Significant Importance of Implementation E-Procurement in UN Agency

By

Muhammad Hanan Arshad Alvi

Regn.No: 0203750

A thesis submitted to the

Department of Business Administration

In partial fulfilment of the requirements for the degree of

EXECUTE MASTER OF BUSINESS ADMINISTRATION

Faculty of Business Administration

National University of Science and Technology

Islamabad

COPYRIGHT: BY HANAN ARSHAD ALVI

DEDICATION

I dedicate my dissertation work to Almighty Allah, Who gave me aptitude, understanding and obsession to complete my thesis successfully and Last Prophet Hazrat Muhammad (PBUH), who showed me right path to pursue for my accomplishments.

A special feeling of gratitude to my loving parents and siblings. My sister Dr. Javaria whose words of encouragement and push for tenacity and have never left my side and are very special.

I dedicated this work and special thanks to my mentor Syed Asad Ali Zaidi and my lovely nephew Muhammad Hammdan for being there for me throughout the entire MS program. Both of you have been my best cheerleaders.

ACKNOWLEDGMENT

First of all I would like to thank ALLAH Almighty, for answering my prayers for giving me the strength and courage to complete my research and dissertation with great passion and confidence.

I would like to express the deepest appreciation to my supervisor Sir Muhammad Kamran Khalid, who has the attitude and the substance of a genius, he continually and convincingly conveyed a spirit of adventure in regard to research for the patient guidance, encouragement and advice he has provided throughout my time as his student. I have been extremely lucky to have a supervisor who cared so much about my work, and who responded to my questions and queries so promptly I am truly indebted for his advice and guidance, besides, I am thankful for his guidance, encouragement and motivation because my supervisor has contributed a lot, towards my understanding and thoughts. I consider myself very fortunate for being able to work with a very considerate and encouraging professor like him. Without his guidance and persistent help this dissertation would not have been possible. He will always remain the source of inspiration throughout my life. I cannot find words to pay my tribute to this wonderful personality. I am really very thankful to my supervisor, thanks once again!

Special thanks to all my NUST academic teachers, as without their knowledge and assistance this study would not have been successful. Last but not the least, I am also thankful to all my family and friend Syed Asad Ali Zaidi and also to those people who are directly or indirectly concerned with my research work and thesis writing.

DECLARATION

It is declared that this is an original piece of my own work, except where otherwise acknowledged in text and references. This work has not been submitted in any form for another degree or diploma at any university or other institution for tertiary education and shall not be submitted by me in future for obtaining any degree from this or any other University or Institution.

Hanan Arshad Alvi

Regn.No: 0203750

TABLE OF CONTENTS

LIST OF FIGURES AND TABLES

ABSTRACT

United Nations was established in 1945 with its Headquarters in San Francisco, California United States. There are more than 40 UN agencies operating around the world, focusing on different mandates such as poverty eradication, improved healthcare, provision of shelter, food and nutrition, governance, sustainable development, migration management and refugee resettlement. Different UN agencies work autonomously with their Headquarters based in different parts of the world. Agencies program interventions are later consolidated at the UN HQs.

At country level, the Resident Coordinator's (RC) Office coordinates with all UN agencies operating in the country. There is a Country Director for each agency who reports to the Country Representative in the RC Office. Different sections which include operations, resource management (HR, Finance and Procurement) and program work in each agency according to their specified roles.

The procurement department for each UN agency is centralized and managed by the Resource Management Unit. There is a head of procurement at each agency. The final endorsement and approval is given by the Country Director of that particular agency. The procurement manual is in line with the overall UN policy documents, which includes different thresholds. The manual segregates each procurement under services and supplies. During 2009 – 2018, the quantum of procurement at UN, ranged between USD 13.8 billion to USD 18.8 billion. As highlighted, involvement of significant amount of funds makes this area not only critical but of high-risk as well. The associated risks involved due to significant use of funds in the process makes it important for UN to review and improve processes timely and efficiently.

The United Nation Development Programme (UNDP) provides services to refugees, migrants and internally displaced persons (IDPs) concerning migration. UNDP established its office in Pakistan in 1981, where the Government requested to intervene due to influx of Afghan refugees. Pakistan signed as a Member State of UNDP in 1992 and established a Cooperation Agreement with UNDP in October 2000.

UNDP follows its own procurement manual, which segregates 'procurement' under three categories – supply, services and works. Supply means goods mainly; services include intellectual and non-intellectual services whereas work is a mix of services and supplies like construction contracts. On paper, the manual defines principles on which procurement should be based. There are no thresholds defined for opting certain type of procedure, but process is well-defined. There is a process of sole sourcing where no competitive process is required, second is low value procurement which means comparing quotes and prices of minimum of three vendors. The last process is called competitive bidding where tenders are done and process is followed.

This project highlights how procurement at UNDP Pakistan is managed currently, what practices are followed and what are the challenges and risks involved in the procurement process. Through this research, we have tried to correlate how e-procurement can also play a vital role in filling gaps and mitigating associated risks.

1 PROBLEM STATEMENT

The system implemented in UNDP Pakistan through which procurements are handled relate to the Orthodox system currently in place. The system is **less transparent** due to the reason that it fails to provide the vendor or supplier, complete information which relates to the demand/requirement of the organization. The system also hinders information supply to the potential suppliers/vendors for a better competition and optimum value for money. Some of the major issues identified through this study are as follows –

- ‣ Procurement expenses increase
- ‣ Transparency is questioned
- ‣ No clear data base of suppliers
- ‣ Less competition and choice of suppliers
- ‣ Information inaccessibility
- ‣ Commissions/ Kick backs
- ‣ Undefined procurement processes
- ‣ Purchasing unspecified and damaged products
- ‣ Rushed purchases
- ‣ Exceeding purchase budget
- ‣ No time value money consideration

Taking into consideration the issues mentioned above, transparency of procedure becomes questionable and puts credibility of the organization at risk. In absence of true competition and no oversight by other departments, the process of procurement becomes relatively **Less Efficient,** which means longer delivery time, higher costs and additional time needed to execute contracts.

1.1 Significance of the problem

As mentioned in the abstract, procurement is the most significant area in terms of its financial impact on the organization under discussion. Without proper procedures in place for this area of work, the organization stands at huge risk of fraud and mismanagement of funds.

However, the procedures at the same time needs to be flexible as well due to varied nature of the projects being implemented. In practice, procurement is involved in almost all major functions and areas of the organization, such as services, supplies, repairs, transportation, construction, evaluations amongst many other interventions, procurement has a vital role to play. CURRENT SYSTEM REVIEW:

The Procurement Process:

The procurement process is going through the following steps.

1.2 Purchase Requisition:

Purchase request is first initiated through the Purchase Request Form often called (PRF), which includes justification for the requirement, specification of the goods and additionally the estimated cost. Project Budget Line (WBS) goes through the authorisation of the Line Manager to higher management.

PURCHASE REQUISITION FORM

Requesting Staff					Purchase Request No.		
Department					Date Prepared		
Mission					Date Needed		

Justification for the request:

						Estimated Project Cost	
No.	Description	IT Specifications (if IT related equipment)	WBS	Qty	Unit	Unit Price	Total
1							
2							
3							
4							
5							
6							

* Indicate detailed technical specifications of item if goods or scope of work if services. Additional sheet may be

Prepared by:	Verified by IT Specs Endorsed by:	WBS Author Approved by:	Received by:
	Head of Unit		
Date	Date: Date:	Date: Da	Date:

Signature over Printed Name

1.3 Call for Quotations.

The complete Purchase request goes to the Procurement department for the call of the

quotations from concerned vendors.

1.4 Evaluation of Quotations:

Received quotations are summarized on the organization's format of bid evaluation

summary. The quotations are then evaluated for the specifications defined in the purchase

request form, schedule of delivery, payment terms and after delivery services. The final

award is given to vendors offering the lowest bid offer and best value for the money.

1.5 Making of Purchase Order

Following the process of evaluation of quotations, purchase order is prepared in the SAP

including the purchase terms and conditions associated with the purchase from suppliers.

The PO includes following;

- The rights of organization to inspect documents related to transactions associated

  with company purchases.

- The late delivery charges and consequences.

- Arbitration clause under UNCITRAL.

All terms and conditions under Purchase Order should be signed by the suppliers. The

purchase department may and can use additional terms and conditions if the conditions

are not covered in the standard Purchase Order.

1.6 Acceptance of Goods

The specifications mentioned in purchase request and price of goods must be checked

carefully against the Purchase Order. The organization holds the rights to reject the goods

if it they don't match the PO. For the technical related goods the procurement department

should coordinate with end user, after evaluation of technical team or staff. The team then

issue the delivery note or receipt with the signature of the inspecting person as well.

2   THE PROJECT

Through this project, I shall recommend new and improved procurement processes which would be of cost saving benefits, where saving will be in the form of reduction in the processing cost or any cost associated until the approval of Purchase request document. In addition, ways on how to negotiate better price along with the desired goods quality and most importantly, aspect the availability of post purchase information.

2.1   REASON TO CHOOSE E-PROCUREMNET
The motivation to choose E-Procurement is as follows.

- Cost Saving

- Increase competition and access

2.2   Cost Saving
Easier cost view from the bidders' catalogue. This cost analysis highlights the lower bidder and the quality assurance from vendors. It has the benefits of reducing other expenses of paper, postage, printing and copying.

We can also ensure Just in Time procurement which will reduce cost of warehouse. The procurement often takes place in office and does not realize the importance of saving and it will also ensure unnecessary and off contract procurements do not happen.

2.3   Increasing Competition and Greater Access.
Often the bid announcement is published in one of the non-famous newspaper which has smaller outreach as compared to other nation-wide newspapers whereas, through the internet, there are chances of higher potential vendors who can be reached.

Understanding the benefits of technology and issues faced by the organization are challenging and mistrust on the use of advance software's exist internally and externally. The donors and the project organization realize the urgency to generate outcomes that minimize mistrust and generate best outcome from the procurement.

Following the review of the procurement process and old practices and the challenges identified, it is suggested that the E-Procurement is less complex to practice and can be segregated into four main categorizes as following;

2.4   Online Publications:
Everyone is facilitated to review the process from the start towards ends.

Transparency is achieved through this.

2.5   Integrated Process;
 Transparency increases and consolidates with high efficiency of process.

2.6   Online Transactions:
All the suppliers participate online.

Accountability and transparency is the governing benchmark for this process.

2.7   Transformation:
The process is integrated and economy of scale is achieved

Transformational	Online Transaction
Achieve Economy of scale	Competitive Purchase
Value achieve	From

Figure II Structural Process Achieve
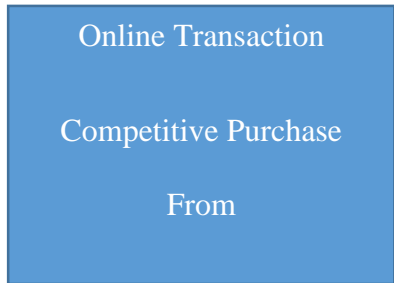
Figure I Competition Achieved

Integrated Process Online reports and Information	Online Publication Stream line Process Open Process

Figure III Efficiency Achieved   *Figure IV Transparency Achieved*
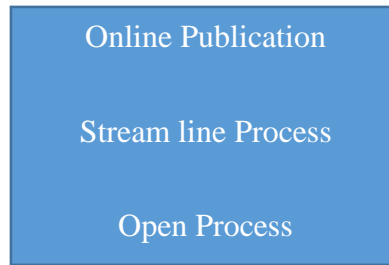
2.8 Electronic Procurement System in increasing productivity, race and intangibility.

This system improves the procurement methods to become more tangible, fast and increases competition.

In today's technological era, where almost all transactions are done electronically, E-procurement cannot be ruled out. E-Procurement is the procurement of all goods and services through the internet based information. The e-procurement has great potential to enhance efficiencies and hold the integrity of procurement staff department and organizations. The E-Procurement will also help in adapting to new ERP systems.

The purpose of implementing the system is the fact that it is not a new system and various organizations have successfully implemented it. The system not only improves the efficiency of the system but also makes it more transparent and error free. The system also rids the organization of old and cumbersome procedures/ protocols and loads of paper work.

Key advantages of the system include:

- Enhanced accessibility
- Reduced human involvement to remove biases
- Help contribute in the UN sustainable goal

- Reduced corruption in procurement

- Catalyst for change process

3 DESIGNING AND DEPLOYMENT OF ELECTRONIC PROCUREMNET SYSTEM

3.1 THE RECOMMENDED STEPS

The implementation of an E-Procurement at this stage is split into four phases. Each phase is determined from previous method. The proposed steps are as follows:

STEP 1: THE PLANNING/READINESS ASSESSMENT

The first step in implementation of this process is the planning or generally we can say is the assessment of our internal system that is needed to adopt new procedural measure. It includes defining vision of organization, allocation of funds, defining framework and action plan. The action plan is elaborated below:
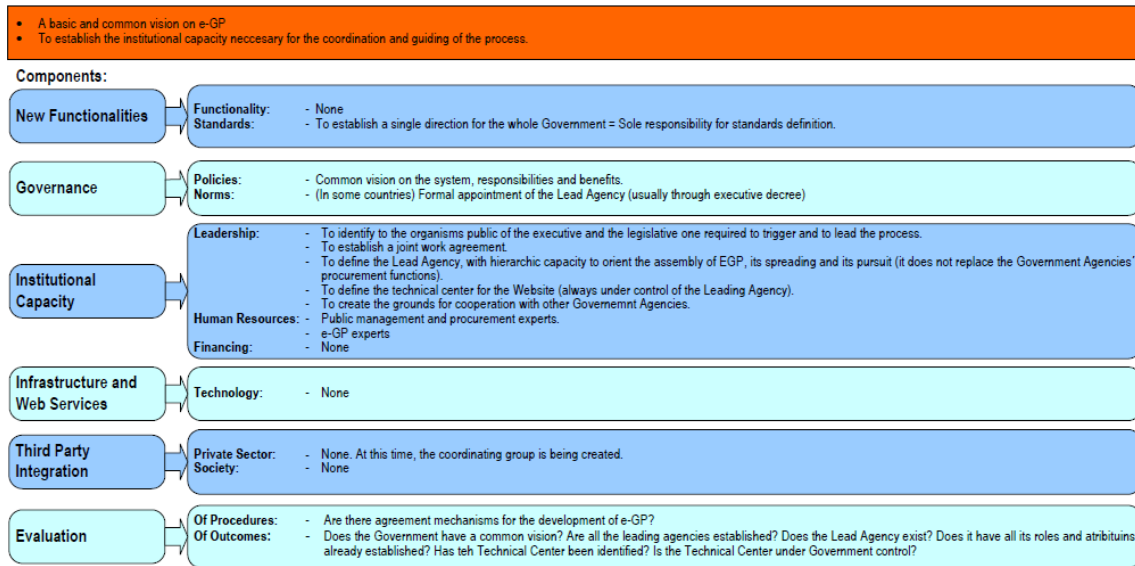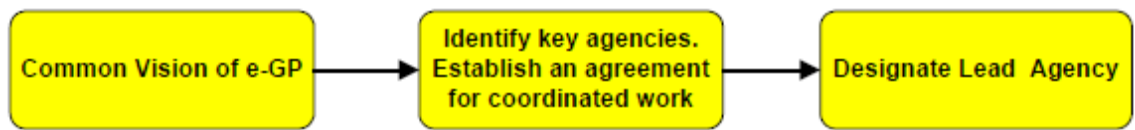
3.1.1 Establish institutional framework and coordination system

At this stage the main aim is to plan the system which involves

3.1.1.1 Vision

Vision is developed as a result of inter departmental communication and good coordination. The system is aligned to drive the organization towards the set vision. All technical aspects and expected problems are discussed at this point.

3.1.1.2 Identify Key Entities:

At this stage it is important to identify the key entities. All the key entities have to be involved in the procurement process to make it a success. Coordination between different departments like the Budget Management Planning and Control, Technology Department, end users and procurement team etc is vital at this to point which will help in subsequent steps and defining the specifications of requirement. If at this stage only procurement department is allowed to do all the work than the proposed system will not work.

3.1.2 Prepare general assessment and strategic e-Procurement set up

At this stage of general assessment and strategic e-procurement plan is the detail overview of the procurement system, which is mainly adaption and achievement

The core cruxes of the assessment are:

- Procurement method

- Old System of procurement

- Adaption of change

Governance and Organization Aspects:

- Flexibility of approval authorities

- Internal control and accountability

- Human resource

- The vendor's reaction to new system

- Tendering

- Mode of tender

- Steps of procurement, and duration

- Process management

- Solicit and Process of bidding and document control

- Number of bidders and bidding process

- System or process cost price competitiveness

- Efficiency and compliance

General Procurement Assessments → General Baseline (including quantitative indicators) → Business Awareness. Private Sector Activation → E-GP Strategic plan

Main outcomes of the stage:

- To have an analysis of the starting point, a clear vision of the arriving point and measurements for monitoring advances

Components:

New Functionalities	Functionality:	- Procurement readiness assessment (see document in this series):
		+ System description del sistema . Processes, Strenghts and Weaknesses
		+ Quantitative and Qualitative data
		+ Analisys of e-GP development in the respective country , region or municipality
		- Baseline with the main indices and indicators
		- Strategic plan and Roadmap for the development of e -GP (see document in this series)
		+ Planned stages and main goals (specific Roadmap)
		+ Responsibilities and incentives
		+ Monitoring and evaluation mechanisms
	Standards:	- The strategic plan is the only guide for the process
		- Monitoring system that follows the baseline
Governance	Policies:	- Political acceptance of the Strategic Plan and the Roadmap
	Norms:	- Legal implementation of the Strategic Plan and it Roadmap
Institutional Capacity	Leadership :	- Lead Agency to create and seek for agreement in the readiness assessment , the baseline and the strategic plan .
	Human Resources :	- Assessment and Baseline : Procurement , public finance , indicators and data analisys experts
		- Strategic Plan: Many Agencies are involved : e-GP, Policies, planning public sector and procurement .
		- Monitoring Experts .
	Financing:	- Assessment costs: Strategic Plan agreement process' costs .
Infrastructure and Web Services	Technology:	- Technical capacity fot a monitoring system based on the baseline .
	Options:	- Monitoring options range from periodic reports to information online and La gama de Options para el seguimiento va desde reportes periódicos de las entidades hasta información en línea y performance satisfaction surveys .
Third Party Integration	Private Sector :	- Agreement on the Strategic Plan
	Society:	- Publication of the Assessment and its Baseline and the Strategic Plan , including the goals that will modify the initial situation .
Evaluation	Of Procedures:	- Is there an agreement so the Strategic Plan is fully accepted ?
	Of Outcomes:	- Assessment and Baseline Soundness ; Is e-GP development seen as a political issue with a potential high impact on modernization of the state and development ?

3.1.3 Prepare property set up and net Assessment

In this we see the connectivity and availability of internet as the name depicts it's the E-Procurement process which means the organization adapting the system having not only good internal connectivity but also with the vendors as well in order to avoid the biases of giving tenders to few suppliers or vendors.

The main areas of concern are:

- Internet availability and society trends

- Bandwidth and charges of internet
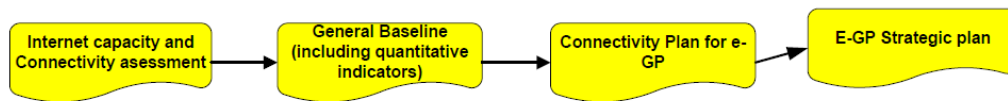
Main outcomes of the stage:

- To adapt the e-GP development to the situation and tendencies of Internet in the country.
- Analyze the starting point of the Infrastructure and computer science component, with of a clear vision of the destination point and a measurement of the advances.
- To define the criteria for the development of the technology component of EGP in the public and private sectors, in order to minimize costs.

Components:

|		
New Functionalities	**Functionality:**	- Single website for all public tenders.
	Standards:	- Single website (All Government Agencies that have tendering activities must use this website)
		- All Agencies publish information on this website following the requirements previously defined.
Governance	**Policies:**	- Political acceptance together with its investment plan.
	Norms:	- Legal implementation Adopción of the Technology Development Plan (as part of the Strategic Plan)
Institutional Capacity	**Leadership:**	- Lead Agency to create and seek for agreement in the readiness assessment, the baseline and the strategic plan.
	Human Resources:	- Multidisciplinary Group with knowledge on e-GP, technology trends and their application in the Public Sector.
		- Interaction with the experts from the Strategic Plan group.
	Financing:	- Costs associated to the Assessment and the agreement process on the Plan.
Infrastructure and Web Services	**Technology:**	- Technical capacity fot a monitoring system based on the baseline.
	Options:	- As in the Strategic Plan, there are many options for the monitoring activities.
Third Party Integration	**Private Sector:**	- Agreement on the Plan.
	Society:	- Publication of the Assessment and its Baseline and the Technology Development Plan, including the goals that will modify the initial situation.
Evaluation	**Of Procedures:**	- Is there an agreement so the Technology Development Plan is fully accepted?
	Of Outcomes:	- Assessment and Baseline Soundness; Are connectivity and Internet development seen as a political issue with a potential high impact on modernization of the state and development?

STEP 2: E-TENDERING

In this phase we discuss the tendering process. The purpose of the system is to achieve cost saving benefits along with the reduction of time in procurement during this phase. Following are the specific activities associated with this phase:

3.1.4 Posting of tendering opportunities and contract-awarded info on one computing machine.

The first step is to provide a single website, and information of the future tendering opportunities and their results. This allows the use of web services by the vendors and suppliers.

The main recommendations or steps involved in this phase are:

- At first, capacity building of the procurement staff to upload or publish information of the required items directly through the website.

- E-Procurement procedure will always be similar to the traditional tendering and law and standards will remain same that even after the change. The slight difference is that the proposals will be received electronically rather than physical ones.
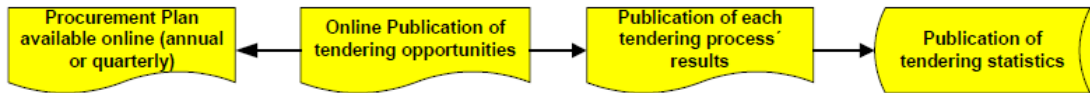
| Procurement Plan available online (annual or quarterly) | ← → | Online Publication of tendering opportunities | → | Publication of each tendering process´ results | → | Publication of tendering statistics |

Main outcomes of the stage:

- **Governance:** Transparency through easy access to information and elimination of exclusions. Facilities for easy public oversight.
- **Efectiveness:** Increased competition. Lower costs for access to business opportunities. Lower costs for the Government to reach a higher number of providers.

Components:

New Functionalities	**Functionality:**	- Single website for all information on public tenders. - Help desk for Government Agency support: Customer service, handling questions of and complaints. - Publication of tendering statistics for public and official oversight.
	Standars:	- Single website (All Government Agencies that have tendering activities must use this website, under the parameters previously specified) - Single codification system for Government Agencies, goods, works and services and tendering process´ identification numbers. - Standard formats for the publication of information .
Governance	**Policies:**	- Published on the single website. - Transfer information from Agencies´ individual websites to a single website.
	Norms:	- Single website and obligation of publication of tenders to be established by law or decree. - Modern interpretation of current laws to allow electronic publication under the existing legal framework. - Remove existing legal obstacles.
Institutional Capacity	**Leadership:**	- Guiding, promotion, marketing - Agreements - Training for Gov. Agencies, suppliers and information users.
	HR:	- For training and wide marketing promotions. - For legal issues - Help desk support: Customer service, handling of questions and complaints - For the Technical Center.
	Financing:	- Training and marketing. - Software (develop, purchase or adapt). - Single Website operation.
Infrastructure and Web Services	**Technology:**	- Website. - Software.
	Options:	- From standard publication of all tenders in a single physical site, to publication on a single website.
Third Party Integration	**Private Sector:**	- Strategic alliances with private sector, media and NGOs for the promoting the use of the website.
	Society:	- Oversight
Evaluation	**Of Procedures:**	- Do Gov. Agencies and the private sctor understand the neccesity of a single website?
	Of Outcomes:	- Are all tenders being published in the single website? Is this information reliable? Are they published on time?
	Of Impacts:	- Has the number of bidders increased? Are statistics used to improve the tendering process?

The outputs that we expect to receive of this stage are:

Bid Advertising

As the tender is posted on websites, posting should be accompanied with detailed information about the required goods or services, deadline of submission, and location of delivery.

Posting Procurement Plan:

In this phase we are going to post future procurement plan. The purpose is to discuss about the long term agreement which allows the suppliers to view the plan and bid accordingly.

Posting result of Tendering Processes.

The successful bidder who fulfils all requirements should be posted along with the expected date of delivery of goods.

3.1.5 Customized Information

After all the basic information regarding the tendering process is incorporated into website we need to customize this information which we can be achieved as under:

Delivery of Customized Information:

After the proper provision of information by all the concerned willing to receive customized information regarding tendering, this information is provided.

Open access to all or any bidding document via web.

Documents at this stage will be provided to bidders for downloading. Furthermore, any additional information to be provided to bidders is also made available. Further steps involved in this stage are:

3.1.6 Setting up Procurement Committee;

The committee we are referring to here means looks after the bidding process involved in electronic or manual bidding. Any disputes arising during the process are also received by this committee.
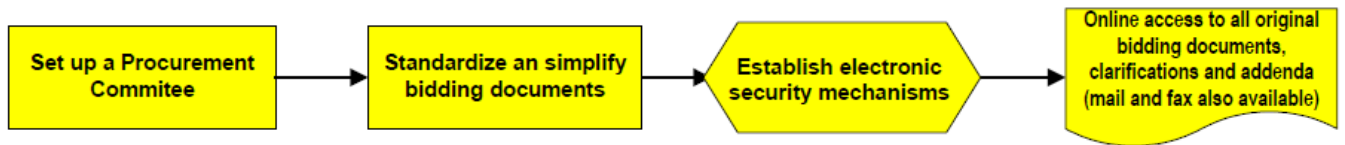
3.1.7 Simplification Along With Standardization of Document;

The document should be kept simple so that everyone understands the term and policies which are common to all suppliers. The bidder qualification criteria should be explained in detail at this point.
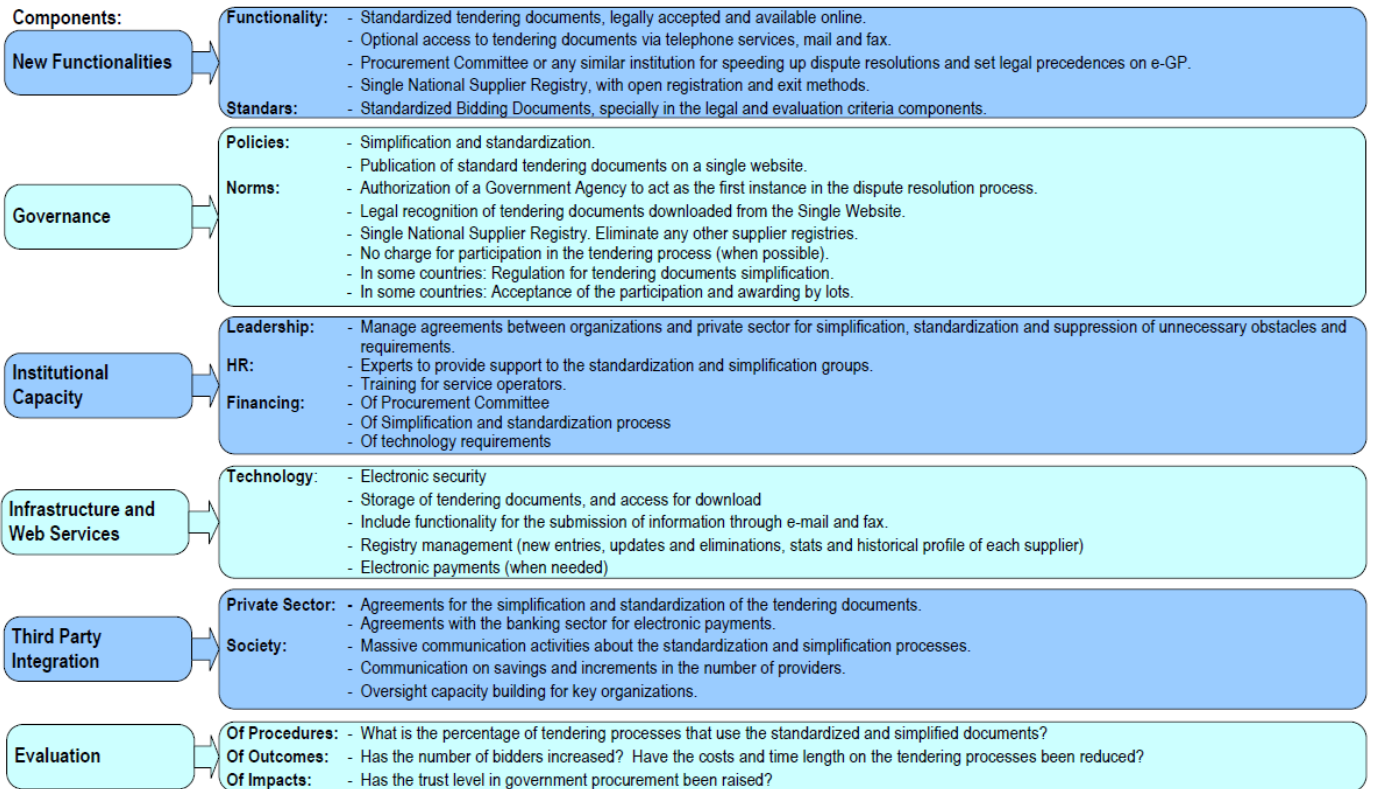
3.1.8 Electronic Bid Submission.

At this stage we are discussing the submission of bid over the defined internet routes. Following facilities are available to bidders and also the obligations from the procuring agency:

- Simplification of Requirement
- Secure Web service or portal
- Less hurdles to submit bidding documents
- Fair treatment to all bidders

```
[Set up a Procurement Commitee] → [Standardize an simplify bidding documents] → [Establish electronic security mechanisms] → [Online access to all original bidding documents, clarifications and addenda (mail and fax also available)]
```

Main outcomes of the stage:

- **Governance:** Transparency through easy access to information and elimination of exclusions. Facilities for easy public oversight.
- **Effectiveness:** Higher Efficiency through savings by procuring agencies and their suppliers, due to standardization, simplification and transparency. First improvements in quality and price.
- **Balanced Development:** Opportunities for local businessess and SMEs. Higher number of participants.

Components:

New Functionalities	**Functionality:**	- Standardized tendering documents, legally accepted and available online. - Optional access to tendering documents via telephone services, mail and fax. - Procurement Committee or any similar institution for speeding up dispute resolutions and set legal precedences on e-GP. - Single National Supplier Registry, with open registration and exit methods.
	Standars:	- Standardized Bidding Documents, specially in the legal and evaluation criteria components.
Governance	**Policies:**	- Simplification and standardization. - Publication of standard tendering documents on a single website.
	Norms:	- Authorization of a Government Agency to act as the first instance in the dispute resolution process. - Legal recognition of tendering documents downloaded from the Single Website. - Single National Supplier Registry. Eliminate any other supplier registries. - No charge for participation in the tendering process (when possible). - In some countries: Regulation for tendering documents simplification. - In some countries: Acceptance of the participation and awarding by lots.
Institutional Capacity	**Leadership:**	- Manage agreements between organizations and private sector for simplification, standardization and suppression of unnecessary obstacles and requirements.
	HR:	- Experts to provide support to the standardization and simplification groups. - Training for service operators.
	Financing:	- Of Procurement Committee - Of Simplification and standardization process - Of technology requirements
Infrastructure and Web Services	**Technology:**	- Electronic security - Storage of tendering documents, and access for download - Include functionality for the submission of information through e-mail and fax. - Registry management (new entries, updates and eliminations, stats and historical profile of each supplier) - Electronic payments (when needed)
Third Party Integration	**Private Sector:**	- Agreements for the simplification and standardization of the tendering documents. - Agreements with the banking sector for electronic payments.
	Society:	- Massive communication activities about the standardization and simplification processes. - Communication on savings and increments in the number of providers. - Oversight capacity building for key organizations.
Evaluation	**Of Procedures:**	- What is the percentage of tendering processes that use the standardized and simplified documents?
	Of Outcomes:	- Has the number of bidders increased? Have the costs and time length on the tendering processes been reduced?
	Of Impacts:	- Has the trust level in government procurement been raised?

The main purpose is to ensure transparent mechanism for the bidder's qualification, and evaluation and the award of final contract.

STEP 3: E-COMPREHENSIVE CONTRACT MANAGEMENT

- The objective is to realize transparency, economy and potency within the procure processes.

- Contact execution management

The contract management involves the following steps.

3.1.9 Contract Performance Management;

This involves monitoring results, delivery according to PO agreement and the desired quality. It is important at this stage to make sure that the evaluation templates should be standardized for each vendor.

3.1.10 Payment Management

This activity refers to the payment management to concerned vendors or suppliers against contracted amount. It also ensures funds management as well.

3.1.11 Contract Capacity Consolidation

This phase is solely managerial phase which we think will optimize the overall system.

STEP 4: E-PURCHASING

The main scope of this is to explain the link between the vendors or suppliers and company or organization in which vendors propose directly their offer against the bidding or purchase request.

The objective is to reduce the transaction cost between the suppliers and procuring agent which also reduces the time. Furthermore, list of different vendors may also help the organization to achieve the cost cutting benefits.

The steps incorporated in the E-Purchasing are as follows.

| General Procurement policies | → | Policy for goods and services to be purchased by Agencies | → | Financing and payments policy | → | Ex-post revision policy |
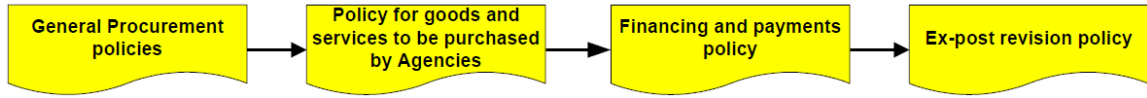
Main outcomes of the stage:

Define game rules to ensure a successful process.

Components:

New Functionalities	Standars:	- Same as the ones defined for Policies.

| Governance | Policies: | - General framework for e-Purchasing: Objectives, players, game rules, agreement scenarios and international integration.
- Standard goods and services that may be procured by the Government.
- Financing methods, terms of payments and compensation to suppliers.
- System operation financed by public funds (recommended), payment per transaction, fixed amount, etc.
- Remove controls ex-ante, and replace them for ex-post control mechanisms. |
| | Norms: | - Norms and regulations for all the policies listed above. |

Institutional Capacity	Leadership:	- Agreement inside the document and in with the private sector.
	HR:	- Experts in all the policies stated above.
	Financing	- Baseline studies. - Agreement processes.

Infrastructure and Web Services	Technology:	None

| Third Party Integration | Private Sector: | - Participation in the creation of policies and standards. |
| | Society: | - Communication of policies and standards. |

Evaluation	Of Procedures:	- Are policies valid for all stakeholders? Is it because of the agreement process?

3.1.12 Orientation of purchasing policies to suppliers/bidders

The general aim is to frame the basic standard for the e-procurement and covers following:

3.1.13 Policy regarding procurement through this system.

This deals with the general policy covering online procurement process. The policy should focus on transparency which will in turn increase competitiveness.

3.1.14 Payment policy;

The payment terms are set in PO against the procurement. At this stage we set the rules regarding the payment system and set it as a standard. It includes:

 The terms and schedule of payment.

The delay amount if any against agreed amount.

3.1.15 Post Procurement Review.

Post procurement review will enable the organization to improve the process further, incorporate the suppliers better in their system.

3.1.16 Supplier enablement

Based on the discussion we did above, the instruments will be prepared and implemented as a standard which will act as the regulatory functions for e-procurement. The instruments we set are as follows:

3.1.17 E-Purchasing Model;

In this we discuss how this system will be made operational. We shall also discuss role of each staff involved in this system, how they can benefits from this system, financial flows and controlling mechanism.

This model accompanies the following:

- Organization Development Plan Phase:

Online procurement process will be resisted by the status quo. In order to break the inertia, the staff will have to be motivated, trained and enlightened about the benefits of the system.

- ITS Developmental Phase;

This includes installation of hardware, software and communications platform.

- Customary Developmental phase;

It includes the extent and implementation programme.

3.1.18 Adaptation of Catalogue;

The catalogue is the essential part of this system which contributes to the efficiency and transparency and that is the purpose of system's implementation. The price ranges from the minimum to percentage increase (i.e. 5 % or 10 %). The procuring agent or department may choose the vendor or supplier, choose the selected goods within that range of prices, and also consider other features that are common in normal procurement methodology such as delivery timing, vendor market reputation and past experience to working with same vendor.

In this system all suppliers and vendors own and maintain the catalogues of their respective company but the things that should be in catalogues in the hierarchy of the organization, language and details of the products.

- System for Referencing Pricing;

The other things for the e-purchasing is the minimum reference price, in this system reference pricing for every item is the basic classification standard. Minimum price bids are accepted if:

3.1.19 Posting of eligible bids on the internet

At this stage the suppliers and vendors will carry out the direct online transaction with the organization. It involves following:

3.1.20 Vendor Registration;

During the e-procurement phase the vendor registry is established and we make it convenient to make this phase as dynamic and efficient as possible. It should be preferable to make the online registration to be enabled and free of charge. If we have any fee for the

bidding document the facility to update the account number or online facility bidding fee should not give the discrimination effect against some countries.

Vendor should be given the access to enter and exit the system by their choice and once they are registered then they have the choice to post the bids for the inputs. Eligible vendor will be those whose bid comply with the organization's stated requisites and also fall within the price range as explain above.

3.1.21 Online availability of eligible quotations;

After the above stated process procurement department will have list of all the eligible vendors or suppliers against procuring goods for the locality.

3.1.22 Electronic processing of transactions

The E-Purchasing of the recommended process starts at this phase. It involves following steps:

3.1.23 Online Processing of Purchase Orders.

After the selection of eligible vendors the organization at this stage selects bid that constitutes the best value and subsequently order the selected product online.

The selection of bidder must agree with the general supplier selection criteria that we have discussed previously, while providing the organization with some liberty of convenience without deviation from general guidelines.

3.1.24 E-Receipt and Management;

The organization at this stage registers the delivery of order, authorizes payment and updates the account of inventory

3.1.25 Online Control;

The previous discussion provides the control mechanism which helps the agent to hold record on inventory.

3.1.26 Personalized services, and supply-side incentives

In this phase the necessary conditions have to be created for provision of necessary and user specified information to facilitate multiple oversight of this process. This stage involves the following:

3.1.27 Self-Transmission of user specific information on demand;

This defines the information that is published online, while purchasing transaction takes place. Thus the management will be able to gather information and detail of the transactions including value.

Self-Transmission of User Specific Information On demand;

In this e-procurement any person or vendor may register in order to receive information.

Strategic designing of e-procurement system

The strategic design of e procurement system includes the following

- Higher Management and their authority

- Procedure of working and implantations

- Donor involvement

3.1.28 Integrating step of Supplier and purchaser activation

As discussed above, successful strategy also should also include awareness among the organization and vendors and encourage the vendors and suppliers to come forward through this system.

It is important for the organization to understand and adopt this system as compared to traditional system of procuring the things both. The organization and vendors or suppliers will need to learn the new procedure and understand this is helpful for both parties. This means that the vendors or suppliers will be qualify with the information they can provide through online system

Target Audience	Concerns	Key outcome	Strategy

• Existing Vendors
• Sub vendors
• Support businesses
• Supplier vendors in case of designing phase
	• Competitions
	• Cost
	• Technology awareness
	• Your tax Numbers
	• Profile of the company
	• Internet connectivity
	• Technological equipment
	• Cataloging
		• Why e procurement concerns
		• Value preposition of e-procurement
		• Long term concern of e-procurement
		  • Greater opportunities
		  • Convenient
		  • Transparent systems
		  • Assess to documents
		  • Standardized documents
		  • Whistling blower service
			• Trainings
			• Broachers
			• Online detail information
			• Demonstration services
			• Assistance from procurement team
			• Business to business links
			• How to download the tender document

Table 1 Supplier Integration Activation

Target Audience	Concerns	Key outcome	Strategy
• Procurement team • Small scale vendor • Finance team • Professional capacity building • Include purchaser in the designing phase	• Transparency • Connectivity • Centralization process • Preferred vendors • Cataloging • Your procurement policies • Organization objective • Performance concern of procurement staff	• Convenient process • Procurement process transparency • Discrete process • Controlled process • Professional Enhancement of procurement team	• Online resource and information sharing • Interactive and self-explanatory demonstration • Organization developed templates • Support to supplier for new system • On demand Published broachers • Need based Trainings and workshops to staff and vendors

Table 2 Purchaser Activation

3.2 MANAGING THE CHANGE FROM ORTHODOX TO E-PROCUREMENT

First to discuss further we should highlight the challenges that would create problems in the implementation of new system:

- Lack of governance

- Lack of implementation planning

- Unavailability of expert team

- Change is hard to digest

- Lack of process management

4 LEADERSHIP, CHANGE MANAGEMENT AND COMMUNICATION STRATEGY

4.1 The importance of leadership

Leadership is the most essential part which I consider of utmost important in the implementation of the e-procurement which enhances authority and:

- The desire and result oriented vision to implement.

- Interdepartmental coordination

- Change old procurement methodologies

The interdepartmental coordination is important in implementation of e-procurement because all departments will need to understand the importance of this new process that changes the procurement process.

E-Procurement strategy will be strengthened by:

- The strategy that supports the change process and shows that individuals will have same powers as before

- Training programmed to enhance professionalism

- The desire to change from higher management

- Develop high skill level

4.2 The need for change management

Various factors highlight the need to implement e-procurement process. Use of e-procurement is not difficult to implement and use but resistance to change is the difficult

part in this process. For successful implementation of process we need to identify the change drivers.

4.3 Designing a communications strategy: A NEW COMMUNICATION CHALLENGE

Communication is necessary for implementation of this process because communication is only the way to reduce friction, if any, exists between the departments or persons for implementing this process. Effective communication not only minimizes the hurdle but also helps to realize that change is good for all of them. At this stage, we focus on five communication factors and channels that we have studied in our degree programme as well which are:

- Audience

- Their aptitude

- Message channel used to communicate message

- Feedback

Communication strategy needs following precautionary measures which should be kept in mind:

- Need of the Members Organization

- Member's outcome for expected implementation

- Behavior of concerned department

- Keep in mind change is difficult to digest

- Avoid hierarchies

4.3.1 Need of Members

It is first important to identify the needs of the organization's members, which is cost efficient while procuring the asset, or supplies, for this instance we segregate the members of the organization into three which is:

- Main Members – Main body or members who support the change.
- Second Tier Members – In secondary tier I place and consider the persons or members who are involved in procurement process directly or indirectly which may cause the resistance in adapting new process;
- Third Tier Members – It includes the person who are donors or the agents with whom we have long term agreement.

4.3.2 PROCESS INFLUENTIAL FORCES

Following forces impact the change process:

- Team members who are interested in new process and support the change.
- The **Resistant and Crowd Force** may be directly the team, who are responsible for procurement as per old method and opposing change by describing the benefits of old process. Then comes the crowd who is not the team but back the resistant forces.

4.3.3 VARIOUS TARGET STRATEGIES

Various strategies should be considered to implement the new process. Opposing and motivating forces will be there at every step therefore, managing these forces by utilizing effective strategies will help in implementation of new process.

4.3.4 INFERENCES

- The change process should be well address by questions Who and Why

- Second, effective communication should be adopted which may help to reduce the friction of change.

- Third, the effective training before final implementation which helps understand meaning of this new system

FUNCTIONAL AND NON-FUNCTIONALITY REQUIREMENTS

4.4   FUNCTIONAL REQUIREMENTS FOR IMPLEMENTATION PHASES AS DEFINED BY MDB

In this section we explain the functions that are extracted from the implementation of the E-Procurement system that is either developed by the organization or engage external agencies for provision of services. First step is to be taken by the organization to see what systems are available. The characteristics of the system or specifications are defined in two ways in terms of functionality requirement or the non-functionality requirement.

The suggested order of implementation phases is as follows:

4.4.1   E-TENDERING: The E-Bidding or E-Tendering will be used for

- High Value Goods

- Low Value Goods

- High/Low value Services

The purpose of this is transparency and to follow the procurement process through contract award.

4.4.2 E-PURCHASING:

The segregation of goods is same as we have defined in the E-Bidding or E-Tendering process. We use the list of recommendable vendors for purchase.

4.4.3 E-Procurement Reverse Bidding:

The process of E-Procurement reversal bidding is similar to E-Purchasing except that the online quote facility has the capacity to operate interactively in real time with bid prices posted instantly. We can also described this process as an online ,real time dynamic auction bridge between the organization who buys with the different number of suppliers who competes against each other to win the bid by quoting successfully lower priced bids during the defined time period. The reversal process is the optimization process design to facilitate changes for the user of the organization which starts from the simple process to adopt change and then to the complex process along with the controlled development process.

4.5 NON-FUNCTIONAL REQUIREMENTS
Non-functional requirements define systems qualities. They are as follows:

4.5.1 Usability:

 The e-Procurement system should be user friendly and assist the user and same applies to the suppliers as well. It also involves the training session to the procurement department and suppliers as well. Simulation game and manual will help users at this stage.

4.5.2 Reliability :

When defining the factors of reliability the contract authority needs to specify the conditions for instance, the reliability of IT system depends on the user request load and

decrease as well when simultaneous transactions increase. The reliability also addresses following:

- Easy accessibility

- Minimum disruptions

- Non violation of confidentiality

- Transparency of process.

When implementing the system the central management needs to specify the requirements of reliability according to the region of implementation and estimated usage of system.

4.5.3   Interoperability:

Interoperability refers to the process where the business goals and modelling of the business process is defined. It helps in exchanging information between different elements of organization, especially when structure of organization is not homogenous.

4.5.4   Security:

The security should be considered as a core function of system. It should cater for the reputation of businesses, requirements of the country where it operates, damages due to potential loss of critical information.

ESTIMATING COSTS OF E-PROCUREMENT IMPLEMENTATION

4.6   COSTING METHODOLOGIES

Cost of e procurement can be estimated as follows:

4.6.1   Planning phase

- Business planning costs

- Marketing planning costs

- System planning costs

4.6.2 Implementation phase

- System acquisition costs

- System development and implementation costs

- Costs of organizational change

4.6.3 Provision

- Own personnel operational costs

- Material operation costs

- Other operational costs

4.6.4 Maintenance

- Hardware maintenance/service costs

- Software maintenance/service costs

- Hardware/software upgrades costs

- Hardware/software replacement costs

4.6.5 Performance measurement and quality control

- Own personnel costs for input and output data gathering activity

- Own personnel for quality inspection/certification costs

- Costs of surveys of internal user satisfaction and attitudes

- Costs of surveys of external users satisfaction

4.6.6 Research and development

- Costs for research on and for initiatives in support of service take up

- Costs for research and development of interoperability

- Costs for technological R&D to increase accessibility/usability of services

- Costs for R&D on new contents/new services

5 TECHNOLOGIES AND APPLICATIONS
5.1 Brief overview of our electronic procurement system

First to decide the implementation of the E-Procurement whether it is purchased or

developed, it is necessary to identify important factors which we have highlighted above:

- Total Volume of Procured goods

- Number of Procured transactions

- Number of goods procured

- Total value of goods procured

- Capacity for which implemented the e-procurement system.

5.2 Stages of deployment
For the deployment of new system such as electronic procurement system, following will

be required:

- Servers – Beyond blades

- REST/SOAP Based Web app

- Middleware

- Edge Computing

- Social Media Involvement

- BI System

- Low power consumption equipment

5.3 RISK MANAGEMENT AND ANALYSIS
Process of assessing risk and limiting it to a suitable level and subsequently

implementing proper tools to ensure risk remains below acceptable level, is referred to as

it Risk Analysis and Management. Risk analysis has four major goals:

- Classification of exposed and zero day vulnerabilities

- Classification and value of asset

- Cost and expense balancing on basis of financial and economic means

5.4   SECURITY ISSUES

Various security mechanisms give a secure communication interface, chiefly for the exchange of documents between procurement authorities and economic operators. The standards and therefore the needed specifications got to be provided for guaranteeing adequate authentication, digital signature, non-repudiation, knowledge integrity and secret writing. To provide a secure atmosphere following facilities are importatnt:

- AAA

- CIA (confidentiality, integrity, Availability)

- Audit Facility

- Firewalls

- Non-repudiation

- Secure communication (data transfer) with the client (user or third party system/application)

- Ciphered stored data

- Data leak prevention

- IPS/IDS

- Digitally signed documents

5.5   SYNOPSIS OF AUTHENTICATION METHODS

Various methods of authentication have been developed during the past several years, where a system authenticates a person with exchange of information we provide. During

validation of that information, it matches with an existing sample. This is a generalized technique to authenticate. With this universal definition, we can conclude below mentioned different modes of authentication:

- A piece of code that a person needs to remember such as, personal identification number, some pass code.

- Facial recognition system or finger prints capturing device.

- Smart card or RFID.

5.6   SSL Certificates and CA (certificate authorities)

We will be using Digital Signatures which involves Cryptography. In this Text Cipher technology, two passwords known as Key are generated. They are called Public key and Private Key. These keys are used to authenticate data from departure till the arrival, from one location to another. These Signatures also known as SSL Certificates are generated by well-known authorities, called Certificate Authorities. They actually are verifier of these Certificates.

The implementation of the e-procurement is the sound solution for the cost reduction and enabling the procuring company to negotiate at better price. The process of e-procurement is the broad phenomena and touches the internal and external aspects of the company.

REFERENCES

[1] Heizer, J., & Render, B. (1999). *Operations management*. Upper Saddle River, N.J: Prentice Hall.

[2] Handfield RB, Nichols Jr EL. Introduction to supply chain management. Upper Saddle River, NJ: Prentice-Hall; 1999. p. 2.

[3] Dobler DW, Burt DN. Purchasing and supply management. New York: McGraw-Hill; 1996. p. 9.

[4] Nelson D, Moody P, Stegner J. The purchasing machine. New York: The Free Press; 2002. p. 184.

[5] Whyte CK. E-procurement: the new competitive weapon. Purch Today April 2000;25.

[6] Turban E, Lee J, King D, Chung MH. Electronic commerce. Upper Saddle River, NJ: Prentice-Hall; 2000. p. 224 – 5.

[7] https://www.un.org/Depts/ptd/about-us/procurement-manual

[8] https://www.un.org/Depts/ptd/sites/www.un.org.Depts.ptd/files/files/attachment/page/pdf/general_condition_services.pdf

[9] https://www.un.org/Depts/ptd/sites/www.un.org.Depts.ptd/files/files/attachment/page/pdf/general_condition_goods.pdf

Annexure

FINANCIAL

| DONOR	VENDOR	ITEMS PURCHASED	QUANTITY	UNIT PRICE	SUM RS.	SUM ($)
CERF	Nizam	Kitchen Sets	200	2490	4980000	58232
			500	2490	2490000	28888
			1500	2490	3735000	42371
			2900	2540	7366000	85452
			2000	2450	4900000	568445
			7700	2450	18865000	218852
ECHO	Paramount	Kitchen Sets	8500	1965	12183000	138208
JAPAN	Nizam	Kitchen Sets	4000	2450	9800000	113689.1
	Paramount	Kitchen Sets	1500	1965	5895000	66050.52
OFDA	Lali Rooters	Kitchen Sets	6200	1935	11997000	134269.73
USAID	Paramount	Kitchen Sets	6200	1965	16702500	189478
(BLANK)	(blank)	Kitchen Sets TOTAL	41700	(blank)	98913500	1643935.4
GRAND TOTAL					197827000	3287870.7

Table VI General
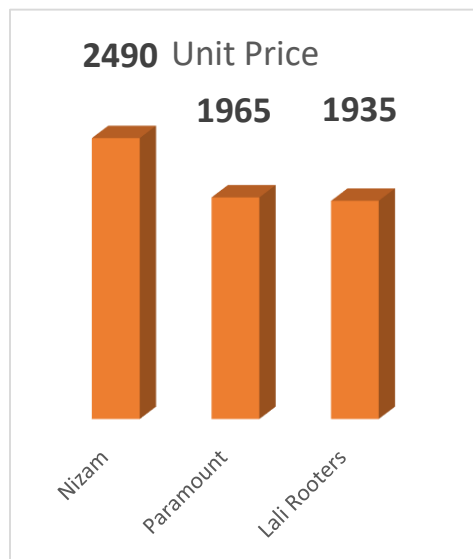
Figure V General
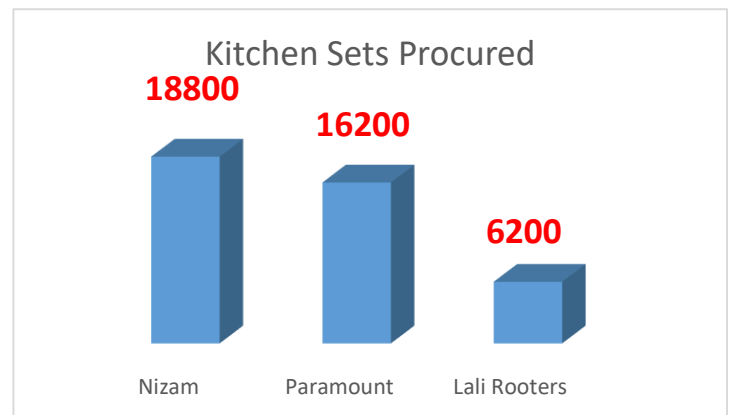
Explanation:

Referencing the Kitchen sets procured by different vendors it can be clearly observed that almost all vendors bid variety of unit price. Due to immaturity and non-linearity of procurement system different vendors have quoted fluctuating unit price which resultantly increases the cost of procurement.

CIDA

VENDOR	ITEMS PURCHASED	QUANTITY	UNIT PRICE	SUM RS.	SUM $
F & N	Quilts	16000	635	10160000	117865
ITIERS	Shawls 8' x 4'	16000	435	6960000	80743
NIZAM	Plastic Tarpaulin Sheets 4m x 5m	2000	1500	3000000	33860
	Raised bedding	8000	1750	14000000	158821
PARAMOUNT	Hygienie Kits	1800	1409	4227000	47361
	Plastic Tarpaulin Sheets 4m x 5m	3600	1225	4410000	49412
PREMIERS	Blankets Summerized	7200	220	1584000	17748
VARAN WORLD	Sleeping Mats 180cm x 90cm	3600	161.5	581400	6514
	Water Coolers	1800	385.5	693900	7775

Table VII CIDA

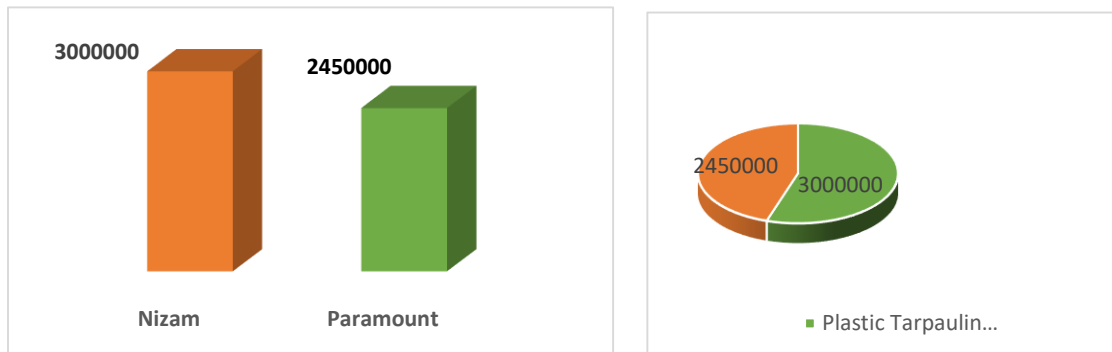| Plastic Tarpaulin Sheets 4m x 5m		
Nizam	Paramount	
3000000	2450000	550000

Explanation:

Figure VIII CIDA

Explanation:

For the tarpaulin sheet with the specs of 4m x 5m, Bidder Nizam and Paramount have quoted different unit prices. If the procurement timelines were in place, vendor negotiation could chance winning bid of lower quoted bid which eventually bring secure the cost of procurement uptil Rs. 550,000/-

DFID

| VENDOR	ITEMS PURCHASED	QUANTITY	UNIT PRICE	SUM OF TOTAL PRICE (PKR)	SUM OF TOTAL PRICE $
AFFINITY	Bamboos 2" x 20'	14285	260	3714100	43187
		57715	260	15005900	174487
	Bamboos 4" x 20'	144000	380	54720000	620760
HURRET	Rope 6mm x 30m	37440	81.8	3062592	35611.6
		18000	81.8	1472400	17121
ILLUMINATION	Solar Lamp	2000	612.02	1224040	14200
NIZAM	Poles and Pegs	25000	770	19250000	225093.5454
		14847	850	12619950	146404
		22593	850	19204050	222785
QINGDAO	Plastic Tarpaulin Sheets 4m x 5m	36000	952.51	35066070	397800
TECHNO MANIA	Solar Lamp	18000	666.3	11916360	138240

Table IX DFID
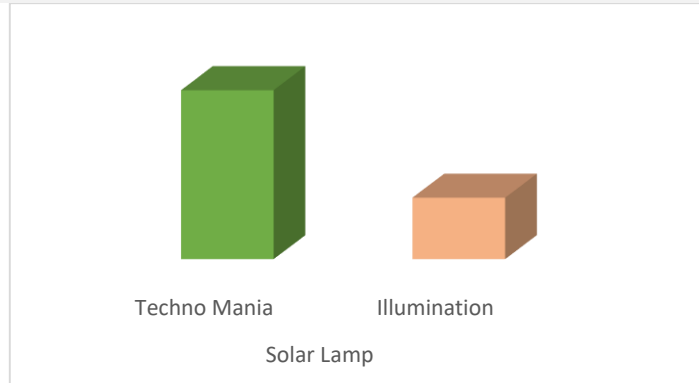
Figure X DFID

Explanation:

Techno mania and Illumination only participated in the bidding. Due to less participation of vendors, lower capacity management and no database maintenance of eligible suppliers we procured on higher charges. If we had developed e-bidding mechanism where we could maintain database of eligible suppliers we could have enhanced the institutional capacity and governance with average of Rs. 54.28 could be secured.

ECHO

| AFFINITY	BAMBOOS 2.5" X 20'	6000	260	1560000	17479
	Bamboos 3" x 20'	34000	335	11390000	132135
NIZAM	Shawls 8' x 4'	34000	425	11390000	129138
PARAMOUNT	Blankets(High Thermal)	34000	610	20740000	240603
	Kitchen Sets	8500	1965	12183000	138208
	Plastic Tarpaulin Sheets 4m x 5m	6000	1225	7350000	82353
QINGDAO	Plastic Tarpaulin Sheets 4m x 5m	17000	952.51	16852100	187850
SHACO-2	Bamboos 3"top X 20ft	36000	369	13284000	148840
TECHNO MANIA	Solar Lamp	8500	666.3	5627170	65280
VARAN WORLD	Sleeping Mats 180cm x 90cm	17000	161.5	2745500	31850

Table XI ECHO
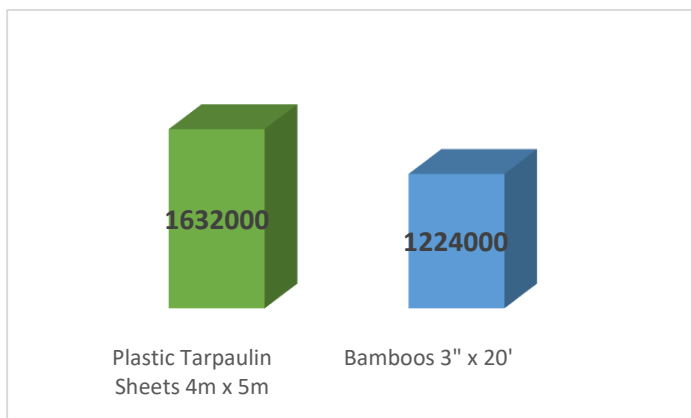
Figure XII ECHO

Explanation:

If application of Online Public report was implemented which includes statistics and case study of previous procurements. Productivity and competition of bidders could have been greatly achieved.

OFDA

AJMARI	TENTS	2000	12500	25000000	29003
		858	12500	10725000	124419
F & N	Quilts	9000	635	5715000	66299
ILLUMINATION	Solar Lamp	2000	612.02	1224040	14200
ITIERS	Shawls 8' x 4'	9000	435	3915000	45418
		24800	435	10788000	125442
KAMRAN & BROTHERS	Bamboos 3"top X 20ft	74400	360	26784000	299932.81
LALI ROOTERS	Kitchen Sets	6200	1935	11997000	134269.73
NIZAM	Hygienie Kits	6200	1400	8680000	97146.05
	Raised bedding	4500	1750	7875000	89337
PARAMOUNT	Blankets (low thermal)	4000	325	1300000	15082
	Blankets(High Thermal)	24800	610	15128000	175499
	Hygienie Kits	3000	1409	2536200	28417
		6200	1409	8735800	101343
	Plastic Tarpaulin Sheets 4m x 5m	6000	1225	7350000	82353
		12400	1225	15190000	170006
	Raised bedding	6000	2390	14340000	160492.45
QINGDAO	Plastic Tarpaulin Sheets 4m x 5m	12400	952.51	11811124	137020
TECHNO MANIA	Solar Lamp	6200	847.94	5257228	58871.53
VARAN WORLD	Water Coolers	3000	385.5	1156500	12958
		6200	385.5	2390100	26749.86

Table XIII OFDA

Plastic Tarpaulin Sheets 4m x 5m	
Paramount	Qingdao
22540000	17526184
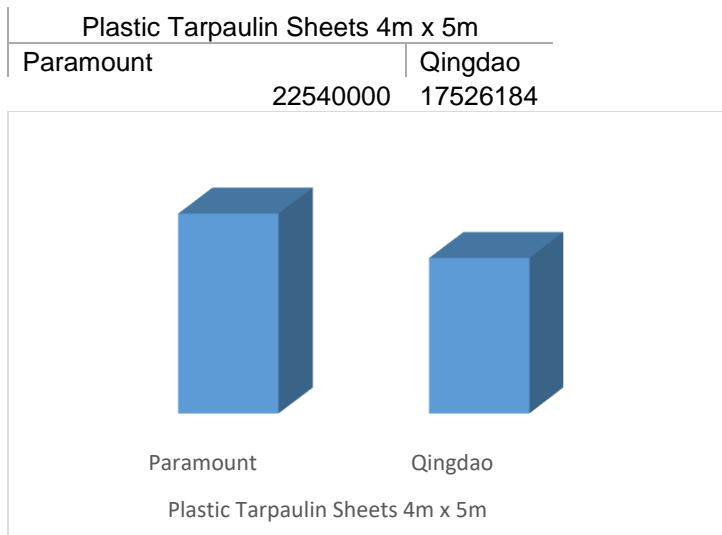
Figure XIV OFDA

USAID

AFFINITY	BAMBOOS 2.5" X 20'	12400	250	3100000	34695
PARAMOUNT	Kitchen Sets	6200	1965	16702500	189478
PREMIERS	Blankets Summerized	12000	220	2640000	29580
		24800	220	5456000	61063.23
TECHNO MANIA	Solar Lamp	6200	666.3	4104524	47616
VARAN WORLD	Sleeping Mats 180cm x 90cm	6000	161.5	969000	10857
		12400	162.5	2015000	22551.76

Table XV USAID

Japan

AJMARI	TENTS	1000	12450	12450000	139495
F & N	Plastic Silos	1000	2000	2000000	23255.9
		11000	1225	13475000	156686
	Quilts	5600	635	3556000	41253
HANIF & YOUSAF	Wheel Barrows	22000	2393	52646000	589871
ILLUMINATION	Solar Lamp	17700	612.02	10832754	125670
		8000	612.02	4896160	56800
ITIERS	Shawls 8' x 4'	5600	435	2463000	28260
NIZAM	Hygienie Kits	5000	1400	7000000	78431
	Kitchen Sets	4000	2450	9800000	113689.1
	Plastic Tarpaulin Sheets 4m x 5m	8000	1445	11560000	134419
	Raised bedding	2800	1795	5026000	5871
PAK BUSINESS	Tool kits	30000	1500	45000000	507900
		58000	1500	87000000	1009281
PARAMOUNT	Blankets(High Thermal)	8000	325	7507500	87094
			615	4920000	572093
	Hygienie Kits	5000	1400	7000000	78431
	Kitchen Sets	1500	1965	5895000	66050.52
TANOLI ENTERPRISES	Wheel Barrows	8000	2393	19144000	214458
VARAN WORLD	Sleeping Mats 180cm x 90cm	8000	161.5	1292000	15024
	Water Coolers	3000	385.5	1156500	12958

Explanation:

Through e-procurement system, department wise focal persons could form a committee ultimately making the procurement process transparent. The user department which need the equipment would have more clear vision and objectivity of proposed bids. Vendors could be approached by committee for clearing arguable bid statements online which would make the complete process visible to public and indirectly ensuring accuracy of procurement system. This whole system also prevents legal actions of vendors against mishandled procurements.