveness, and transparency at key sectoral ministries and agencies. The Second Public Procurement Reform Project (PPRP II) has introduced electronic procurement and on-line performance monitoring at four sectoral agencies that accounts for majority of public procurement. PPRP II is working to improve performance of the public procurement system, particularly in sectors that hand out large or many contracts the results found that,

- 25% tenders invited through electronic procurement in four key agencies in 2013, up from only 3% in 2012.
- 66% small value contracts at decentralized levels have been awarded within the initial bid validity period in 2013, up from only 10% in 2007.
- 72% contracts awards in 2013 were published at the Central Procurement Technical Unit (CPTU) website, up from only 15% in 2007.
- 100% of the bids invitations were published in newspapers in 2012, up from 70% in 2005.
- Over 2,900 officials provided three-week procurement training.
- 2,650 participants at local level joined the district level conference on public procurement

The use of modern information technology makes public procurement easier and more transparent. Anyone can get all bidding information from online, and the application can be sent from anywhere with the click of a button.

While the benefits of e-procurement have been widely described in the academic literature, there are still major issues companies need to overcome before the benefits of e-procurement can be enjoyed. Based on the interviews, seven factors that were preventing tenderers in adopting e-procurement were found:

1. Governance Leadership
2. Electricity
3. Availability of Bank branches
4. Tenderers Training
5. Complexity of software.
6. High speed internet service
7. Online payment

For e-procurement solutions to be successful, tenderers have to find ways of easing the problems and making the implementation process smoother. This paper, present e-GP system for developing countries like Bangladesh. The developing countries have technical and non- technical problems for implementing e-GP. This paper addressed both technical and non-technical issues. The main technical issues are infrastructure and skilled manpower. The e-GP system can be implemented side-by-side of existing paper based system. Obtaining the performance result of the e- GP system, the paper-based system can be replaced by e-GP at some point. In Bangladesh, it can be a very effective tool to ensure transparency and accountability in the process of public procurement because the acts and rules have to be followed by default in e-GP. The CPTU has launched online monitoring of the procurement performance through the Procurement Management Information System (PROMIS). So, any violation in the process will automatically be detected from the data provided by the PEs to the PROMIS.

In the e-GP the bidders need not be physically present to submit their tenders to the PEs. They can submit tenders online from home. This will widen the opportunity for competition. It is factual that the integration of the entire procurement cycle, including the PROMIS, into e-GP will take time. There are some infrastructural problems, like low internet connectivity and shortage of power. The power situation has been a big challenge, but the government has to overcome it to materialize its promise to the people to build a Digital Bangladesh by 2021.

The government should expedite its efforts to introduce ICT in the delivery of services and bridge demand-supply gap wherever it exists. e-Tendering in the award of contracts and licenses, e-procurement and e-governance would go a long way in countering corruption. It is certainly a very positive step to introduce the system of submitting the tender over internet (like other developing and developed countries) and to ensure transparency and accountability, equal opportunity and fair competition, which will eventually benefit all actors in the conduct of public procurement and raise the quality of life of the people through creation of employment and overall improvement of the infrastructure.

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Appendix-1

Questionnaire

Research on “The Prospects and Challenges of e-Procurement in Government purchases, a study on e-Procurement in LGED, Narayanganj District”

Name :

Designation :

Gender : Male / Female (Tick Mark)

Education :

Sl. No	Question	Response
01	Do you know, what is e-Procurement?	
02	Have you ever used e-Procurement?	
03	If You used e-Procurement, what benefit have you received from it?	
04	Did you find any problem, when you used e-Procurement?	
05	Do you Think that e-Procurement is better than manual tendering process?	
06	What are your overall suggestions or Recommendations for the e-Procurement?	

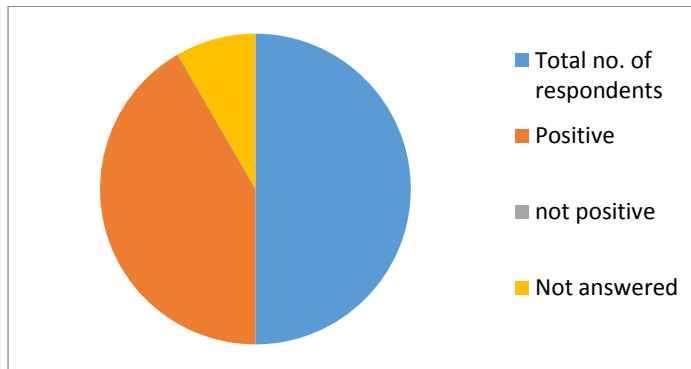
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Appendix-2

Pie charts

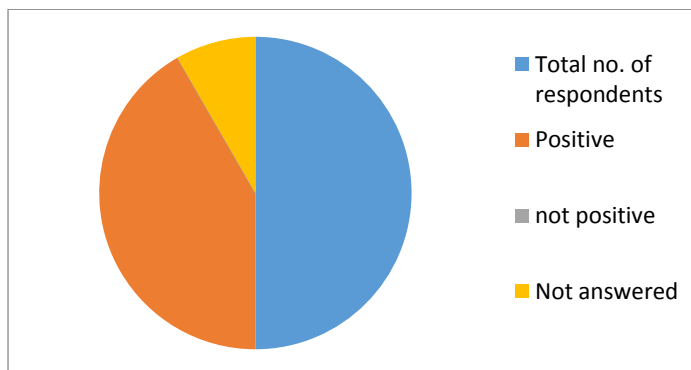
Pie Chart-1

Do you know, what is e-Procurement?	
Total no. of respondents	12
Positive	10
not positive	0
Not answered	2



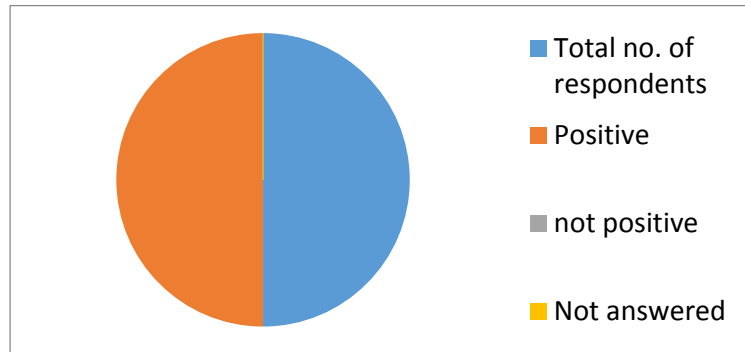
Pie Chart-2

Have you ever used e-Procurement?	
Total no. of respondents	12
Positive	10
not positive	0
Not answered	2



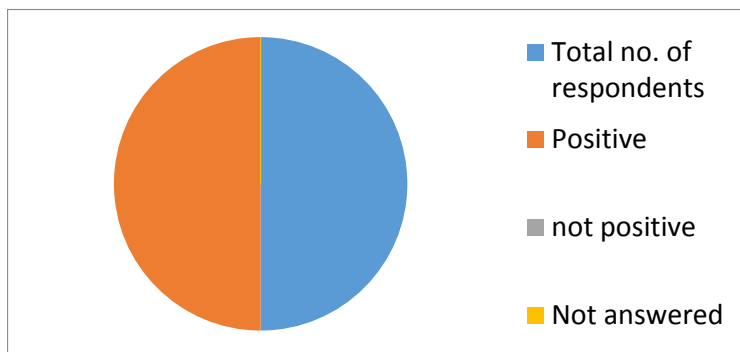
Pie Chart-3

If You used e-Procurement, what benefit have you received from it?	
Total no. of respondents	10
Positive	10
not positive	0
Not answered	0



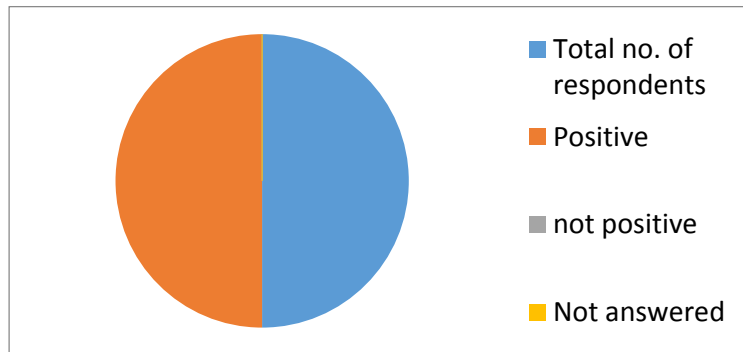
Pie Chart-4

Did you find any problem, when you used e-Procurement?	
Total no. of respondents	10
Positive	10
not positive	0
Not answered	0



Pie Chart-5

Do you Think that e-Procurement is better than manual tendering process?	
Total no. of respondents	10
Positive	10
not positive	0
Not answered	0



Pie Chart-6

What are your overall suggestions or Recommendations for the e-Procurement?	
Total no. of respondents	10
Positive	10
not positive	0
Not answered	0

