

Perceived Benefits Related to Anti-Corruption from e-Tendering System in Nepal

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Abstract: Public e-Procurement can be used as a tool to minimize corruption in public procurement. The aim of this research is to determine the perceived anti-corruption benefits of public e-Tendering which can help to minimize the human interference in public contracts. Structured questionnaire was designed for collecting primary data and telephone interview was conducted with the representatives of different government departments and their suppliers in Nepal. The results show that e-Tendering System has potential for to provide more transparency and accountability, especially by reduces the chances of corruption in public contracts in particular about 90% respondents agreed that automation capabilities of e-Tendering significantly increase the transparency and accountability in public sectors.

Key words: e-Tendering System, perceived benefits, human interference, public sectors, Nepal

INTRODUCTION

The term corruption is defined by the World Bank (2000) and Transparency International (Kostyo and TI, 2006) as the misuse of public office for private gain. Similarly, United Nations Development Programme (UNDP, 2008) has defined it as misuse of entrusted power for private gain. The form of corruption can be stated as bribery, embezzlement, theft, extortion, abuse of discretion, favouritism, exploiting conflicting interests and improper political contributions (UNODC, 2004). Mainly it distorts resource allocation and government performance (World Bank, 2000) and impedes development through the weakening of national institution, raising business costs, discouraging domestic investments, eroding trust and generating a perverse incentive system (Lio *et al.*, 2011).

In recent years, reducing corruption has been the main political agenda in Nepal. The level of the corruption is spreading at not only government level but also in each and every sector of Nepalese society. Subedi (2005) highlights that Nepalese bureaucracy system, political parties and their cadres and the business sectors are seriously affected by corruption. Relevant factors pertaining to this situation include weak anti-corruption law, lack of leadership power in political parties, lack of education, lack of rule of law, lack of monitoring by the civil societies and economic status of the country.

Transparency International (TI) Corruption Perception Index (CPI) ranks 183 countries and territories according to their perceived levels of public sector corruption in a scale from 0 (highly corrupt) to 10 (highly clean). CPI index 2011 indicates that Nepal is the second most corrupt country in South Asia. New Zealand is tied at the top country with the score of 9.5 followed closely by Denmark and Finland at 9.4 as non-corrupted countries while North Korea and Somalia are at the bottom as corrupted countries.

Table 1 shows that the CPI 2011 ranked Nepal in 154 positions out of 183 countries with a corruption score of 2.2. This is deterioration for the poor position. In 2004, the ranking of country score was 2.8 and rank was 90. Similarly, in year 2005-2007 corruption ratio was constant 2.5 but in ranking was slightly changed 117-131.

In comparison to 2010, Nepal experienced more corruption in 2011 and the CPI rank of the country is down by 8 points. The Table 1 shows that the level of corruption is increasing every year. In Nepal, there exists official corruption both with executive member of the government and the civil servant that work in bureaucratic positions (Subedi, 2005). Some factors that create a favourable environment for corruption include weak professionalization of the bureaucracy of the country, lack of accountability and transparency in the government work and services, weak separation between civil service

Table 1: Transparency International, corruption Perception Index (CPI) Nepal (2004-2011)

Years	2004	2005	2006	2007	2008	2009	2010	2011
Score/Total score	2.8/10	2.5/10	2.5/10	2.5/10	2.7/10	2.3/10	2.2/10	2.2/10
Rank/Total country	90/146	117/159	121/163	131/180	121/180	143/180	146/178	154/183

and partisan politics and lack of political control and auditing, lack of political stability (Kolstad and Wiig, 2009; Del Monte and Papagni, 2007; Subedi, 2005).

The basic principal of the public procurement is straightforward: Acquire the right item at the right time and right price and it should be carried out in an open objective and transparent manner. However, in most of the developing countries, public procurement process is one of the most vulnerable areas of corruption. Every year, they spend billions of dollars on goods and services, information and communication technology and construction through their budgeting process. Public procurement accounts for almost 20% of gross domestic product in developing countries.

Tendering and contract award is one of the most vulnerable stages of public procurement process where corruption occurs most in developing countries. It is also, the main problem in Nepal because most of the government contracting process is done through a paper-based system. Due to the traditional paper based system, there is a potential to avoid rule of law for securing contracts (Bhattarai, 2011). The tendency is that the potential contractors who use their coercive power, get the contract in some situations, other contractors are simply not able to submit tender document because of perceived coercive threatening from other influential contractors. Furthermore, government officers are also involved indirectly and abuse their official power for their private benefits. This eventually leads to institutional corruption in public procurement where parties with vested interest have opportunities to play their roles in public procurement for their own benefits. For example, Commission for the Investigation of Abuse of Authority (CIAA) pointed out the corruption in Armed Police Forces goods and weapons and 36 senior police officers are involved in Darfur Scam. CIAA filed case against these officers at special court and charged around Rs. 288.1 million and up to 10 years jail terms (Luitel, 2011). There are of course many cases of corruption in Nepal which are on many occasions protected by the political parties participated in the government.

To overcome this serious problem of corruption in Nepal and other countries, Information and Communication Technology (ICT) can be used as one of the anti-corruption strategies by promoting good governance, enhancing relationships between government employee and citizens tracking of activities,

monitoring and controlling the government employee and reducing potential aspects of corrupt behaviours.

ICT enabled technology such as public e-Procurement can play an important role for minimizing the risk of corruption in public procurement process (OECD, 2008). Public e-procurement is an Inter-Organizational Information System which automates any part of the procurement process in order to improve efficiency, quality and transparency in government procurement (Vaidya *et al.*, 2006). Vaidya (2007) defines public e-Procurement as follows: public electronic procurement is the use of any internet-based inter-organizational information system which automates and integrates any parts of the procurement process in order to improve efficiency and quality in procurement and promote transparency and accountability in the wider public sector. e-Tendering is one of the e-Procurement tools which has been defined as the electronic publishing, communicating, accessing, receiving and submitting of all tender related information and documentation via the internet, thereby replacing the traditional paper-based tender processes and achieving a more efficient and effective business process all parties involved (Christensen and Duncan, 2006).

Themetic issues for addressing corruption: Online bidding is one of the concepts of online marketplace whereby website allows buyers to post their requirements in real time bidding events and potential suppliers and service provider can complete to sell their products or services to the buyer. This process reduces the chances of corruption and minimise the errors of human interaction. However, in absence of online bidding according to Bhattarai (2011), bidders often form a cartel by which they try to manipulate the award decision in their favour with or without the involvement of an official.

Perceived anti-corruption benefits of e-Tendering: e-Tendering is a powerful technology among the government agencies for ensuring the transparency (Doyle, 2010b), enhancing efficiency, increasing accountability and economic performance of the country. e-Tendering System publishes the tendering opportunities publicly on the government websites and as a result it can eliminate the probability of risk in government procurement process mainly in project planning, product designing and documentation, tender process, contract awards accounting and auditing

(Szymanski, 2007). Similarly from supplier perspective, it increases sales productivity, accuracy orders, fast receipt of orders, reduces time for receiving payment and real time order status information. These benefits can be linked to different factors such as real time order status link to transparency, effective monitoring linked to lack of control, improved contract compliance linked to lack of accountability and increase information on suppliers to limit access to information. Some of public e-Tendering benefits are as follows:

- e-Tendering can centralize data in order to improve audit and analysis (Gupta *et al.*, 2009)
- e-Tendering eliminates the direct human interaction on bidding and other work and services thus corruption is decreased significantly and internal efficiency increase in government department (Kajewski *et al.*, 2001)
- From e-Tendering System, government can monitor all the works and services easily and efficiently
- e-Tendering System provides better status in monitoring and tracking of application
- It increases transparency in works and services and increases better interaction between supplier and vendors and citizens through online system
- Online Bidding System automatically reduces the cartel, collusion and riggings among the bidders
- Make a government tender process faster and easier and services available to citizens 24/7 and promotes overall e-Commerce imitative (Kajewski *et al.*, 2001)

Nepal government has started to implement e-Tendering System in some government departments in the past, all the contracting or tendering was done through traditional paper based system. All the tender applications were paper applications submitted through postal service or personal submission at the procurement official's

office. Currently, the tendering process takes place in the web-based environment. For example, Department of Roads (DOR) has recently introduced new concept for modernizing and automating the procurement process. DOR has e-tendering contracts development projects ranging from US \$1900-6.52 million annually. In year 2010, DOR saved US \$39 million through e-tendering and it solved 80% problems which were cropped up during the submission of tenders manually (Bhattarai, 2011). Table 2 shows the comparison between manual and electronic system for solving tendering issues in Nepalese context.

Similarly, other department such as Department of Urban Development and Building Construction (DoUDBC), Department of Local Infrastructure Development and Agricultural Roads (DoLIDAR), Nepal Electricity Authority (Manea and Popa, 2010), Office of President of Nepal (OoPA), Government of Nepal, Ministry of Industry, Special Economic Zone Project (SEZP) and Melamchi Water Supply project are implementing e-Tendering System lately.

Conceptual model and hypothesis: Adoption of e-Tendering System can result in efficiency, transparency and reduction of the human errors in government and suppliers contracting relation. This conclusion is based on the hypothesis that e-tendering system provides anti-corruption benefits to government and suppliers. The main responsibilities of government department are to make tendering process open objective and transparent. Nevertheless, still there are different issues that cause corruption in government contracting process such as transparency and accountability, direct human interaction and political or government officer monopoly power.

Transparency and accountability: Lack of fairness and transparency in public procurement opens the door for

Table 2: Comparison of manual tendering and electronic tendering processes

Manual system for tendering process	Electronic system for tendering process
Longer time to complete tender process, it usually takes around 5-6 months to complete	Through e-Tendering System, government can do tender process faster usually takes 20-30 days
Tender submission process is through post or personally drops off; in these situations government officers have more chance of misusing document or hide the real tender document and do not register the document as well	Online submission provides less chances of misusing or hiding of tender document
Supplier or bidder cannot view the tender process	Supplier or bidders can view all the bidding process through on line
Contractor uses to unwanted party such as briber or other physical force to win the contract. For example, sometimes they stop other contractor for tender submission	Through the online process, bidders can submit tender through online system, They have no any obstacles for tender submission
In manual tendering, there is high chance of misuse of power. In some cases, government officials have misused the power for their own benefits. They may provide a contract for their own company/personal for bribery	e-Tendering provides the equal conditions to bidders so that they can attend to public institutions, regardless the company size. Bidders can have access to government bid information at their suitable time

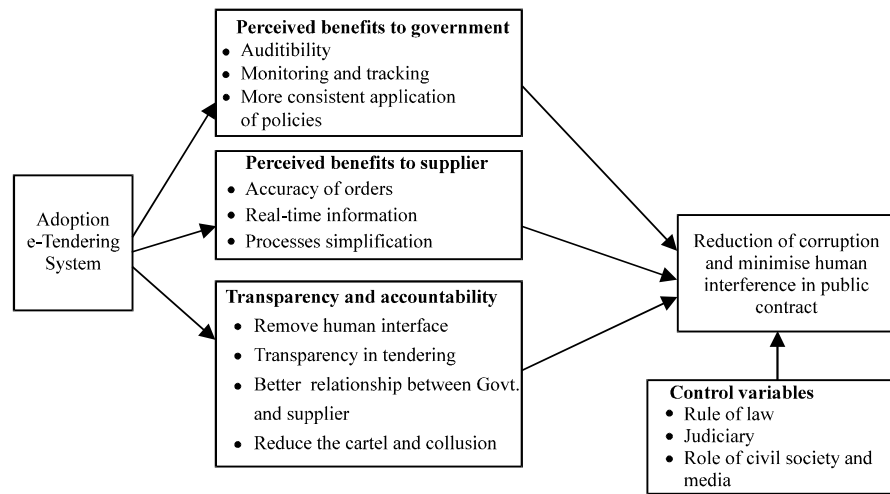


Fig. 1: Anti-corruption characteristics of e-Tendering for government and suppliers research model

the public officials such as government officers, politicians to abuse their offices for private gain (Ateljevic and Budak, 2010). Accountability is the degree which government has to explain or justify what they have done or filed to do. Transparency and accountability improve information exchange fairly and easily including other intangible benefits such as better relationship between government and suppliers and administrative efficiencies (Henriksen and Mahnke, 2005) (Davila *et al.*, 2003). With the use of e-tendering, information can be published online, processes and decisions can be traced for auditing and analysing and there can be rules for compensation where accountability is not delivered. e-Tendering System can streamline the entire tendering process (Doyle, 2010a) and it improves audit and analysis (Lou and Alshawi, 2009). With e-Tendering System, government can monitor all works and services easily and efficiently. in addition, it eliminates the human interface in public contracting process. The conceptual framework below depicts the perceived anti-corruption benefits of e-Tendering (Fig. 1).

MATERIALS AND METHODS

A structured questionnaire interview was used for data collection. The interviews were particularly useful for capturing the participant's experience. In this research, the questionnaire items were designed to ask respondents' experience about the perceived benefits of the e-Tendering System. Therefore, primary data were collected based on the respondent's perception through telephone interview. Respondents were selected from different government department of Nepal and other

registered supplier organisations of Nepal. For sampling purpose, fifteen government officers were taken from seven government departments. They all were working in different departments with different designations which included finance officers, purchasing officers, accountant, computer officer and engineers. These respondents were knowledgeable about e-Tendering issues. Similarly, other respondents were chosen from ten supplier companies. This study has collected twenty five respondents' view on the e-Tendering perceived benefits to anti-corruption from the suppliers company. The interview questionnaire was based on the previous literature review and anti-corruption capabilities to e-Tendering System. These all questions were based on the respondent perceptions on anti-corruption benefits of e-Tendering System in Nepalese context. All measurement variables are shown in Appendix. A five point Likert scales were used to measure the perceptions of the respondents about perceived benefits related to anti-corruption form e-Tendering System.

This study used three key measurement items of perceived benefits of e-Tendering systems include benefits to government, benefits to supplier and transparency and accountability. The measuring items were related to perceived benefits to government department and perceived benefits to supplier. All the measurement key items were anti-corruption factors of e-Tendering System which include transparency and accountability, monitoring and tracking, real time information, easy access to the system and better relationship between government and suppliers. Table 3 shows three measurement items and adopted from previous literature.

Table 3: Definition of research construct and measuring variables

Item description	Source
<p>Perceived benefit to government and perceived benefits to suppliers The government and supplier get the significant from using e-tendering system. These all the benefits (Appendix) can linked to anti-corruption factors such as real time order status linked to transparency, effective monitoring linked to lack of control, improved contract compliance link of lack of accountability and increase information on suppliers and governments to limited access to information</p>	RONDIA <i>et al.</i> (2010), Gunasekaran <i>et al.</i> (2009), Panayiotou <i>et al.</i> (2004), Teo <i>et al.</i> (2009) and Vaidya <i>et al.</i> (2004)
<p>Transparency and accountability Transparency and accountability are two main principles in the tendering process. It encourages the use of resources effectively and in ethical manner. Most of the suppliers/vendors and government agencies and officials want the tendering or procurement processes are open and transparent. But lack of transparency and accountability has lead to corruption in the tendering process</p>	Bhatnagar (2003), Das <i>et al.</i> (2010), Lou and Alshawi (2009) and Mohammad <i>et al.</i> (2009)

RESULTS AND DISCUSSION

Respondents’ perceptions of benefits to the government department of e-Tendering: All the respondents answered every question which was followed by a Likert scale which stated the perception of users and real-time benefits of e-Tendering Systems and which identified the respondents’ degree of agreement or disagreement about the anti-corruption capabilities of e-Tendering Systems used at the public level. The perceived ease of use of e-Tendering Systems has both directly and indirectly benefited governments’ works and services. Most importantly, e-Tendering Systems are used for publishing, communicating, accessing, receiving and submitting all tender-related information and documentation via the internet (Christensen and Duncan, 2006) and further, they replace previous paper-based tendering process. In Nepal, some government departments have already evaluated the effectiveness of e-Tendering Systems. For example, The Department of Roads (DOR) used a web portal to facilitate bidders/suppliers to submit their bids (tendering documents) through e-Submission. For the bid submission, all the interested bidders were first required to be registered. When the registration was complete, bidders received a username and password for logging in to the DOR e-Procurement section. Compared with the previous paper-based tendering system, the e-Tendering System is easier and more transparent. The government officers can upload bid documents and can monitor regularly online what is happening regularly. During telephone interviews, all respondents indicated that they were happy to give real-time information about e-Tendering Systems. After implementing e-Tendering Systems, government officers indicated they felt they made it easier to handle the tendering process. Therefore, the researcher was able to obtain all related information easily and comfortably during interview time. The study found that government officers have different views about the anti-corruption capabilities of e-Tendering

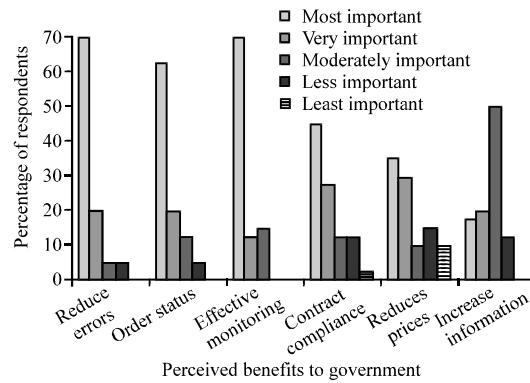


Fig. 2: e-Tendering System benefits at the government level

Systems. Figure 2 shows the government officers’ views about the anti-corruption benefits of e-Tendering benefits. Among the respondents, 70% found that e-Tendering reduces human errors in the tendering process. Similarly, 69% of respondents preferred e-tendering as the best form of tendering for monitoring tender documents because procurement officers and suppliers can both track files at any time. Furthermore, approximately 45% of respondents said that contract compliance helped to reduce prices through increasing purchasing, leverage and aggregation of demand. e-Tendering Systems have improved nearly 50% of contract compliances and have reduced the costs of tendering.

These results are similar to those found in other research literature about the impact of e-Procurement including experience from implementation of e-Procurement in the UK public sector (Croom and Brandon-Jones, 2007), funding e-Procurement initiatives in US government agencies (Fleming *et al.*, 2010), e-tendering processes within UK construction (Tindsley and Stephenson, 2008) and e-procurement systems for government purchasing (Panayiotou *et al.*, 2004). The results of this study found positive results in terms of the anti-corruption capabilities of e-Tendering

compared to past, traditional and tendering systems. Government departments obtain many more perceived advantages from e-Tendering Systems including reducing errors in bid submission and in awarding contracts and effective monitoring or tracking of all the bidding processes. Therefore, it is concluded that e-Tendering Systems provide more efficiency and transparency in tendering or bidding processes.

Supplier respondents' opinions about e-Tendering benefits: This study describes the benefits of e-Tendering in relation to anti-corruption impacts according to the perceptions of supplier companies' officers. All the respondents found the interview questions easy to understand and they provided their views enthusiastically. The results indicated that 62% of supplier respondents claimed that e-tendering systems increase sales productivity; after implementation of an e-Tendering System at the government level, suppliers obtained >50% accuracy in records tendering. e-Tendering Systems also reduce 58% of errors in tendering processes comparing with manual tendering processes. In addition to that Fig. 3 shows that online tendering system works >50% faster than than paper based tendering process.

Furthermore, suppliers easily received real-time information on tendering processes. Similar kinds of benefits were also found in adopters of e-Procurement systems in Singapore and in e-Procurement adoption amongst small to medium enterprises in Hong Kong (Gunasekaran *et al.*, 2009; Gunasekaran and Ngai, 2008). Therefore, it can be concluded that supplier respondents and government official respondents had similar views. Thus, it can be concluded that with the adaption of e-Tendering Systems, suppliers obtain greater accuracy of orders, reduced time for the tendering process and increased overall sales productivity.

Transparency and accountability from e-Tendering: This study describes two stakeholders' perceptions about transparency and accountability of e-Tendering Systems. Transparency and accountability are the key anti-corruption factors. e-Tendering Systems have opened up many possibilities for improving internal managerial efficiency and quality of public services. Likewise, they allow for better relationships between buyers and suppliers.

As a result, they help to reduce the chances of misuse of information. Finally, e-Tendering Systems bring bidders and the government closer and enable dynamic interaction between the two groups.

More importantly, they help to reduce the potential for involvement of unwanted third parties, persons or agents who provide opportunities for government officers or suppliers to cheat or pay unnecessary money. Such problems tend to be found more in developing countries than in developed ones. In developing countries, e-tendering is one of the best applied procurement technologies to enhance government tendering system for more transparency and accountability (Vaidya *et al.*, 2006). Similarly, Fig. 4 shows public and private sector

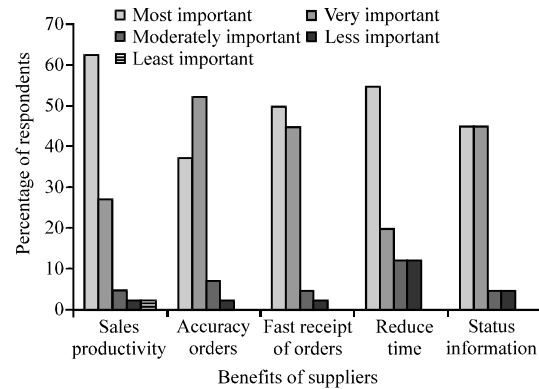


Fig. 3: e-Tendering System benefits to suppliers

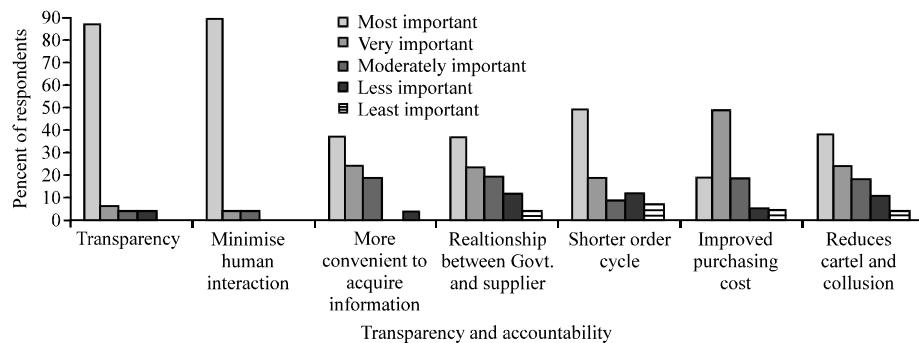


Fig. 4: e-Tendering System benefits in terms of transparency and accountability

officer respondents' views on transparency and accountability capabilities of e-Tendering Systems. The results indicate that 90% of respondents opinions about e-Tendering Systems were that they are helpful to minimize the involvement of unwanted persons in the bidding process which is the one of the main problems in government bidding in Nepalese government departments. In some situations, an unwanted and unregistered party uses unethical way to win the contract or bids. As result, the governments are unable to get real bidders. This study therefore concludes that use of e-Tendering Systems make government processes work faster and more easily in the long term, governments can collect more revenue as well as enhance openness of public processes. Likewise, other benefits can also be achieved including reduced procurement cycle times, improved purchasing costs, easier access to information and improved administrative tasks.

CONCLUSION

This study concludes that to avoid human interference and to reduce chances of corruption, e-Tendering is a helpful tool which helps to increase transparency and accountability. This result is verified with a telephone interview survey in which approximately 88% of respondents agreed about these issues. In addition, e-Tendering also helps to increase information about suppliers and buyers, improves monitoring and tracking of bidding documents and increases consistency among all bidders. Similarly, the public procurement is often politically influenced by some of government authorities to win the contract in developing countries like Nepal. This study concludes that e-Tendering Systems have effects on perceived benefits on governments and suppliers by improving transparency and accountability which reduces the chances of corruption. Moreover, respondents' opinions also found that e-Tendering systems have the capability to reduce corruption.

LIMITATIONS

Every study has its limitations. This research is no exception. Firstly, the sample size used in the research was small. However, study has been able to collect data based on respondent perceptions on only perceived benefits of e-Tendering Systems rather than perceived detriments. Therefore, future studies could involve a larger sample size and more anti-corruption variables. In addition, future studies could include both potential negative as well as positive aspects of e-Tendering Systems.

APPENDIX

Questionnaire: A five point Likert scale was used to measure the perception of the respondents about the perceived benefits related to anti-corruption from e-Tendering system in Nepal:

Perceived benefits for the government

- PG1 Using e-Tendering can reduce human errors
- PG2 Using e-Tendering can view real time order status
- PG3 Using e-Tendering can government monitor tender application effectively
- PG4 Using e-Tendering can improve contract compliance with suppliers
- PG5 Using e-Tendering can reduce prices through increased purchasing leverage and aggregation of demand
- PG6 Using e-Tendering can increase information on supplier

Perceived benefits for suppliers

- PS1 Using e-Tendering can increase sales productivity
- PS2 Using e-Tendering can increase accuracy of orders
- PS3 Using e-Tendering supplier can receive order fast
- PS4 Using e-Tendering can reduce time for receiving payment
- PS5 Using e-Tendering supplier can view real time information

Transparency and accountability

- TA1 e-Tendering system helps to enhance the transparency in tendering
 - TA2 e-Tendering system helps to minimise the human interaction in tendering
 - TA3 e-Tendering system makes it more convenient to acquire information
 - TA4 e-Tendering system provide the better relationship between government and suppliers
 - TA5 e-Tendering System provide the shorter order cycle in tendering process
 - TA6 e-Tendering System improved purchasing cost
 - TA7 E-tendering system reduces the cartel and collusion riggings the bidders
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