UNIVERSITY OF ZIMBABWE

GRADUATE SCHOOL OF MANAGEMENT

BENSON SHARE (R034188A)

TOPIC

THE EFFECTIVENESS OF E-PROCUREMENT IN PUBLIC PROCUREMENT SYSTEMS IN ZIMBABWE: THE CASE OF STATE PROCUREMENT BOARD(PERIOD 2011- FEB 2013)

A Research Project Submitted to the Graduate School of Management in Partial Fulfillment of the Requirements for the Masters in Business Administration Degree

Supervisor: Dr N.Kaseke

DEDICATION

To my wife Sharon-Rose and parents Zadzisai and Cuthbert.

ACKNOWLEDGMENT

DECLARATION

I Benson Share, dohereby declare that this Dissertation is original and has not been submittedto any University before.

Signed ....Date ....

APPROVAL

This project report has been submitted for examination with approval of the following supervisor.

Signed ....Date ....

ABSTRACT

The aim of the study was to investigate the effectiveness of fully adopting e-procurement at State Procurement Board (SPB) from 2011 to 2013. This study adopted a survey approach where questionnaires were administered to both staff and management of SPB and customers. The researcher adopted a triangulation approach where both quantitative and qualitative research philosophies were used to undertake this research.

The study found and concludes that technical issues to support e-procurement program at SPB are not adequate. Electronic procurement systems in essence mirror the procurement process through the provision of two distinct, but connected infrastructures.

The researchconcluded that the introduction of e-procurement will enable SPB to realisefaster and more efficient operational procurement processes. It was also concluded that there is much opportunity for organisations to enter into health business relationships with relevant stakeholders through use of e-procurement.SPB is recommended to continuously scan the external environment since it has an impact on the e-procurement strategy. SPB is encouraged to train its low level staff, management and other departments especiallyInformation Technology(IT) in new technologies. The Board should have sufficient financial and resource backing and adequate budget allocations to ensure all requirements are met.

A further study to establish the impact of e-governance on the adoption and efficiency of e-procurement is recommended.

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CHAPTER ONE

1.0 Introduction

Chapter one introduces the research study as well as the background to the study. The chapter also covers the research problem, research objectives and justification of the study as well as giving the organizational background of SPB.

1.1 Dissertation Introduction

Until recently, public procurement of goods, services and works of most developing economies was done using manual public procurement systems. However, there has been a shift to interactive and communication technologies, which are now playing an increasing and vital role in public procurement systems. It can also be noted that these technologies are not only an investment in infrastructure but alsorepresent some changes in means of public procurement as well an increase in global participation in commercial and social activities. As a result the ways in which governments interact with their constituencies are transformed since transparency and good governance is realized.

The exploitation of these online technologies has got many positive benefits as and many negative outcomes. Positive benefits to be realized by governments are transparency, timely information dissemination, green business, reduction in procurement costs and a lot that shall be revealed in this research. On the other hand, established ways of doing business and managing governments have long traditions to the extent that a shift to e-governance will often encounter security issues, professional and vested interests.

With the above highlighted issues in mind, this dissertation will evaluate the strategic importance of fully adopting e-procurement at the State Procurement Board of Zimbabwe in order to have a public procurement system that plays a major role in the development of an economy through maximizing the use of tax funds.

1.2 Background

Public Procurement is one of the key economic activities of government. In Zimbabwe, Public procurement is administered through a regulatory board called the State Procurement Board.

The State Procurement Board (SPB) was established by an Act of Parliament of Zimbabwe through the Procurement Act [Chapter 22:14]. The SPB is and independent arm of government responsible for procurement of goods, services and works.

As outlined in Section 5(1) of the Procurement Act[Chapter 22:14], the functions of the SPB are to:-

1. To conduct procurement on behalf of procuring entities where the procurement is in a class prescribed in the Procurement Regulations;
2. To supervise procurement proceedings conducted by the procuring entities, in order to ensure proper compliance with the Act;
3. To initiate investments in terms of Section 46 and take action pursuant thereon in terms of section 47; and
4. To perform any other function that is conferred or imposed on the State Procurement Act or any other law.

The SPB is mandated for public procurement. The National Public Procurement Policy Unit (2005) of the Department of Finance of Ireland revealed that public procurement entails the acquisition, through formal contract or otherwise, of works, supplies and services by public bodies. It ranges from the purchase of routine supplies or services to formal tendering and placing contracts for large infrastructural projects by a wide and diverse rangeof contracting authorities (Retrieved form http://www.finance.gov.ie/documents/publications/other/procureframe05.pdf:accessed 5 December 2012).

Since the Board's inception in 2002 the board resolutions up to February, 2013 are as shown below;

Cumulative Board Sittings

YEAR	NO. OF BOARD SITTINGS	NO. OF BOARD RESOLUTIONS	RESOLUTIONS APPEALED AGAINST
2002	29	1355	0
2003	46	1330	0
2004	49	1160	8
2005	47	1423	2
2006	47	1402	1
2007	49	1449	3
2008	47	765	1
2009	49	639	3
2010	48	1286	6
2011	47	1955	10
2012	48	2265	11
2013	7	338	0

Table 1.1 Source: Adapted from State Procurement Board Minutes (7 March 2013)

1.2.1 Political Environment

The Operations ofSPB are largely affected by the political environment. Politicians have a tendency of threatening Officers of SPB to award tenders to their shadow companies as well as Chinese firms. Pressure political groups such as ''UpfumiKuvadiki'' are always criticizing the Board on the awarding of tenders to foreign firms despite that most of the local firms have got little capacity to undertake huge contracts. Moreover most of the local firms fail to meet tender requirements but the politicians still insist that they should be awarded the tenders.

1.2.2 Legal Environment

The Board is largely affected by the Legal provisions within the country. Of much effect is the Procurement Act as well as the Procurement Regulations and Cabinet circulars which are issued from time to time. In addition to the above other regulatory laws such as the Indigenization Act and the Income tax play a vital role in the board's decisions since they guide the Board in ensuring that Bidders comply with the applicable Laws of the country.

Most government departments and parastatals depend on the SPB for their procurement proceedings. The Statutory Instrument (S.I) 159 of October 2012 provides the thresholds on tender limits ranging from below US$10 000.00; competitive sourcing, above US$10 000.00 but less than US$300 000.00; informal tender limits and formal tender limits for all purchases above US$300 000.00. Capital projects for service delivery to the nation involve huge expenditures and falls above US$300 000.00 and these are now of major interest to the public because of the values involved hence the need for and effective procurement system.

The procurement cycle at the State Procurement Board starts from the Approval of the Request for Proposal Document (RFP), as follows;
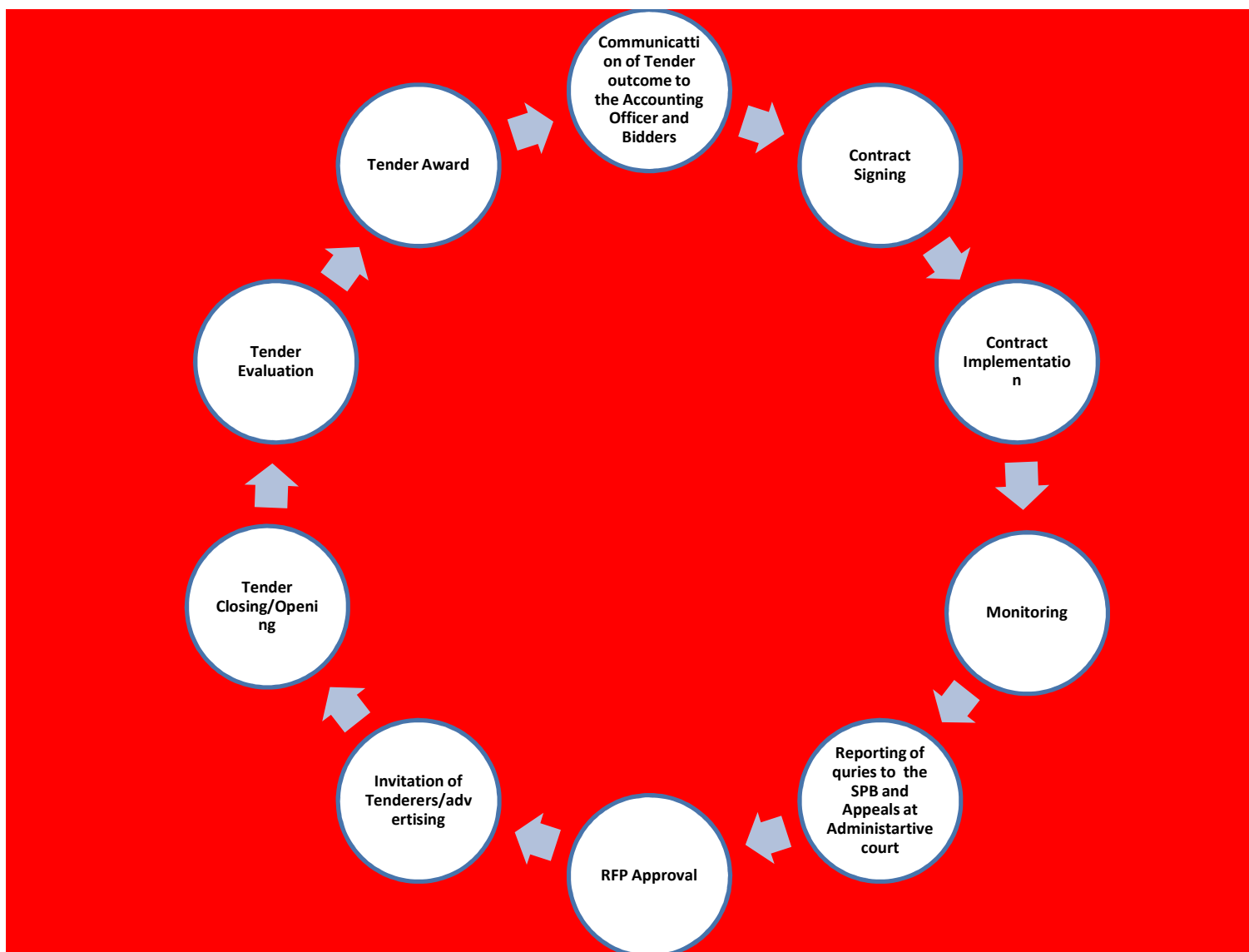
Figure 1.1 Procurement Cycle: Adapted from Procurement Regulations of 2002

Across the phases of this procurement cycle lays a number of challenges being faced by the State Procurement Board in discharging its mandate. The researcher would like to find out whether E-procurement will be of strategic importance in these various phases of the procurement cycle.

1.4 Problem Statement

This research is motivated by the problems that SPB is facing when carrying out its mandate as the procurement vehicle of the state. Currently the SPB is largely dependent on the manual or paper procurement system when performing its functions with a partial use of E-procurement in some of its operational areas. This system has come under attack from the public and other stakeholders through the media and other forma channels. The highly dependence on the manual tendering system is costly to the entities, bidders and the organization as a whole. Moreover the manual or paper tendering system is causing delays in implementation of state projects and is not promoting green business, lacks transparency, slow and poor information dissemination.

Some of the problems being faced at SPBare as follows;

➢ There is lack of transparency in tendering since the Bids are submitted manually and are subject to be manipulated by officers of both SPB and respective entities. There are many allegations of Bid manipulation for example the Civil Aviation Authority of Zimbabwe's Cleaning Tender No. CAAZ/F 14/2012 is under investigations for document manipulation(State Procurement Board Minutes of 6 December 2012).

➢ Tender cycle is too long due to the fact that Bidders have to travel long distances to submit their Bids for example the Zimbabwe Power Company tender for Hwange South Power Expansion tender has taken long to be decided upon implement due to the fact that Bidders had to travel from as far as China and Brazil to submit their documents which could be sent vial softy copies.

➢ Poor information dissemination to interested stakeholders who have to travel from various places to Harare just to get information about tendering.

➢ High Operational costs due to the fact that paper work is at a high rate at SPB since all communication is done through Letters and the Board Agenda and minutes are kept in Hard Copies. The SPB Accounting department estimated the

stationary cost to be about US$8 000.00 per week (Adapted from State Procurement Board minutes of 29 November 2012).

Most of the above problems can be summed up by the below article from the News day of September 3, 2012;

'Decentralisation of State Procurement Board long overdue'

The Bulawayo Progressive Residents' Association (BPRA) says government should take "immediate steps" to decentralise the State Procurement Board (SPB) as part of measures to promote equity in development in the country's regions.

In a statement last Thursday, BPRA programmes and advocacy manager Emmanuel Ndlovu said their call was a follow-up to recommendations by the Parliamentary Portfolio Committee on Budget, Finance and Investment Promotion which urged the overhaul of the SPB to minimise corrupt tendencies in the awarding of tenders.

BPRA programmes and advocacy manager Emmanuel Ndlovuwent on to say that, "Currently, State entities flight tenders through the SPB which is based in Harare, something which the Parliamentary Portfolio Committee on Budget, Finance and Investment Promotion is arguing favours contractors resident in Harare,"

"Tenders are also advertised in newspapers with wider circulation in the capital and therefore not readily accessible to contractors in other parts of the country, while contractors from outside are also disadvantaged in that they have to travel to Harare to bid for tenders. In addition to this, BPRA believes the centralisation of State procurement procedures is partly responsible for the exodus of companies to the capital which has led to high levels of unemployment in the city."

Ndlovu added: "It is BPRA's belief that one of the reasons why peripheral regions such as Matabeleland, Masvingo, Manicaland and the Midlands lag behind in terms of development is the fact that most of the country's economic and political activities are centralised in Harare, hence benefiting mostly people from the capital. This is why the association is an advocate of devolution of power, which is one of the ways of ensuring

that all regions in the country assume control of their resources and take control of development issues in their areas, which would guarantee that all regions develop equitably.(Retrieved from www.newsday.co.zw on 3 September 2012)."

The researcher hopes that the full adoption of E-procurement in public procurement systems will make most the above problems a thing of the past hence the rationale for wanting to find out the effectiveness of using E-procurement in public procurement systems.

1.3 Research Objectives

1.3.1 Primary Objective

- To determine the effectiveness of using e-procurement in public procurement systems.

1.3.2 Secondary Objectives

1. To identify challenges faced in the adoption of e-procurement in public procurement systems.
2. To gain an explanatory understanding of e-procurement issues in the public sector.
3. To identify the benefits of adopting e-procurement
4. To make recommendations to top management on E-procurement adoption.

1.4 Research Questions

- Is it effective to adopt e-procurement in public procurement systems?
- Are there any challenges to be faced when adopting e-procurement in public procurement?
- What problems are caused by using the manual public procurement systems?
- What benefits can be derived by adopting e-procurement in public procurement systems?

1.5 Research Proposition

This study proposes that the full adoption of e-procurement by the SPB improves the performance of the operations of the body.

1.6 Justification of Research

To the State Procurement Board, Office of President and Cabinet and Public Sector

The research, if accepted by the Office of the President and Cabinet (OPC) and the State Procurement Board, could be used to improve service delivery through improved public procurement processes and unlocking value for the country's resources. The study is aimed at coming up with recommendations that are going to increase efficiency in public procurement.

To the Bidders

Manual tendering affects bidders in a number of ways therefore if e-procurement is adopted transaction costs are going to be reduced.

To the Student and the Public

- The research will serve to enhance the researcher's academic knowledge in the area covered by the research and encourage a practical application of the theories and concepts covered under period of study.
- This project is going to be archived in the library thus it will be used as reference by other students who will be taking on their projects. It is going to add on to the available literature on public procurement in Zimbabwe, an area which has not been much exposed.
- It is a mandatory requirement for the fulfillment of the Masters in Business Administration degree.

1.7 Assumptions

- The research findings based on the selected sample is representative of the whole population.
- All the records for carrying out the research would be made available to the researcher.

1.8   Scope of Research

The research study focused on State Procurement Board as a case study. The study was carried out through the State Procurement Board offices, SPB Board minutes and procedures.

Other government departments and ministries as well as Suppliers shall be reference points as they interact with the State Procurement Board on their procurement proceedings as they are bound by the Procurement Act (Chapter 22:14)

1.9 Limitations of the Study

Inexperience

It was the researcher's first time to conduct a research project before hence does not have much experience in conducting research projects. However, to address this, the researcher relied on the supervisor and shared knowledge with colleagues.

Inaccessibility

The researcher had limited access to some resources like information from the Board and staff because of confidentiality of certain information and staff commitment to their day to day duties. The researcher minimised this problem by continuously persuading them and sending reminders through emails.

1.10 Chapter Conclusions

This chapter focused on the providing background which builds case to the study. This chapter was organized as follows, first is the background of the study which looks into

macro environment analysis, It also covered problem statement, objectives, research questions, significance and scope of the study and dissertation outline.

CHAPTERTWO

2.0 Literature Review

2.1 Introduction

Chapter two provides a review of the relevant literature for this study. The review was done according to the objectives of the study stated in chapter one of this dissertation. This literature is the one which was used to discuss the findings of the study presented in chapter four of this study.

2.2 Definition of Terms

2.2.1 E-procurement Defined

According to Wu and Ross (2007), one can define e-procurement asthe use of information technologies to facilitate business to business purchase transactions for materials and services.It also refers to the purchase of goods and services for organisations electronically (Turban *et al.,* 2006).

The World Bank report (2003) defines e-procurement as the use of information and communication technology (especially the Internet) by governments in conducting their procurement relationships with suppliers for the acquisition of goods, works, and consultancy services required by the public sector.Boer, Harink andHeijboer *(*2001) noted that there are six different forms of technology that are appropriate for different procurement activities which are e-ordering or e-Maintenance Repair Operate (MRO), web-based enterprise resource planning (ERP), e-sourcing, e-tendering, e-reverse auctioning/e-auctioning and re-informing. This means that under e-procurement goods and services are bought through the internet (Heizer and Render, 2000). E-procurement applications are limited in the types and scope of purchasing activity they address (Gilbert, 2000). In this particular research all the encompassing definition of e procurement are going to be used.

The use of e procurement is likely to improve the following

- The efficiency of procuring personnel,
- Automating the approval cycle,
- Enabling negotiation of better contract pricing,
- Leveraging existing contracts more effectively
- Reducing off-contract purchases (Croom, 2000).

The emphasis is on the use of technology to substitute or enhance transactional activities in order to gain operating efficiencies (Essig and Arnold, 2001). Electronic procurement can then be defined as the issue of placing the order using internet. The source of the supply or good can be direct from a manufacturer through a trading network or through a Web-enabled distributor. The transaction must involve buying and must occur over the Web (IDC, 1999).

2.3 E-procurement issues in the public sector

2.3.1 Public Procurement

Uyarra and Flanagan (2010)define Public Procurement asthe acquisition of goods and services by government or public sector organisations.It can also be said to be the process by which government departments or agencies purchases goods and services from the private sector (Weele, 2004).

Weele (2004) argued that procurement by the state procurement boards normally require bureaucratic procedures. The issue of requisition implies that there are enormous amounts of efforts spent on sending forms back and forth. The internal coordination costs are therefore high with respect to the contracting procedure for commodities. As pointed out by Berryman et al. (2007) it is generally assumed that the procurement of commodities represent the greatest potential for savings with respect to electronic purchases especially due to the reduction in work procedures, which can be automated.

2.2.3 Accounting Officer, in this research, means head of procuring (buying) entity as defined by the Procurement Regulations, 2002. This implies the head of the ministries, parastatals, local authorities, hospitals, government regulatory boards who are responsible for decision making in the various entities.

2.3 Challenges faced in the adoption of e-procurement in public procurement systems

Lederer, Leenders and Fearon (2001) noted that organizations can use E-procurement to create strategic advantage through improving relationship with customers. Ledereret. al (2001) also found the the European Union has not yet adopted e-procurement the way it was projected due to challenges in implementing e-procurement. The challenges include risk, uncertainty from suppliers, cultural differences, staff resistance to change and catalogue content readiness.

Arbin (2002) argued that the low rate of take up could be that the implementation process of E-procurement is regarded as complicated. Arbin (2002) identified challengesfrom the valuation process up to the conversion process. The challenges identified by (Arbin 2002) include lack of management support, high costs of implementation, lack of technical expertise, security of transactions, lack of common technology standards, time needed for the implementation process, resistance to change, lack of skilled personnel, complicated procedures and extended relationships, internal and external compatibility, getting suppliers to update and control the E-catalogues and to monitor them

Koppius (1999) argued that the major challenge is the identification of the right e-procurement strategy for each commodity.Koppius(1999) goes on to say that procurement supports a delivery-relationship between buyers and sellers.Eyholzer and Hunziker(2000) in elaborating the above definitions noted that strategic activities such as sourcing, negotiation and coordination with Research and Development were involved in procurement.They further recommendedthat training in the use of electronic enquiry forms was vital due to the fact that buyers might be worried about security

issues when providing personal information to the sellers on the Internet. Thus proper planning is vital, to manage the threats and weaknesses so as to realise maximum benefits of adopting e-procurement.

2.4 Benefits of E-Procurement

Moon (2005) notes that, "Just as its application (e-procurement) is seen as the salvation of the private sector, e-procurement is touted as the deliverance of the public sector." Hart and Teeter (2000) goes on to say that both public and private managers have positive attitudes towards the prospects of e-governance, despite some security and privacy concerns. Many public officers have pursued e-procurement, both to become smart buyers and from a belief that e-procurement enhances the overall quality of procurement management and leads to a more accountable system.

Moreover, Wyld (2003) noted that for any entity to embrace any technology it is important that the business case is stipulated and that a company enters the project with clarity that it is a viable project to go for. There is need to manage the development of E-procurement systems Project. Some of the major benefits that e-procurement bring about to an organization, include cost cutting, employee satisfaction, accountability, transparency, centralised and decentralised procurement and conflict reduction.

Cost cutting: Setton and Wyld (2003), are on the view that the cost savings and efficiencies to be gained through electronic sourcing can provide benefits not only to entities that use them for the acquisition of goods and services but in the aggregate economy as a whole. Costs in an organisation can be reduced as follows:-

Suppliers are forced to compete against each other to win tenders, when any entity put in place e-sourcing which is part of e-procurement. This according to Knudsen (2003) places an organisation at a dominant and powerful position, thus an organisation will be at a superior position than the suppliers. The entity affects the bargaining power of the providers hence the actual prices of goods and services are likely to go down. This would be difficult in a situation where manual systems are in use due to the fact that it is

expensive to develop a supply base. An organisation is left with very few suppliers to deal with and as a result collusion is limited (Knudsen,2003). The NECC E-procurement Work Group (2001) discovered that e-sourcing contributes to cutting the cost of procuring in two ways, first it lowers the cost of developing a provider base by making information more readily available and secondly affecting the bargaining power of providers hence lowering the actual prices. Pressutti (2003) goes on to say that a price reduction in the range of 5% to 20% is realised by being able to reach a wider supply base.

E-informing enables the buying organisation to receive and share experiences about providers from other organisations. Knudsen and Pressutti (2003) indicated that knowing the performance of providers is important to any buying organization so as to help to choose their providers well. If evaluation information about providers is to be obtained manually this can turn out to be very expensive and time consuming something which can be obtained so easily with e-informing.

High rate of employee satisfaction: Bartezaaghi and Ronchi (2003) highlighted that E-procurement provides a high probability of having a working staff that is satisfied which is a great asset to any organisation. This is due to the fact that bureaucracies inherent in traditional purchasing procedures are eliminated and in its place rapid e-procurement systems are put in place.

Transparency: E-procurement enhances transparency within the entire system (Croom and Johnston, 2003).

 Accountability: The NECC E-procurement Work Group (2002) noted that   e-procurement brings great accountability and auditing because of the analytical tools and data warehousing facilities which can enable decision makers to be more accountable and make well-informed decisions. Thus e-procurement is a very effective tool in the fight against corruption.

Centralized and Decentralised procurement: E-procurement gives room to an organisation to enjoy the benefits of both a centralized and a decentralised set up. Since it is a single e-procurement system, the purchasing staff is able to track the events and actions of employees.

Reduction of conflicts: Osmonbekev (2002) says that conflicts within an organisation are reduced by e-procurement because of the easy access to information and the transparency of the entire purchasing process.

2.5 E-procurement Critical Success Factors

Al-Omoush's study (as cited in Panda and Sahu, 2012) pointed out that firms need to identify and understand the critical success factors and outcomes of web-based supply chain collaboration and address them effectively to ensure that the promised benefits can be realized and failures can be avoided, and to encourage top management toward more collaboration with business partners using Web-based technology.

Panda and Sahu (2012) in their study revealed that the critical success factors for E-procurement were;

Top management Support – in their study they noted that top management buy in was very critical for the success of any project.Push of the top management and political will has been found to be the most important factor in success of e-procurement implementation in Indian states of Chhattisgarh and Andhra Pradesh. Setting up milestones, committing necessary resources and mandating use of e-procurement requires commitment of the top leadership to the system. Shaking up of the bureaucratic slumber and ensuring critical inter-departmental coordination (necessary for effective e-procurement implementation) requires push from top leadership (Panda and Sahu, 2012).

E-Procurement implementation strategy-Panda and Sahu (2012) argued that planning ahead was very important, if any organization considers adopting e-procurement. They went on to say that the implementation strategy was supposed to

take into account the opportunities that will be available once e-procurement was in place.

Business case and project management - Panda and Sahu (2012) in their research pointed out that the successful initiation and subsequent progression of the e-procurement project requires making a strong case in favour of migration of procurement functions to internet. In addition they said that the inertia of procurement officers and other people associated with procurement functions can only be broken by making a strong case which necessitates identification of business drivers, accruable benefits of the system verses cost of project implementation.

Business process re-engineering- Panda and Sahu (2012) argued that it was important for organisations to undertake a fresh outlook at all procurement processes due to the fact that implementation of manual procedures in in e-procurement often leads to unmanageable system flow. They went further and said that inefficient and non-value adding processes were supposed to be removed, while mandatory processes were supposed to be optimized for e-use.

Technology standards- Panda and Sahu (2012) pointed out that it was very important to build the system around well accepted technical and process standards due to the fact that e-procurement system would undergo vertical and horizontal integration across systems and entities. Of important to note was, according to Panda and Sahu (2012), that hardware optimizations such active-active failover, load balancers, proper sizing of servers and finally disaster recovery of the setup should be planned and implemented.

Security and authentication- Panda and Sahu (2012) on security issues revealed that, "If reliability, security and confidentiality of financial data like bid amount etc. are not ensured, e-procurement system may actually promote corruption contrary to its stated benefit. The system and the data contained in it should be well protected by putting information security related hardware (Intrusion prevention system, Antivirus gateways, centralized logging etc.), software solution and (preventive and detective)

information security procedures. The selection and employment of appropriate security controls for an information system are important tasks that can have major implications on the operations and assets of an organization. Security controls are the management, operational, and technical safeguards or countermeasures prescribed for an information system to protect the confidentiality, integrity, and availability of the system and its information."

Involvement of Stake Holders – There is much need to involve stakeholders in every step of the implementation as well as encourage them to use the system and provide feedback.

Training and Education- According to Panda and Sahu (2012), it is important that stakeholders of manual procurement system are appropriately trained in order to absorb the new technology since the e-procurement entails a quantum jump in terms of technology. Smooth change over to the new technology will depend upon the induction imparted to stakeholders.

Change management- Panda and Sahu (2012) also pointed out that support of the shift to new technology by relevant stakeholders is a must. They went on to say that effective change management plan in terms of imparting training to stakeholders of the system like internal users, vendors etc. and institutionalized mechanism for obtaining feedback from stakeholders is necessary for smooth roll out of the system. Setup of Help Desk system or call centre, online help, contextual help and FAQs must be available in the online e-procurement portal (Panda and Sahu, 2012).

Performance Measurement- Panda and Sahu (2012) winded up the discussion on critical success factors by saying that toensurer that e-procurement system yield intended results, it is important that the system objective are clearly spelt out, measurement of accomplishment undertaken and if necessary course correction is implemented

2.5 Case Studies in E-procurement Information Systems in the Public Sector

The Australian government's Department of Finance and Administration(Retrieved fromhttp://www.finance.gov.ie/documents/publications/other/procureframe05 accessed 5 January 2013), carried out a study on countries that have implemented E-procurement in 2005 and discovered the following;

- **E-procurement in Italy**

The e-procurement program in Italy was designed to generate savings and efficiencies in Italian Public Administrations and it was also noted that, E-procurement promoted the simplification and innovation of procurement procedures and macro level initiatives enabling the efficiency and transparency of government operations through its enabled innovations (Retrieved fromhttp://www.finance.gov.ie/documents/publications/other/procureframe05 accessed 5 January 2013).

The government e-procurement model comprises of electronic shops, online-auctions and an electronic marketplace and support large and small suppliers from Italy and across the EU. Important to note is that the government also understands the unique requirements of e-procurement and the changes it brings to the traditional purchasing environment. It continues to work through the challenges of the system, and is looking at providing a completeend- to -end solution for its stakeholders(Retrieved fromhttp://www.finance.gov.ie/documents/publications/other/procureframe05 accessed 5 January 2013).

- **E-procurement in Scotland**

Since procurement could take place in a coordinated manner a holistic approach was required for e-procurement in Scotland.The Scottish government took a holistic approach to procurement reform with close alignment of:

i. Procurement process benchmarking and re-design

ii. Investment of payment solutions

iii. Implementation of e-procurement initiatives

The emphasis was on empowering individual agencies to improve their procurement processes and achieve benefits locally. The outcome was a subscription-based, hosted e-procurement service that continues to expand as more agencies and suppliers subscribe to the service. The Scottish team has realized that with e-procurement one size does not fit all. E-procurement has reduced transaction cost for participating agencies, improved the buyer and supplier enablement process and improved the overallprocurement process (Retrieved fromhttp://www.finance.gov.ie/documents/publications/other/procureframe05 accessed 5 January 2013).

E-procurement in Western Australia

The requirement for more accountability and transparency with government tenders led to the creation of the government electronic Information Bulletin Board in Australia. Resultantly, the requirement created the impetus for electronically enabled procurement. However, more recently attention has turned towards two key related areas:

i. Enabling better compliance by providing the platform through which agencies can use the appropriate contacts that have been properly aggregated and hence save money.

ii. Enhancing strategic sourcing by profiling information on buyer and supplier procurement activities through data warehousing capabilities(Retrieved fromhttp://www.finance.gov.ie/documents/publications/other/procureframe05 accessed 5 January 2013).

Various reforms, initiatives and organizational change over the last six years have advanced the visibility of procurement within the government. The current procurement reform program serves to:

i. Identify savings through strategic sourcing while promoting access to small, medium and large suppliers across the state.
ii. Deliver quality outcomes by enhancing procurement resources including people, tools and processes(Retrieved fromhttp://www.finance.gov.ie/documents/publications/other/procureframe05 accessed 5 January 2013).

E-procurement has been a part of the Western Australia government for many years. Gem Tendering is generally considered successful, and Gem contracting is relatively new. Gem purchasing, however, has had limited impact based on its usage and perception of usability. The government has been an early adopter of e-procurement in the public sector. Since its inception, Gem has been a testing ground for many issues and standards, such as hosting supplier catalogues and the contracted development of individual modules. The legacy of these choices form some of the challenges identified in this review. Work continues with procurement and whole of government reforms to satisfy the changing purchasing needs of the government as it moves to offer a more complete B2B procurement system with Gem as the Key(Retrieved fromhttp://www.finance.gov.ie/documents/publications/other/procureframe05 accessed 5 January 2013).

In conclusion e-procurement for public procurement is considered as a very important part of e-governance by most of the European, Asian and American countries. However the e-procurement systems developed and the approach taken to implement them by all these governments is different, although they are striving to achieve the same common goals which are transparency, effectiveness and efficiency, value for money, accountability, exchange of information between PDEs and dissemination of information to the prospective providers and the public. Since public procurement is governed by

strict laws set up by government, a preliminary review of the existing public procurement process needs to be carried out as a first step and there after a holistic approach in implementing public e-procurement information requirements be adapted. E-procurement information systems needs close communication with the stakeholders that is the PDEs, PPDA, Providers and the Public. In order to achieve close communication, e-procurement information systems need to be decentralized so that the process is improved by the closeness of the concerned stakeholders. However information dissemination to the stakeholders, data from the decentralisede-procurement information systems needs to be centrally aggregated regularly. Constant review and management of the e-procurement information system being implemented is also important.

It is therefore of strategic importance that the SPB develops its own e-procurement information system and adopt a customised approach of implementing the information system, in light of the existing procurement system, cultures, history and IT knowledge level of the stakeholders.

2.7 Chapter Conclusion

This chapter provided review of literature. The literature was linked to the objectives which are to identify challenges faced in the adoption of e-procurement in public procurement systems, to gain an explanatory understanding of e-procurement issues in the public sector and to identify the benefits of adopting e-procurement and make recommendations to top management. The next chapter focuses on the methodlogy of the study.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

This chapter covers in detail the methodology used in the research. This chapter focuses on the different methods that were used in collecting data for this study. It discusses the project scope, the research design, and sampling methods to be used. It also describes data collection, questionnaire design and finally data analysis.

3.2 The Research Design

Two major philosophical schools of thought are identified in literature under the epistemological approach namely positivism and anti-positivism or phenomenological (Saunders et al, 1997). The understanding of differentiating features of positivism and phenomenological approach is very important when deciding an approach to take.

As with the positivism approach, the phenomenological approach also has distinct features described by Saunders et al (1997) as follows:

- It is an **inductive method**: a theory is drawn from the data. The approach views knowledge as relative and circumstantial.
- A small sample of subjects is appropriate rather than the study of a large sample.
- **Qualitative data** and a variety of data collection methods are used. Propositions of a research are found in this approach.

The overall goal in selecting basic business research method(s) is to get the most useful information for use by key decision makers in the most cost-effective and realistic fashion (Agnew and Pyke, 2002). The study aims at establishing the effectiveness of and challenges of adopting e procurement in the SPB. The research uses questionnaires to quickly collect a great deal of information from the staff and management. Questionnaires work best with standardized questions that one can be

confident will be interpreted the same way by all respondents (Robson,1995). It is against this background that the research inclines towards the phenomenological approach to the study. The phenomenological approach facilitates understanding the how and why, enables researcher to be alive to the changes that occur during the research process and is also good at understanding the social phenomena by people.

4.3 Research Philosophy

There are two approaches to research, positivism and phenomenology (Saunders, Lewis and Thornhill, 1997).

4.3.1 Positivism

Smith's study (as cited in Salmani, 2008) noted that the positivist approach to research assumes that "things can be studied as facts and relationships between these facts can be established as scientific laws………… For positivists, such laws have the status of truth and social objects are studied in much the same way as natural objects". The positivist approach believes that it is possible to identify and communicate knowledge as being hard, real and tangible, so that knowledge is capable of being acquired. According to Saunders, Lewis and Thornhill (1996), positivism seeks to explain and predict what happens in the business world by searching for irregularities and causal relationships between variables, whilst the anti-positivists oppose this arguing that the business world can only be understood from the point of view of individuals directly involved in the activities under study.

4.3.2 Phenomenology

On the other hand, phenomenology is a research approach where social reality is multiple, divergent and interrelated, analysis from the actor's own perspective, human behavior is how people define their own world and reality is the meaning attributed to experience and is not the same for everyone, (Finn, Elliot-White, and Walton, 2000). Hughe's study (as cited in Salmani, 2008) revealed that phenomenology ''provides an alternative to the traditions and foundations of positivism for conducting disciplined inquiry. Under phenomenology, the researcher reality is not a rigid thing; instead it is a

creation of those individuals involved in the research. Reality does not exist within a vacuum, its composition is influenced by its context, and many constructions of reality are therefore possible''. Phenomenology implies that knowledge is of a softer, subjective and spiritual nature based on personal experience and insight, so that it has to be personally experienced.

The methodology adopted in this study is a composite of quantitative and qualitative research approaches. The major aim of this approach is to provide a holistic analysis by integrating relevant issues in order to produce a more complete picture of e procurement.

4.4 Research Strategies

4.4.1 Experiment

In an experimental research strategy, the effects of manipulating one variable on another variable are measured.Colin Robson (1993) noted that this comprises ofselecting individuals a known population,allocating samples to different experimental conditions as well as introducing planned change on one or more variables. This strategy usually involves hypothesis testing.

Survey

According toQuee (1999), when structured questionnaires are used to gather primary data from a sample of respondents that is what is called a survey research method. This includes collecting information in a standardized form from groups of people (Robison, 1993). He added that typical features of a survey include selection of samples of individuals from known populations; collection of relatively small amount of data in standardised form from each individual. Surveys usually employ questionnaire or structured interview. This strategy is applicable to our research because of its simplicity and objectivity. The questionnaire was be used as the standardised form of data collection from a sample of SPB, Customers and Suppliers.

4.4.2 Case study

The development of a detailed, intensive knowledge about a single case or small number of related cases is called a case study (Robson, 1993). He further argues that the case-study approach also has considerable chance to generate answers to questions why, what and how and is used to carry out an in-depth study of the situation. According to Saunders, Lewis and Thornhill, (2003), this strategy enriches the understanding of the context of research and the processes being enacted. Robson (2002) adds thata case study allows several data collection methods to be used such as questionnaires, interviews, observations and documentary analysis.

The purpose of this research project is to investigate the effectiveness of using e procurement system in Zimbabwe. This project is a company-based study where findings and strategic recommendations are to be communicated to the company. In this research, views are going to come from all the sections of the organisation.The research study is analytical in nature as it aims at finding the challenges, benefits of adopting e- procurement in SPB.

3.4 Population of the Study

Robson (1995) defines the population as the group of interest to the researcher. Aaker and Kumar (1997) assert that the results of the study will be generalized upon this group. According to Baker (1998), the population is the group upon which the researcher is interested in making inferences. Fraenkel and Wallen (1996) divide the population into two categories, the target and the study populations. The target population is the actual population to which the researcher wishes to generalize. Thus, the population to which the researcher is able to generalize is the study population (Saunders et al, 1997). The population includes all the units the researcher is interested in obtaining information and making inferences on and is divided into the target and the study populations. The target population is the actual population to which the researcher desires to generalise.

According to Robson (1995), defining the population is important because it helps the researcher in selecting a sample for study. Thus, the population for this study is made up staff and management of SPB of Zimbabwe, related ministries and supplires.

3.5 Sampling Techniques

Sampling is appropriate when the population to be used is large and both the time and cost associated with obtaining information is large (Aaker and Kumar, 1997). They further assert that, there are two distinct types of sampling techniques namely probability sampling and non-probability sampling.

3.5.1 Probability Sampling

In probability sampling, it is possible to specify the probability that a sampling unit will be selected from the population. This section presents some of the probability sampling methods.

3.5.1.1 Simple random sampling

This method involves selection at random from a list of the population of the required number of units from the sample (Merrian and Simpson, 1984). Random number tables or a computer can be used for the random selection of units. If properly conducted, it gives each unit an equal chance of being included in the sample and also makes all possible combinations of units for a particular sample size equally likely.

3.5.1.2 Systematic sampling

This involves choosing a starting point in the sampling frame at random and then choosing every n^{th} person (Cohen and Marion, 1992). For the sample to be representative, this method relies on the list being organised in a way unrelated to the subject of the study. However, this method has certain statistical peculiarities. Whereas the initial chance of selection of any unit is the same, once the first unit has been chosen, most units have no chance of inclusion and a few will be automatically selected. Similarly, most combinations of units are excluded from the possible samples that might be chosen.

3.5.1.3 Stratified sampling

According to Saunders et al (2000), stratified sampling involves dividing the population into a number of groups or strata, where members of a group share a particular characteristic(s). There is then random sampling within the strata. Sampling theory shows that in some instances, stratified sampling can be more efficient than simple random sampling. This is because for a given sample size, the means of stratified samples are likely to be closer to the population mean (Bloemer and Ruyler, 1999). This occurs when there is a relatively small amount of variability in whatever characteristic being measured within the stratum, compared to variability across strata.

3.5.1.4 Cluster sampling

This involves dividing the population into a number of units or clusters, each of which contains individuals with a range of characteristics (Bloemer and Ruyler, 1999). The clusters themselves are chosen on a random basis. The subpopulation within the cluster is then chosen. This method is particularly useful when a population is widely dispersed and large, requiring a great deal of effort and travel to get the study information. Cluster sampling has the valuable feature that it can be used when the sampling frame is not known.

3.5.2 Non-Probability Sampling

It is a sampling plan where it is not possible to specify the probability that any unit will be included in the sample. Some of the non-probability sampling methods are summarized below.

3.5.2.1 Quota sampling

Cohen and Marion (1992) assert that in quota sampling, the strategy is to obtain representatives of the various elements of a population, usually in relative proportions in which they occur in the population. The common use of the term 'representatives' in quota sampling has to be approached with care. They are representative only in number, not in terms of the type of units actually selected. All such means of gathering

quota samples are subject to bias. Careful planning, experience and persistence can go some way in addressing obvious biases.

3.5.2.2 Convenience sampling

The choosing of the nearest and most convenient units to act as respondents is done under convenience sampling. This is done continuously until a required sample size has been reached (Susan and Mick, 1999). This is probably one of the most widely used and least satisfactory methods of sampling. The term 'accidental sample' is sometimes used but it is misleading as it carries some sense of randomness, whereas all kinds of largely unspecifiable biases and influences are likely to affect who gets sampled.

3.5.2.3 Judgmental sampling

Judgmental Sampling is where the researcher attempts to draw a representative sample of the population by using judgment and the amount of error depends upon the degree of expertise of the person making the selection (Susan and Mick quoting Tse et al, 1990).

3.6 Sampling Procedure used in this Research

In this study the researcher used a stratified sampling technique where the target population was grouped into staff and management of SPB, customers and suppliers. This was a cross sectional approach was meant to get views from the entire triangle. Participants from each category were randomly selected to for this study.

3.7 Data Collection Instruments

Primary data was collected through the use of questionnaires. In order for the researcher to make necessary adjustments to the questionnaire piloting testing was done to assess validity and reliability. According to Mitchell (1996), pilot testing enables one to make necessary amendments allowing inclusion of suggestions and ensuring consistency of responses to questions. According to Saunders et al (2000), the purpose of the pilot test is to redefine the questionnaire so that the respondents will have no problems in answering the questions and hence no problem in recording and analyzing

the data. The questionnaire described by Ackerman and Lines (1981) is an "interrogation protocol that calls for oral and/or written responses." Cohen and Marion (1980) say the use of interviews as data collection instrument gives the researchers the chance to have a personal interaction with the interviewees in order to get non-verbal communication, which they might find useful during the research process. Secondary data used in this research originates from the previous statistics from the SPB pertaining to the subject matter.

Both primary and secondary data will be collected using personal interviews, questionnaires, observation and abstraction. The researcher will personally attempt to interview Board Members and executives (current and former), and questionnaires were distributed by hand or via electronic mail to selected individuals within and outside the organization.

In this study the researcher used two sets of questionnaires to collect data from the target population. One instrument was for staff and management of SPB and the other instrument was for suppliers. This was done to capture data from both internal and external perspective. All the two sets of questionnaires were such that they contained both closed and open ended questions.

3.7.1 Data analysis

Merrian and Simpson (1984) contend that data analysis could be done qualitatively and quantitatively, that is, it can be descriptive or numerical respectively. Microsoft Excel was used for data entry, while whilst SPSS (Statistical Package for Social Sciences version 20) was used for analysis of data. The analysis was done by running frequencies, means and ranges to mention a few.

3.7.2 Data Presentation

The nature of the data collected in this research has been presented graphically using histograms, bar graphs, pie charts and tables.

3.8 Research Limitations

The limitations to this study are that:

a) HR superintendent will do the data collection. This can skew the results by wanting to impress or trying to emphasise a negative point. This could have resulted in both extreme positive and extreme negative scores being received. To minimise subjectivity, the research assistants were trained to be as much objective as is possible.

b) Since the researcher has to administer the questionnaires at the site, resource constraints in the form of time, fuel and money might hinder reaching all the chosen customers. To counter this, arrangements had to be done with the logistics managements so that, the research assistants could use their company vehicles as they conducted their routine sites visits.

3.9 Chapter Conclusion

This chapter presented a summary of how the data was collected and analysed. The chapter also presented the study population and the sampling techniques. The next chapter looks at the research findings and their discussion.

CHAPTER FOUR

4.0 RESEARCH FINDINGS, ANALYSIS AND DISCUSSIONS

4.1 INTRODUCTION

An analysis of data is going to be presented in this chapter. The data was gatheredusing questionnaires which were distributed to SPB staff, customers and suppliers. The results will be analysed based on the research objectives. Descriptive statistics which comprises of tables and bar graphs were used to present the data. The researchfindings were linked to the research objectives in order to conclude the research study.

1.2 RESPONSE RATE

50 questionnaires were distributed to SPB of Zimbabwe staff members, its suppliers as well as consumers. Out of these 35 were successfully completed and returned giving a response rate of 70%. According to Saunders (2005), this rate of response is reasonable to come up with research results which are reliable so as to come up with meaningful conclusions and recommendations.

1.3 DEMOGRAPHICS

4.3.1 Period spend with SPB

The Bar graph below presents data on the period which the suppliers and staff members of SPB have taken working for the organisations.
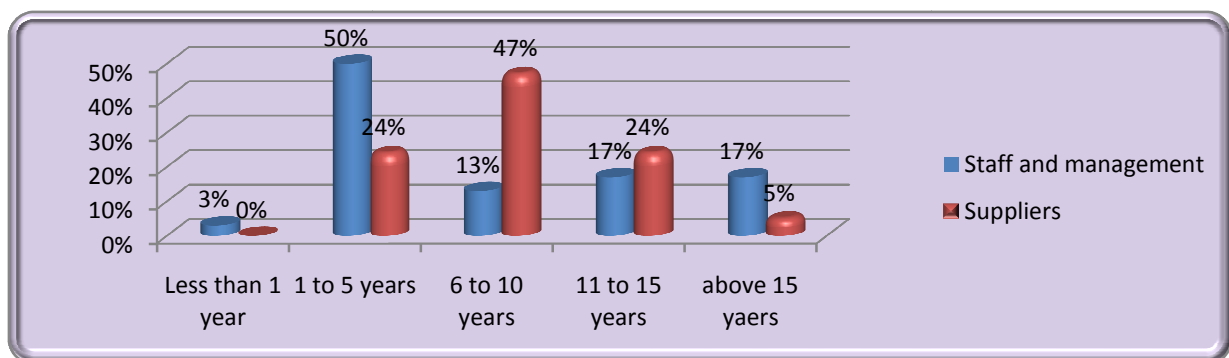
Figure 4.1 Period in the organisation

Figure 4.1 above reveals that:-

➢ There is 3% of SPB staff including management which indicated that they have worked for the organinastion for a period which is less than one(1) year.

➢ There is 50%of SPB staff including management which indicated that they have worked for the organinastion for a period which is between 1 to 5 years.

➢ There is 13% of SPB staff including management which indicated that they have worked for the organinastion for a period which is between 6 to 10 years.

➢ There is 17% of SPB staff including management which indicated that they have worked for the organinastion for a period which is between 11 to 5 years.

➢ There is 17% of SPB staff including management which indicated that they have worked for the organinastion for a period which is above 15 years.

➢ There is24% of the suppliers who have worked for their respective organisations for a period of 1 to 5 years.

➢ There is47% of the suppliers who have worked for their respective organisations for a period of 6 to 10 years.

➢ There is 24% of the suppliers who have worked for their respective organisations for a period of 11 to 5 years.

➢ There is 5% of the suppliers who have worked for their respective organisations for a period which is above 15 years.

A round up of the above analysis illustrates that most of the respondents had worked in their respective organisations for a period ranging from 1 to 10 years.

4.3.2 Population Age of the Participants

The Bar Chart below shows the grouped age of SPB staff who responded to the questionaires.
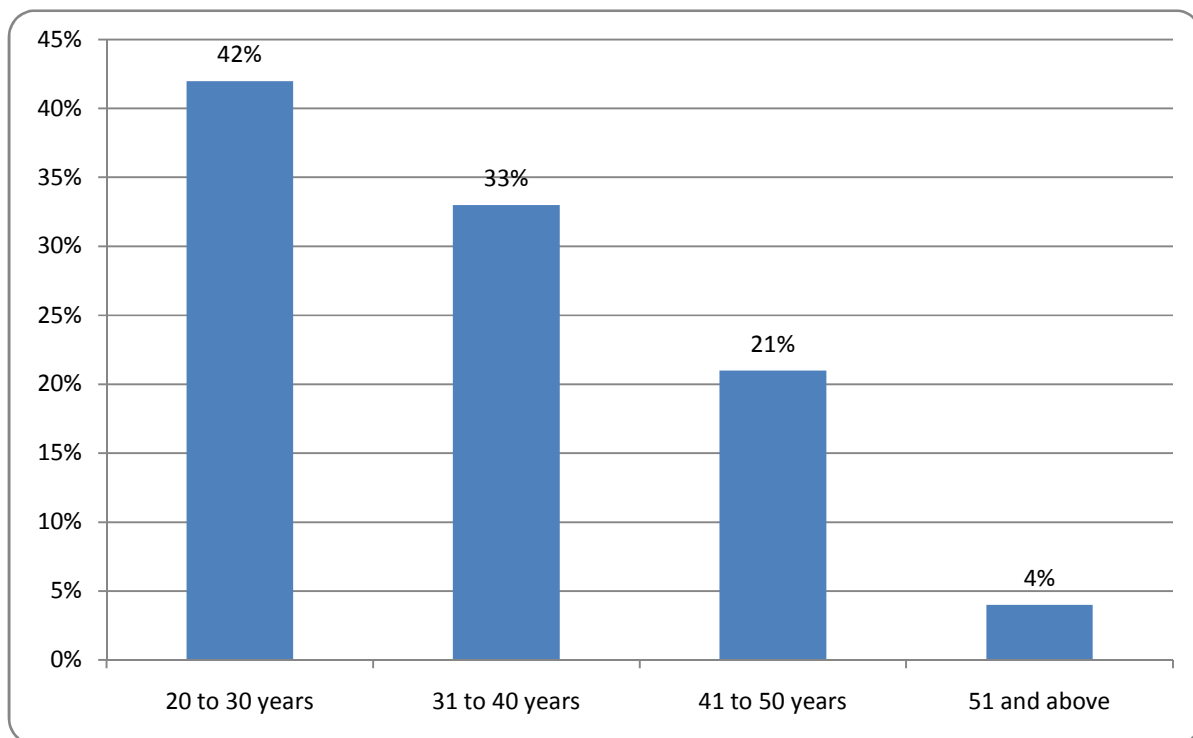
Figure 4.2 Age group

Figure 4.2 shows that:-

➢ The SPB workers including management in the age group range of 20 to 30 years was 42%.

➢ The SPB workers including management in the age group range of 41 to 50 years was33%.

➢ The SPB workers including management in the age group range of 41 to 50 years was33%.

➢ The SPB workers including management in the age range of51 years and above were5%.

This illustrates that most of the respondents were in the age group range of 20 to 40 years.

4.4 STATE PROCUREMENT SCENARIO

4.4.1SPB Compliance Check List

The Table 4.1 shown below reveals areas which SPB is complying with for E-procurement to be successful.

Table 4.1 Compliance areas for SPB

	Yes	No
Follow the stipulated requirements by the customers	38%	62%
Flexible catalogue management	21%	79%
Reporting Tools.	31%	69%
Strategic Sourcing Support.	42%	58%
Fostering of supply-chain collaboration	40%	60%

Table 4.1 above shows that 62% of the respondents from SPB disagreed that the organisation is following the stipulated requirements by the customers, 79% disagreed that there is flexible catalogue management and 69% disagreed that they provide adequate tolls for reporting and analysis. This generally means that there is no adequate enhancement of the whole process of procurement within the organisation and at least justifies the importance of this research.

According to Croom (2000), all E-procurement applications aim to improve the efficiency of procuring personnel, automating the approval cycle, enabling negotiation of better contract pricing, leveraging existing contracts more effectively and reducing off-contract purchases (Weil 2000a,2000).

Henriksen and Mahnke (2005) argued that, most purchases in public sector institutions require that a bureaucratic procedure be followed. They went on to point out that the majority of items are bought on requisition. Thismeans that a great deal of effort is put into sending forms back and forth in thesystem. The internal coordination costs are therefore high with respect to thecontracting procedure for commodities (Henriksen and Mahnke, 2005) .

4.4.2 Views of Suppliers on the e-procurement at SPB

Figure 4.3 below shows views of suppliers on e-procurement at SPB.
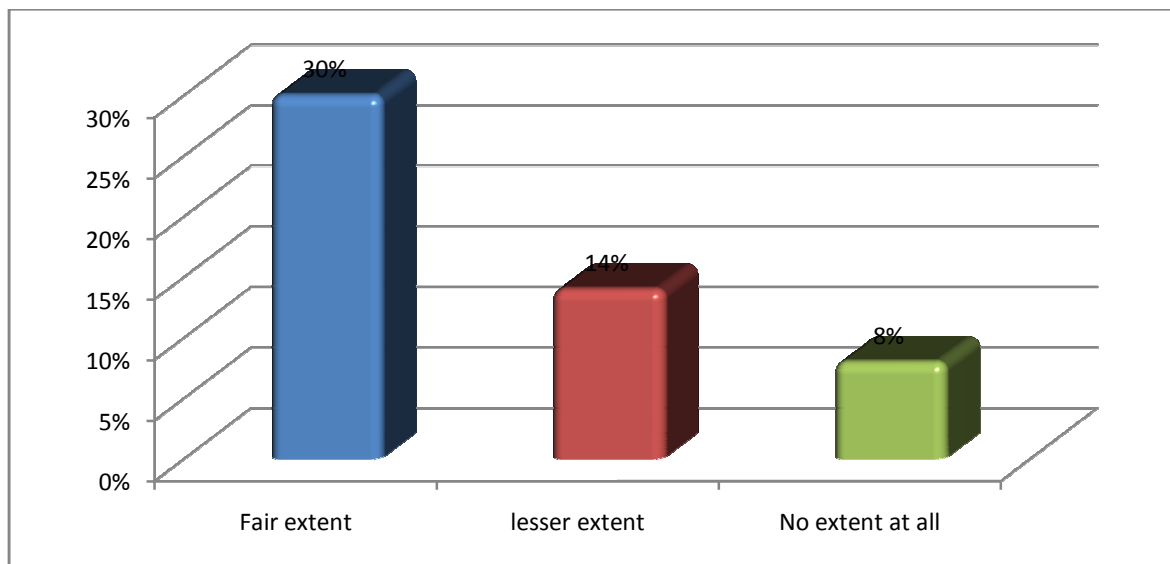

Figure 4.3 Technical issues of e-procurement

Analysis in Figure 4.3 above shows that:-

- ➤ There was 56% of the SPB staff and management who argued that the technical issues of SPB were not adequate.
- ➤ There was 23% of SPB staff and management who said that the technical issues were very poor.
- ➤ There was 21% of SPB staff and management who said the technical issues are adequate.

This implies that the technical issues that support e-procurement at SPB are not adequate.

In terms of the technicalities of e-procurement, Croom (2000) pointed out that Electronic procurement systems in essence mirror the procurement process through the provision of two distinct, but connected, infrastructures – internal processing (via, for example, corporate intranet and external communication with the supply base via, for example, Internet-based platforms.

Sheng (2002) added that systems allow individual employees to order goods and services directly from their own PCs through the Web. Requests and orders are channeled through various forms of hub or database which acts as an online catalogue of specifications, prices and often, authorisation rules. Such systems allow individual employees to search for items, check availability, place and track orders and initiate payment on delivery.

4.4.3 Participation and influence of Supplier

The analysis in figure 4.4 below shows analysis on the participation and influence of suppliers to the usage of e-procurement at SPB.
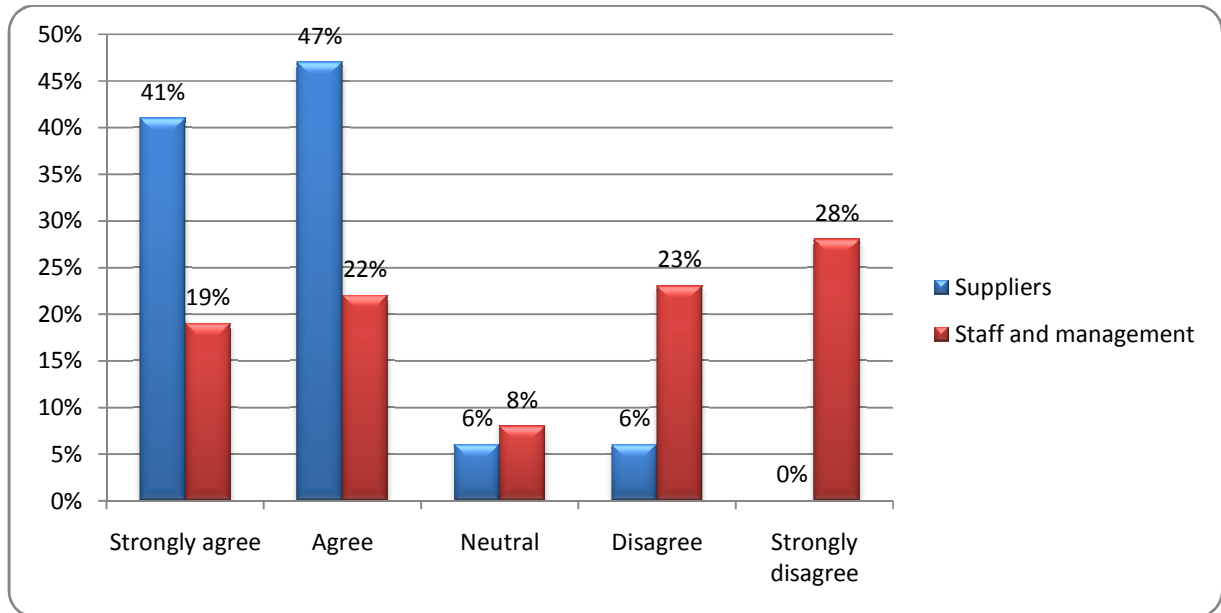
Figure 4.4 Supplier participation and influence

On supplier participation and influence Figure 4.4 results shows that:-

➢ Suppliers who strongly agreed that supplier participation and influence affects e-procurement usage were 41%.

➢ Suppliers who agreed that supplier participation and influence affects e-procurement usage were 47%.

➢ Suppliers who were neutral on the issue were 6%.

➢ Suppliers who disagreed that supplier participation and influence affects e-procurement were 6%.

➢ SPB workers who strongly agreed that supplier participation and influence affects e-procurement usage were 19%.

➢ SPB workers who agreed that supplier participation and influence affects e-procurement usage were 22%.

➢ SPB workers who disagreed that supplier participation and influence affects e-procurement usage were 23%.

➢ SPB workers who strongly disagreed that supplier participation and influence affects e-procurement usage were 28%.

➢ SPB workers who were neutral on the issue were 8%.

Thus most of the SPB workers and suppliers are on the view that supplier participation and influence affects the e-procurement usage.

Melville, Kraemer and Gurbaxani(2004) argued that, use of e-procurement results in improved performance of involved stakeholders since e-procurement leads to repetitive purchases from supplies which reduce human intervention and paperwork.

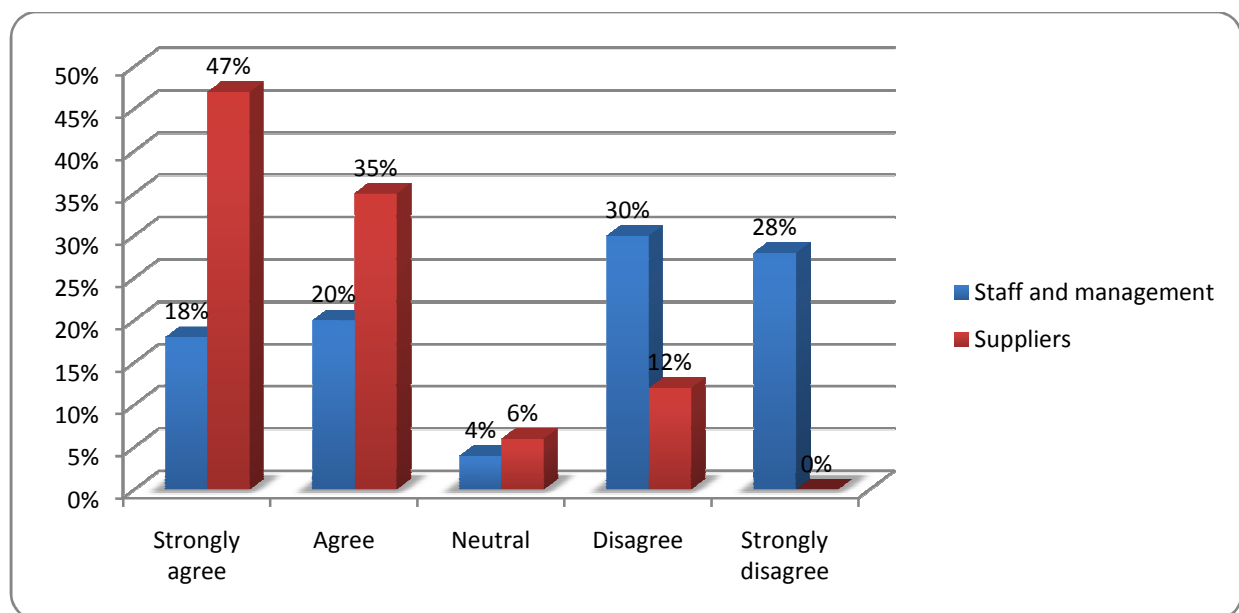### .4.4.5 How External Organisation Pressures affected e-procurement

Figure 4.5 External Organisation Pressures

The above bar graph reveals that:-

➢ Suppliers who strongly agreed that external pressures affected e-procurement usage were 47%.

➢ Suppliers who agreed that external pressures affected e-procurement usage were 35%.

➢ Suppliers who are neutral on the issue were 6%.

- ➢ Suppliers who disagreed that external pressures affected e-procurement usage were 12%.
- ➢ SPB employees who strongly agreed that external pressures affected e-procurement usage were 18%.
- ➢ SPB employees who agreed that external pressures affected e-procurement usage were 20%.
- ➢ SPB employees who are neutral on the issue were 4%.
- ➢ Suppliers who disagreed that external pressures affected e-procurement usage were 30%.
- ➢ Suppliers who strongly disagreed that external pressures affected e-procurement usage were 28%.

The above analysis shows that to a large extend most of the SPB employees agreed with the issue under discussion while most of the suppliers were contradicting the discussion.

Authors such as Mehrtens et al. (2001) are in support of the views of SPB employees since they argue thatorganisational readiness and external pressure impact on e-business strategy. Cox et al. (2001) goes on to say that hasty decisions which are made in the presence of considerable media and software vendor hype with no theoretical basis leads organisations into many challenges when implementing e-business projects.

4.4.5 Organisational Support on E-procurement Usage
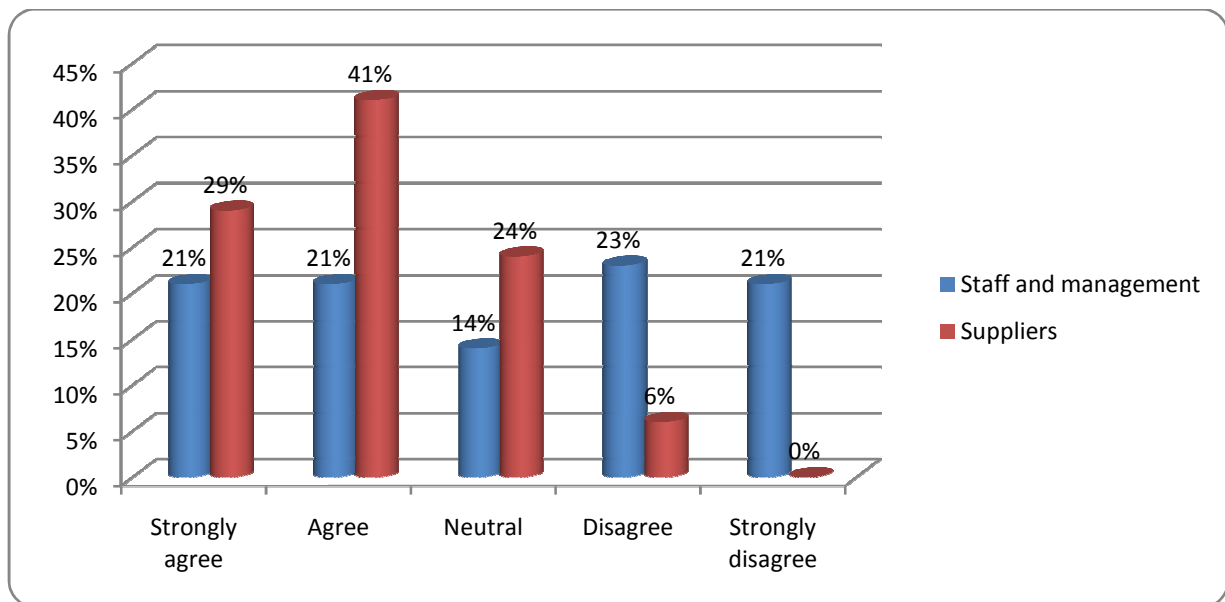
Figure 4.6 Organisational Support

The above presentation shows that:-

- ➢ The suppliers who strongly agreed that internal organisational support affects e-procurement usage were 29%.
- ➢ The suppliers who agreed that internal organisational support affect e-procurement usage were 41%.
- ➢ Suppliers who were neutral on the issue were 24%.
- ➢ Suppliers who disagreed with the fact were 5%.
- ➢ SBP employees who strongly agreed that internal organizational support affects e-procurement usage were 21%.
- ➢ SPB employees who agreed with the assertion were 21%.
- ➢ SPB employees who were neutral on the assertion were 14%.
- ➢ SPB employees who disagreed with the assertion were 23%.
- ➢ SPB employees who strongly disagreed with the assertion were 21%.disagreed.

Lancioni, Schau and Smith (2003) indicated that factors such as training, staffing levels, top management support and training of employees to adapt to new technology were among some of the factors that affect adoption of e-procurement.

4.4.7 Analysis of Network Connectivity
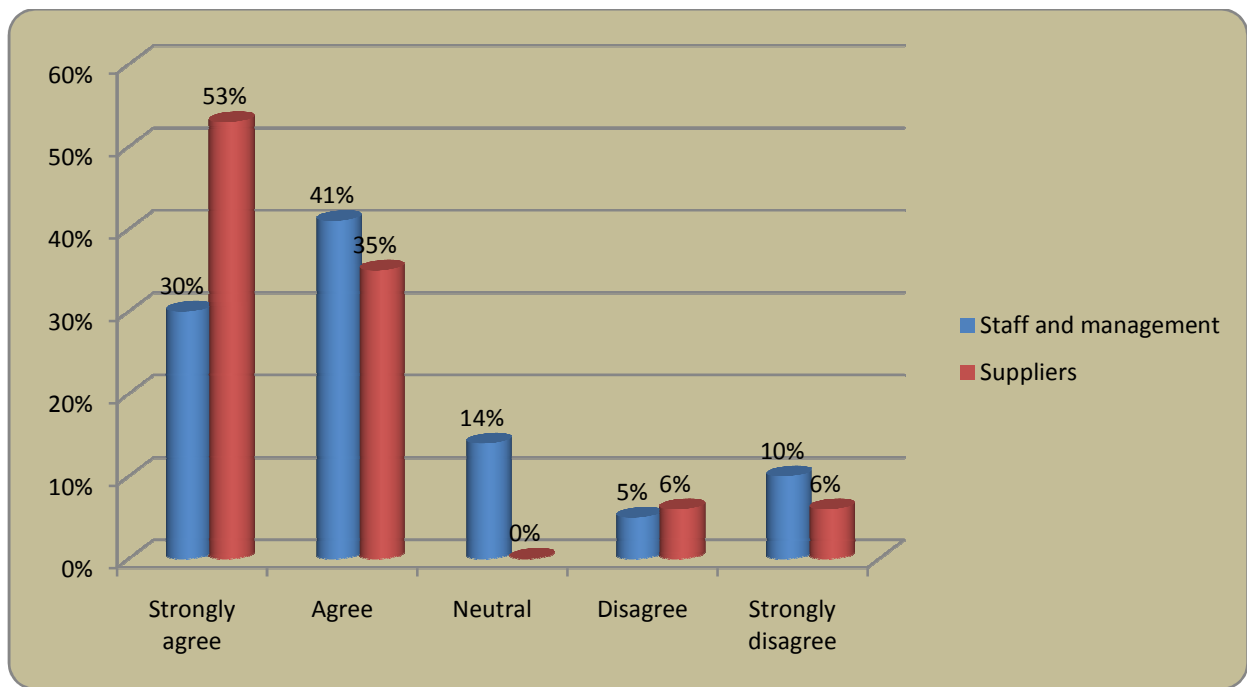
Figure 4.8 Network connectivity

The above Bar Graph shows the following Research findings:-

➢ The suppliers who strongly agreed that network connectivity affects e-procurement usage were 53% of the respondents.

➢ The suppliers who agreed that network connectivity affects e-procurement usage were 35% of the respondents.

➢ The suppliers who disagreed that network connectivity affects e-procurement usage were 6% of the respondents.

➢ The suppliers who strongly disagreed that network connectivity affects e-procurement usage were 6% of the respondents.

➢ The SPB employees who strongly agreed that network connectivity affects e-procurement usage were 30% of the respondents.

- The SPB employees who agreed that network connectivity affects e-procurement usage were 41% of the respondents.
- The SPB employees who were neutral in their response were 14% of the respondents.
- The SPB employees who disagreed that network connectivity affects e-procurement usage were 5% of the respondents.
- The SPB employees who strongly disagreed that network connectivity affects e-procurement usage were 10% of the respondents.

Bennett (2003) pointed out that there was need for a glued system to hold buyers and suppliers together which will enables an organization to transmit and process information from both buyers and suppliers.

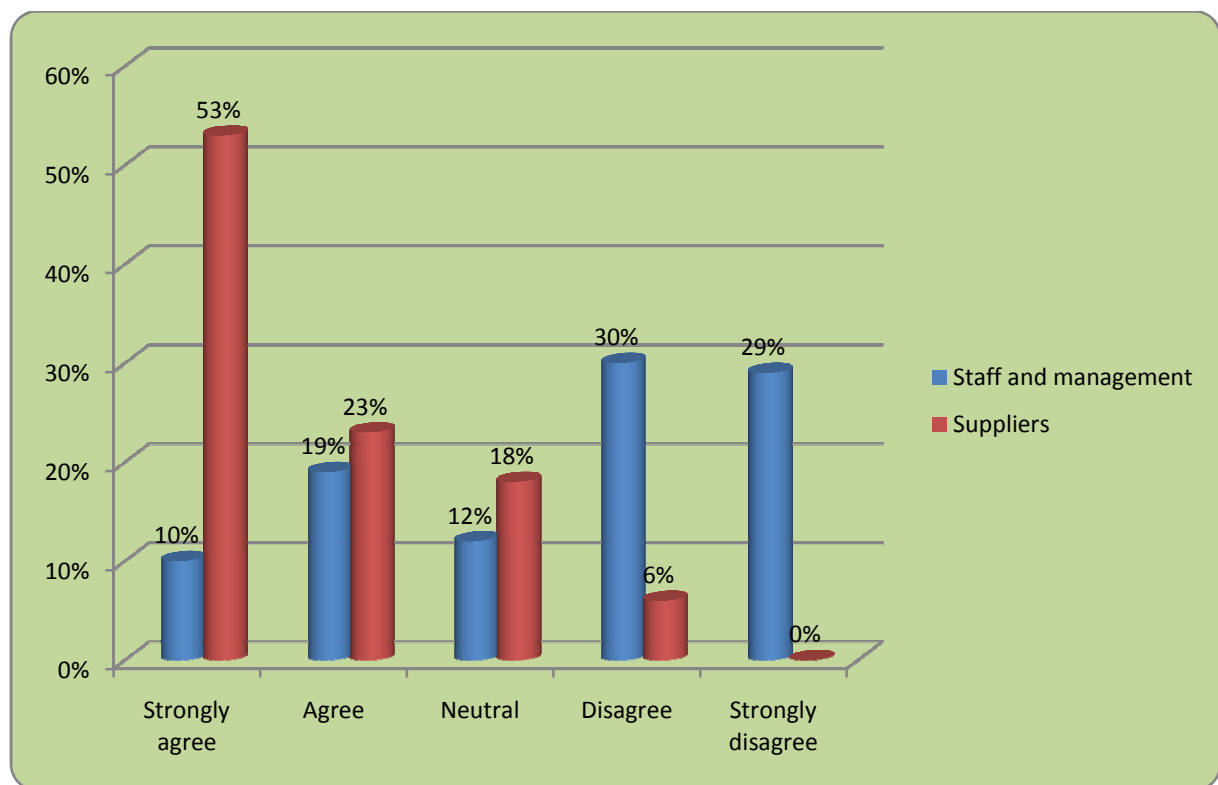### 4.4.8 Perceived task improvements which affect E-procurement Usage

Figure 4.9 Perceived task improvements

The above research findings show that:-

- ➢ The suppliers who strongly agreed that perceived task improvement affects e-procurement were 53% of the respondents.
- ➢ The suppliers who agreed that perceived task improvement affects e-procurement were 23% of the respondents.
- ➢ The suppliers who were neutral on the issue were 18% of the respondents.
- ➢ The suppliers who disagreed that perceived task improvement affects e-procurement were 6% of the respondents.
- ➢ The SPB employees who strongly agreed that perceived task improvement affects e-procurement were 10% of the respondents.
- ➢ The SPB employees who agreed that perceived task improvement affects e-procurement were 19% of the respondents.
- ➢ The SPB employees who were neutral on the issue were 12% of the respondents.
- ➢ The SPB employees who disagreed that perceived task improvement affects e-procurement were 30% of the respondents.
- ➢ The SPB employees who strongly disagreed that perceived task improvement affects e-procurement were 29% of the respondents.

Rajkumar (2001) argued that the amount of time spent on administrative tasks is reduced allowing procurement personnel to concentrate on more strategic issues if e-procurement is adopted wholly.

4.5 PERCEIVED BENEFITS OF ELECTRONIC PROCUREMENT

4.5.1 Web Based Technologies
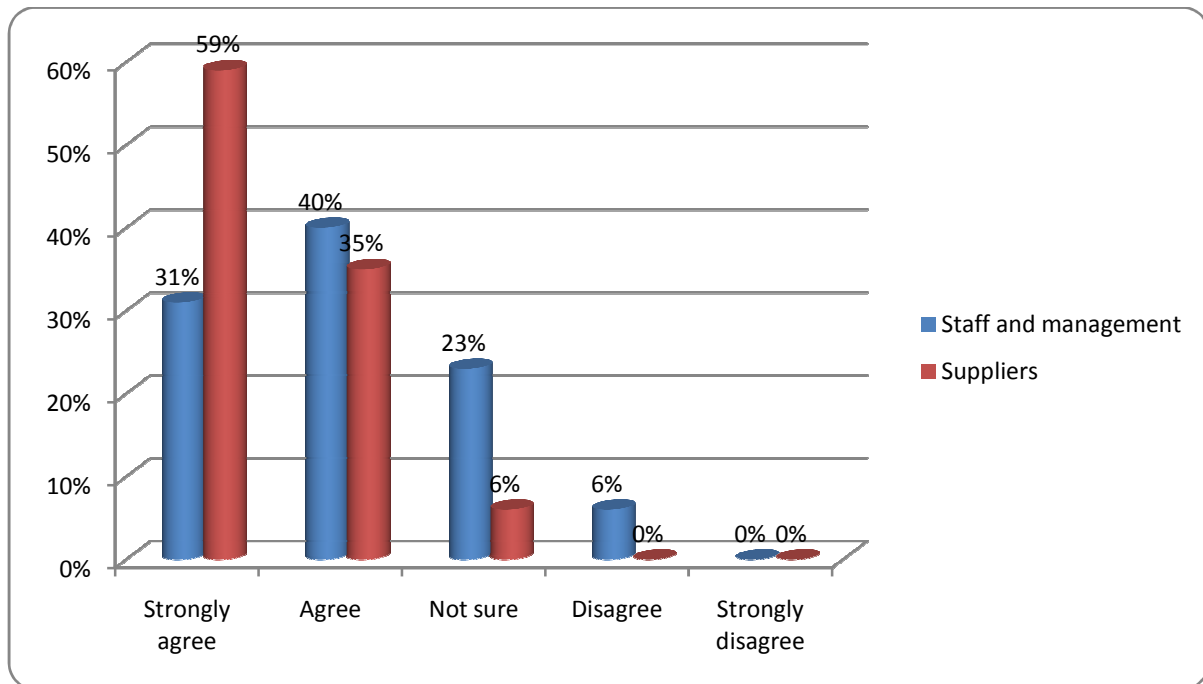
Figure 4.10 Web based technologies

The above Bar Graph shows that:-

➢ SPB employees who strongly agreed that Web based technologies promote operational procurement processes were 31% of the respondents.

➢ SPB employees who agreed that Web based technologies promote operational procurement processes were 40% of the respondents.

➢ SPB employees who were neutral on the issue were 23% of the respondents.

➢ SPB employees who disagreed that Web based technologies promote operational procurement processes were 6% of the respondents.

➢ Suppliers who strongly agreed that Web based technologies promote operational procurement processes were 59% of the respondents.

➢ Suppliers who agreed that Web based technologies promote operational procurement processes were 35% of the respondents.

➢ Suppliers who were not sure whether Web based technologies promote operational procurement processes were 6% of the respondents.

Barua*et al.* (2001) notednew opportunities for organisations to develop relationships with suppliers and customers were being provided by the internet. Porter (2001) further says that integration of the internet in the firm's overall strategies will cause the internet to become a powerful source of competitive advantage.

4.5.2 Reduction of administrative costs

Figure 4.11 below depicts how e-procurement reduces organizational costs.
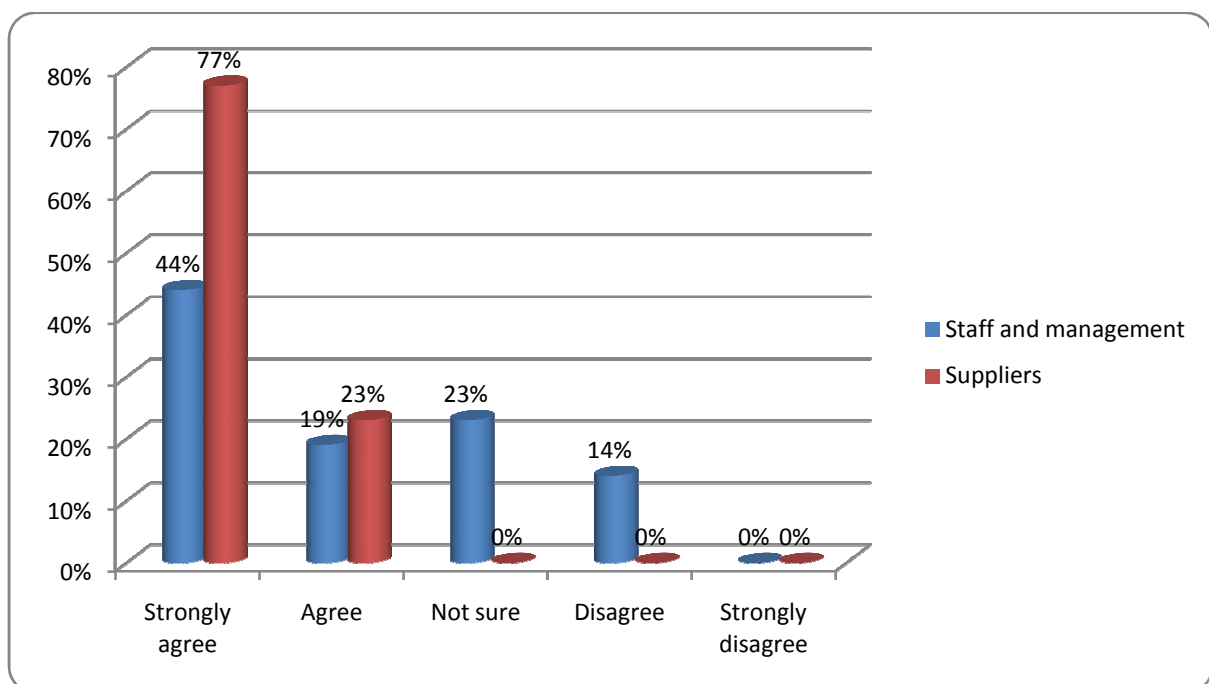
Figure 4.11 E-procurement effects on organizational costs.

The above presentation can be interpreted as follows:-

➢ SPB employees who strongly agreed that e-procurement reduces organizational costs were 44% of the respondents.

➢ SPB employees who agreed that e-procurement reduces organizational costs were 19% of the respondents.

➢ SPB employees who were not sure whether e-procurement reduces organizational costs were 23% of the respondents.

➢ SPB employees who strongly agreed that e-procurement reduces organizational costs were 14% of the respondents.

➢ Suppliers who strongly agreed that e-procurement reduces organizational costs were 77% of the respondents.

➢ Suppliers who agreed that e-procurement reduces organizational costs were 23% of the respondents.

The internal process cost minimization is achieved through four main ways that is transaction cost per order is reduced, order-to receipt cycle time is reduced, maverick purchasing is reduced if not eliminated and inventory costs are reduced.

4.5.3 Decentralisation of the State Procurement Board through E-procurement

Figure 4.12 SPB Decentralisation

The above presentation reveals that:-

➢ SPB employees who agreed that e-procurement enables SPB to decentralize Public Procurement and centralise strategic procurement planning were 19% of the respondents.

- SPB employees who agreed that e-procurement enables SPB to decentralize Public Procurement and centralise strategic procurement planning were 44% of the respondents.
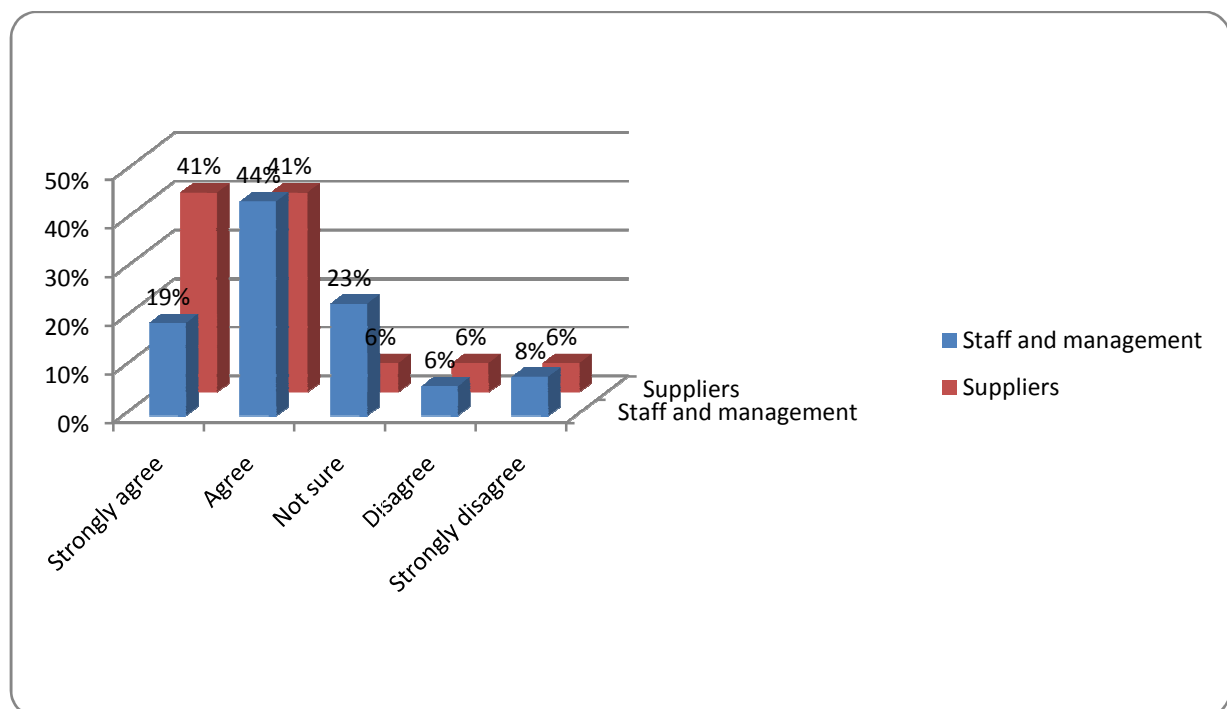- SPB employees who were not sure whether e-procurement enables SPB to decentralise Public Procurement and centralise strategic procurement planning were 23% of the respondents.
- SPB employees who disagreed that e-procurement enables SPB to decentralize Public Procurement and centralise strategic procurement planning were 6% of the respondents.
- SPB employees who strongly agreed that e-procurement enables SPB to decentralize Public Procurement and centralise strategic procurement planning were 8% of the respondents.
- Suppliers who strongly agreed that e-procurement enables SPB to decentralize Public Procurement and centralise strategic procurement planning were 41% of the respondents.
- Suppliers who agreed that e-procurement enables SPB to decentralize Public Procurement and centralise strategic procurement planning were 41% of the respondents.
- Suppliers who were not sure whether e-procurement enables SPB to decentralize Public Procurement and centralise strategic procurement planning were 6% of the respondents.
- Suppliers who disagreed that e-procurement enables SPB to decentralize Public Procurement and centralise strategic procurement planning were 12% of the respondents.

The size of the staff in the purchasing department is bound to reduce because information is easier to access and so lesser people are required to make decisions. The numbers of job descriptions required are also reduced (Osmonbekev*et al*., 2002).

4.5.4 Opportunities Presented by E-procurement

Figure 4.12 below shows an analysis on whether e-procurementoffers opportunities for process improvement and cost cutting at SPB.
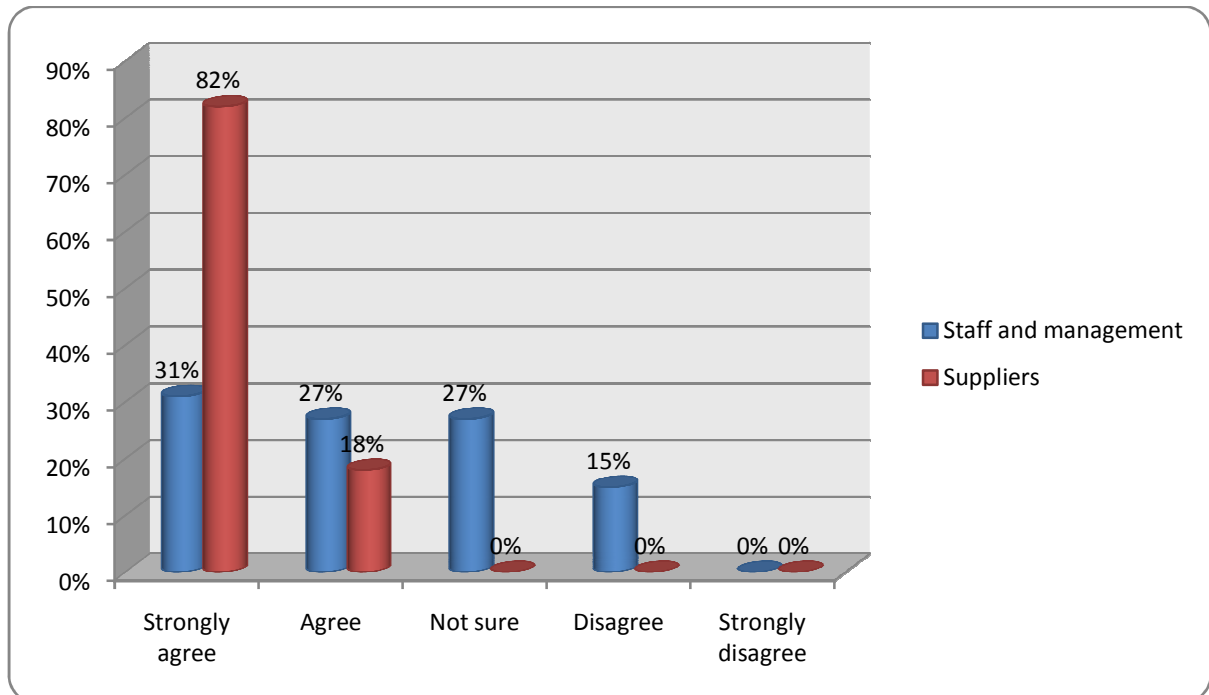
Figure 4.13 Opportunities offered by E-procurement.

The research study revealed that:-

➢ SPB employees who strongly agreed that e-procurement offers opportunities for process improvement and cost cutting were 31% of the respondents.

➢ SPB employees who agreed that e-procurement offers opportunities for process improvement and cost cutting were 27% of the respondents.

➢ SPB employees who were not sure whether e-procurement offers opportunities for process improvement and cost cutting were 27% of the respondents.

➢ SPB employees who disagreed that e-procurement offers opportunities for process improvement and cost cutting were 15% of the respondents.

➢ Suppliers who strongly agreed that e-procurement offers opportunities for process improvement and cost cutting were 82% of the respondents.

> ➤ Suppliers who agreed that e-procurement offers opportunities for process improvement and cost cutting were 18% of the respondents.

Thus one can say that most of the respondents were on the view that e-procurement offered SPB an opportunity to improve processes as well as reduce operational costs.

4.5.5 Benefits of e-procurement

The table 4.2 below shows thebenefits that can be realized from wholly adopting e-procurement at SPB.

Table 4.2 PositiveBenefits of adopting e-procurement at SPB

	Disagree	Agree
Reduced transaction costs	10	90%
Lower staffing requirements	15%	85%
Short procurement cycles	30%	70%
Lower inventory level costs	35%	65%
High Level of transparency and Accountability	10%	90%
Increased communication and collaboration between SPB, Accounting Officers and suppliers	10%	90%

The results shown on table above show that:-

> ➤ 90% of the respondents agreed that e-procurement reduced transaction costs while 10% of the respondents disagreed with the assertion.
> ➤ 85% of the respondents agreed that e-procurement reduced staffing requirement while 15% of the respondents disagreed with the assertion.
> ➤ 70% of the respondents agreed that e-procurement shortened procurement cycles while 30% of the respondents disagreed with the assertion.

- 65% of the respondents agreed that e-procurement reduced inventory level costs while 35% of the respondents disagreed with the assertion.
- 90% of the respondents agreed that e-procurement increased transparent and accountabilty 10% of the respondents disagreed with the assertion.
- 90% of the respondents agreed that e-procurement improved communication and collaboration among parties while 10% of the respondents disagreed with the assertion.

4.6.0 Obstacles face in E-procurement adoption at SPB
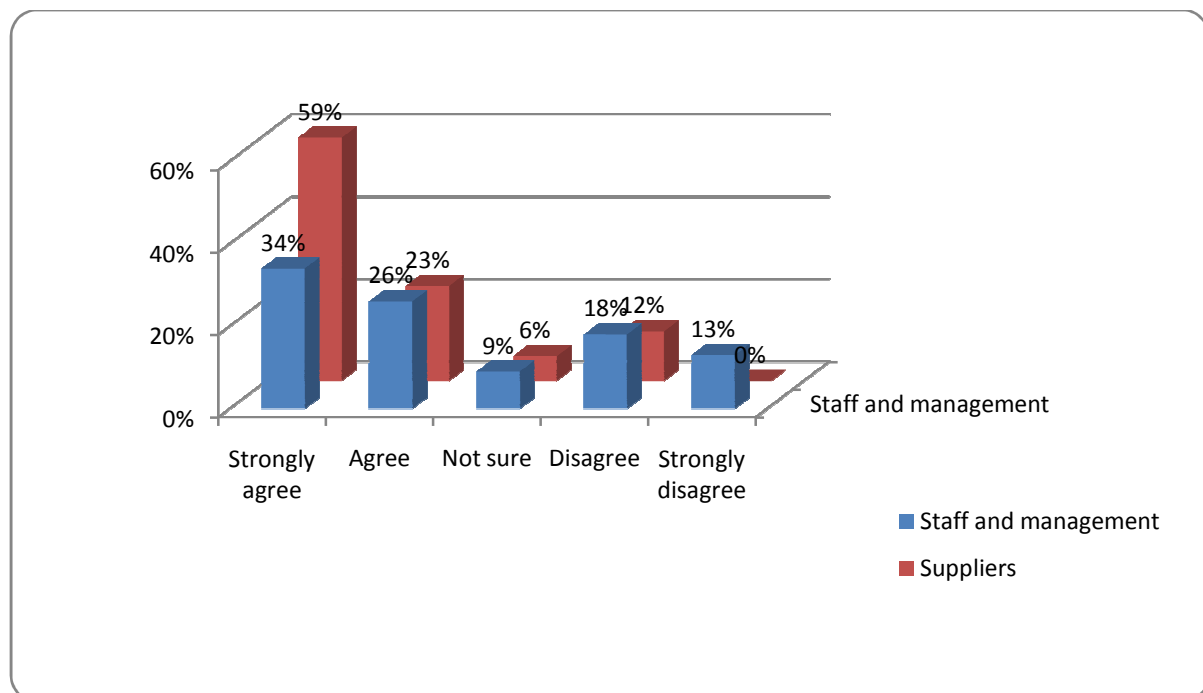
4.6.1 Security Issues Results

Figure 4.14 Security factors

The above Bar Graph shows that:-

- Suppliers who strongly agreed that security was a major obstacle in e-procurement implementation at SPB were 59% of the respondents.
- Suppliers who agreed that security was a major obstacle in e-procurement implementation at SPB were 23% of the respondents.

- Suppliers who were not sure whether security was a major obstacle in e-procurement implementation at SPB were 6% of the respondents.
- Suppliers who disagreed that security was a major obstacle in e-procurement implementation at SPB were 12% of the respondents.
- SPB employees who strongly agreed that security was a major obstacle in e-procurement implementation at SPB were 34% of the respondents.
- SPB employees who agreed that security was a major obstacle in e-procurement implementation at SPB were 26% of the respondents.
- SPB employees who were not sure whether security was a major obstacle in e-procurement implementation at SPB were 9% of the respondents.
- SPB employees who disagreed that security was a major obstacle in e-procurement implementation at SPB were 18% of the respondents.
- SPB employees who strongly disagreed that security was a major obstacle in e-procurement implementation at SPB were 13% of the respondents.

The results show that most of the respondents are of the view that security was a major issue in delaying e-procurement implementation at SPB. This could be due to the fact that SPB is a state procurement vehicle which is subject to attack from enemies as well as corrupt elements in the society.

Attaran(2001) pointed out that,"with the opening up of connectivity, a lowering in the security of data has also occurred and concern over security is a factor limiting the implementation of e-commerce systems".

4.6.2 Poor infrastructure

Figure 4.14 below shows an analysis on whether there is need to improve IT infrastructure at SPB.
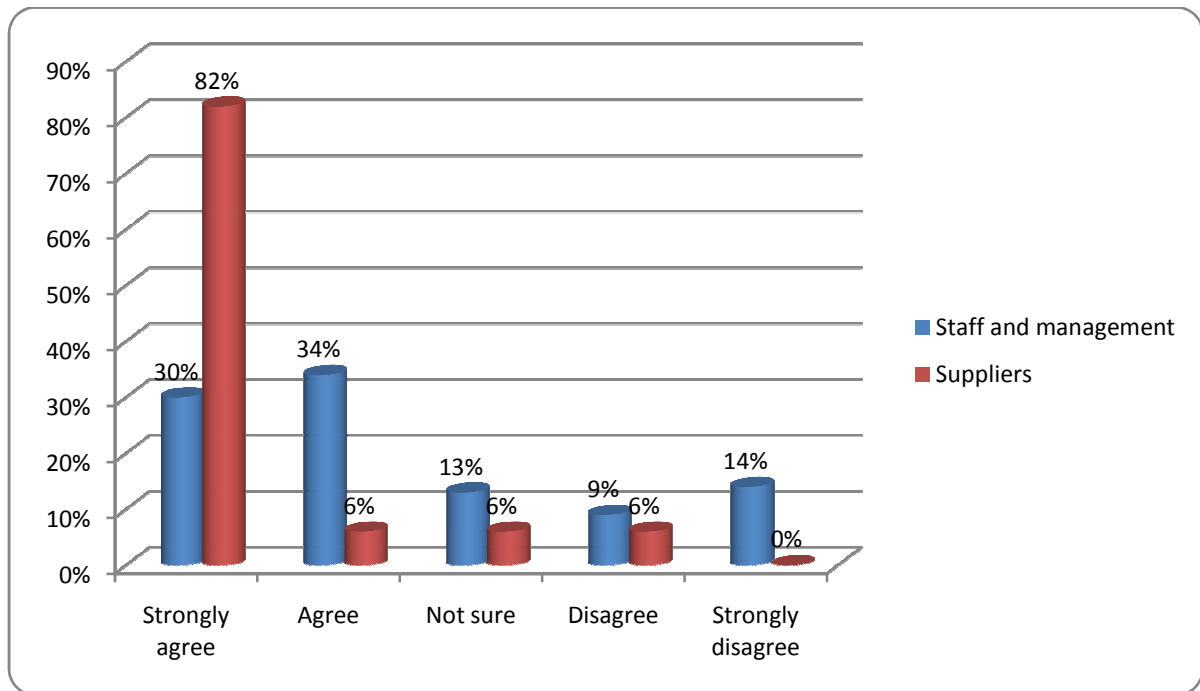
Figure 4.14 Poor infrastructure

The above Bar Graph shows that:-

- ➢ Suppliers who strongly agreed that poor infrastructure at SBP affected implementation of e-procurement were 82% of the respondents.
- ➢ Suppliers who agreed that poor infrastructure at SBP affected implementation of e-procurement were 6% of the respondents.
- ➢ Suppliers who were not sure whether poor infrastructure at SBP affected implementation of e-procurement were 6% of the respondents.
- ➢ SPB employees who strongly agreed that poor infrastructure at SBP affected implementation of e-procurement were 30% of the respondents.
- ➢ SPB employees who agreed that poor infrastructure at SBP affected implementation of e-procurement were 34% of the respondents.
- ➢ SPB employees who were not whether poor infrastructure at SBP affected implementation of e-procurement were 13% of the respondents.
- ➢ SPB employees who disagreed that poor infrastructure at SBP affected implementation of e-procurement were 9% of the respondents.

> SPB employees who strongly disagreed that poor infrastructure at SBP affected implementation of e-procurement were 14% of the respondents.

This illustrates that lack of IT investment is affecting e-procurement implementation at SPB.

4.6.3 Setup or development costs in e-procurement adoption
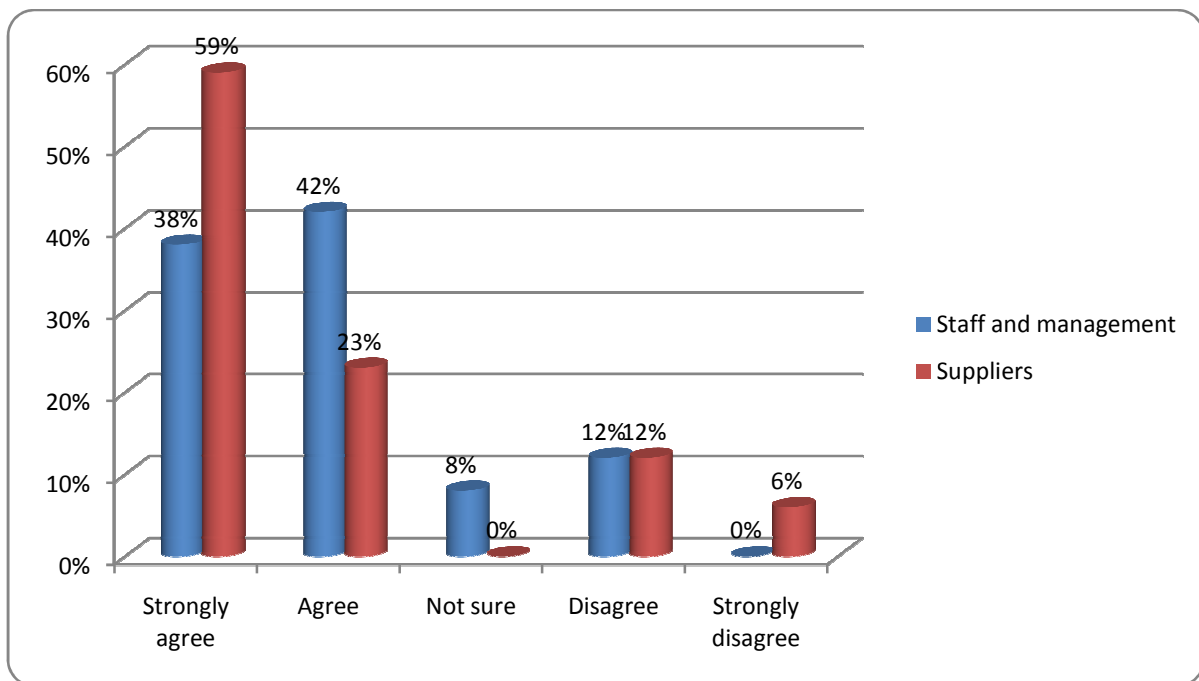
Figure 4.16 Set up costs

The research study on costs revealed that:-

> SPB employees who strongly agreed that development costs affected e-procurement implementation were 38% of the respondents.
> SPB employees who agreed that development costs affected e-procurement implementation were 42% of the respondents.
> SPB employees whowere not sure whether development costs affected e-procurement implementation were 8% of the respondents.
> SPB employees whodisagreed that development costs affected e-procurement implementation were 12% of the respondents.

➢ Suppliers who strongly agreed that development costs affected e-procurement implementation were 59% of the respondents.

➢ Suppliers who agreed that development costs affected e-procurement implementation were 23% of the respondents.

➢ Suppliers who disagreed that development costs affected e-procurement implementation were 12% of the respondents.

➢ Suppliers who strongly disagreed that development costs affected e-procurement implementation were 6% of the respondents.

4.6.4 Lack of supplier readiness
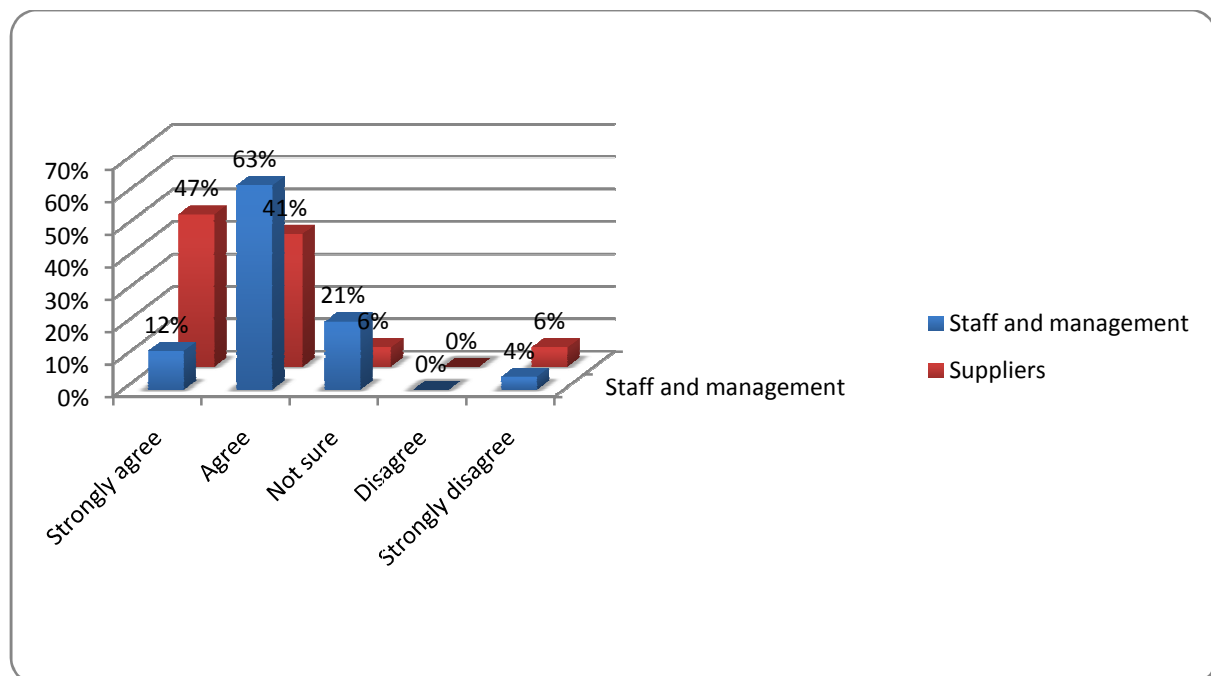
Figure 4.17 Readiness of the Bidders

The above presentation shows that:-

➢ SPB employees who strongly agreed that Bidder readiness was another challenge faced in adopting e-procurement were 12% of the respondents.

➢ SPB employees who agreed that Bidder readiness was another challenge faced in adopting e-procurement were 63% of the respondents.

- SPB employees who were not sure whether Bidder readiness was another challenge faced in adopting e-procurement were 21% of the respondents.
- SPB employees who strongly disagreed that Bidder readiness was another challenge faced in adopting e-procurement were 4% of the respondents.
- Bidders or Suppliers who strongly agreed that Bidder readiness was another challenge faced in adopting e-procurement were 47% of the respondents.
- Bidders or Suppliers who agreed that Bidder readiness was another challenge faced in adopting e-procurement were 41% of the respondents.
- Bidders or Suppliers who were not sure whether Bidder readiness was another challenge faced in adopting e-procurement were 6% of the respondents.
- Bidders or Suppliers who strongly disagreed that Bidder readiness was another challenge faced in adopting e-procurement were 6% of the respondents.

4.7 CHAPTER SUMMARY

Chapter four focused on illustrating the research findings as well as presenting the data gathered by the researcher during the research study. Results were interpreted so as to come up with conclusions and recommendations which will be discussed in Chapter five.

CHAPTER FIVE

5.1 INTRODUCTION

This chapter provides conclusions and recommendations of the research study.

5.2 CONCLUSIONS

5.2.1 State Procurement Scenario

The study has concluded the following:-

> The SPB is not following the stipulated requirements by the customers, flexible catalogue management process, providing tools for reporting and analysis. The e-procurement system is not supported by strategic sourcing activities to enhance supply-chain collaboration.

> Procurement in the public sector require a bureaucratic procedure to be followed. The majority of items are bought on requisition. This means that enormous amounts of efforts are spent on sending forms back and forth in the system. The internal coordination costs are therefore high with respect to the contracting procedure for commodities

> Technical issues to support e-procurement program at SPB are not adequate. Electronic procurement systems in essence mirror the procurement process through the provision of two distinct, but connected infrastructures.

> E-procurement applications often go hand-in-hand with repetitive purchases from suppliers, reducing human intervention and paperwork and often resulting in improved performance for buyers and suppliers.

.

It can also be concluded that SPB is not exploiting internet enough in order to improve internal processes. The adoption of e procurement was concluded to integrate SPB, suppliers and customers.

It can also be concluded that network connectivity at SPB is not adequate enough to promote e-procurement.

The study concludes that the amount of time spent on administrative tasks is reduced allowing procurement personnel to concentrate on more strategic issues. Professionals perceive that using such technologies will make their tasks easier and will increase the intention to purchase electronically.

5.2.2 Perceived Benefits of Electronic Procurement

The introduction of e procurement was concluded to enable the realization of faster and more efficient operational procurement processes. It was also concluded that e-procurement will provide SPB with opportunities process improvement and cost cutting.

The research study recommend that for SPB to fully benefit from e-procurement as source of competitive advantage the program must be integrated in firms' overall strategies.

The study concludes that e-procurement implementation will result in reduction of organizational costs and improvement of processes at SPB. The internal process cost improvement is achieved through four main ways that is transaction cost per order is reduced, order-to receipt cycle time is reduced, maverick purchasing reduced if not eliminated and inventory costs are reduced.

5.2.4 Challenges Faced in the Adoption of E-Procurement at SPB.

The study concludes that security was a limiting factor for the adoption of e procurement in Zimbabwe. The business community proves not be fully ready to transact on internet. SPB was found to be challenged by internet connectivity which tended not to support all the necessary programs.

The study also found and conclude that the challenges to e procurement are risk, uncertainty from suppliers, cultural differences, staff resistance to change, catalogue content readiness.

5.3 PROPOSITION TESTING

The proposition that the adoption of e-procurement by the SPB will improve the performance of the operations of the body is adopted. This is because of the conclusion that the current system which is not automated is not bringing out the intended results and it is slow as compared to the automated one. The study found and concluded that the adoption of e procurement will result in process improvement at SPB.

5.3 RECOMMENDATIONS OF THE STUDY

The study recommends that e-procurement applications aim to improve the efficiency of procuring personnel, automating the approval cycle, enabling negotiation of better contract pricing, leveraging existing contracts more effectively and reducing off-contract purchases.

SPB is recommended to continuously scan the external environment since it impact on the e-procurement strategy. This is because a number of major problems when actually implementing e-procurement due to the hasty decisions in the presence of considerable external factors.

SPB is encouraged to train its staff in new technologies, encouragement from management and other departments especially IT. The body should have sufficient financial and resource backing and adequate budget allocations to ensure all requirements are met.

SPB is encouraged to fully adopt e-procurement since its increasingly central role in supply-chain management, would revolutionize how future business-to-business practices would take place. Moreover, efficiencies would be improved and procurement costs reduced; the flow of information along the supply chain enhanced; strategic partnerships between networks of firms deepened.

5.3 AREA OF FURTHER STUDY

A further study to establish the effectiveness of e-governance and corporate governance in state procurement boards.

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APPENDICES

SECTION A: GENERAL INFORMATION

1. What is your Title in the Company?

   _____

2. How long have you Worked for the organization?
   a) Less than 1 year   [   ]
   b) 1 to 5years   [   ]
   c) 6 to   10 years   [   ]
   d) 11to 15 years   [   ]
   e) Above 15 years   [   ]
3. How old are you?
   a) 20 – 30 years   [   ]
   b) 31 – 40 years   [   ]
   c) 41-50 years   [   ]
   d) 51 and over   [   ]

SECTION B: GOVERNANCE, BUSINESS, MANAGEMENT, AND TECHNICAL ISSUES THAT ARE MOST LIKELY TO BE ADDRESSED

4. From the following factors which ones must the organisation comply with for success of internet based procurement? (Please tick the appropriate).
   a) Support complete requirements of production and non-production procurement through a single internet-based, self-service system.   [   ]
   b) Deliver a flexible catalogue management strategy that can meet the needs of an individual buying organisation and its supply-chain.   [   ]
   c) Provide tools for extensive reporting and analysis.   [   ]
   d) Support strategic sourcing activities.   [   ]

e) Enhance supply-chain collaboration and coordination with trading partners.
      [   ]

5. In the spaces provided below can you please state the governance, business, management, and technical issues that are most likely to be addressed in electronic procurement?

_____

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_____

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6. From the following factors which ones have affected the usage of E-procurement? Tick the appropriate.
   a) Supplier participation and influence.   [   ]
   b) External organisational pressures.   [   ]
   c) Internal organisational support.   [   ]
   d) Network connectivity/integration.   [   ]
   e) Perceived task improvements/convenience.   [   ]

7. What are the e-procurement drivers in your organization? (Please fill in the spaces provided below).

_____

_____

_____

_____

8. With reference to your organisation what are the critical e-procurement success factors? (Please fill in the spaces provided below).

_____

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SECTION C: ASSESS THE PERCEIVED BENEFITS OF ELECTRONIC PROCUREMENT

9. For the following statements please make use of Likert scale, 1=Strongly agree, 2=Agree, 3=Not sure, 4=Disagree and 5=Strongly disagree.

   a) The use of internet technologies in procurement is aimed at realising faster and more efficient operational procurement processes which bypass the procurement department and enable those people to concentrate on more strategic tasks.[ ]

   b) E-procurement leads to a reduction of administrative costs in the procurement process.[ ]

   c) E-procurement enables companies to decentralise operational procurement processes and centralise strategic procurement processes as a result of the higher supply chain transparency provided by E-procurement systems.[ ]

   d) E-procurement offers the greatest opportunity for companies to improve processes, reduce costs, and increase productivity across the supply chain. [ ]

10. The table below presents the benefits of e-procurement, can please fill in the table with specific reference to your organisation?

Benefits of e-procurement	Disagree	Agree
Lower transactions costs		
lower staffing requirements		
shorter procurement cycles		
reduced inventory levels		
higher degree of transparency		
increased communication and collaboration between supplier and buyer companies		

11. In the spaces provided can you please state the benefits the perceived benefits of electronic procurement and how they have manifested in the organisation?

_____

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SECTION D: THE LIKELY CHALLENGES THAT CAN BE FACED IN THE ADOPTION OF ELECTRONIC PROCUREMENT SYSTEM AT SPB

12. For the following statements please make use of Likert scale, 1=Strongly agree, 2=Agree, 3=Not sure, 4=Disagree and 5=Strongly disagree.
    a) Concern over security is a factor limiting the implementation of e-commerce systems.[   ]
    b) Poor infrastructure in areas such as IT and telecommunications challenges the adoption of electronic procurement.   [   ]

13. The table below lists some of the likely challenges that can be faced in the adoption of electronic procurement system at SPB. Can you please agree to the extent to which they have affected the adoption of electronic procurement?

	Strongly agree	Agree	Not sure	Disagree	Strongly disagree
High development costs					
Lack of client supplier readiness					
Slow and unstable connections					

14. In the spaces provided below can you please state the likely challenges that can be faced in the adoption of electronic procurement system at SPB?

_____

_____

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END OF QUESTIONNAIRE THANK YOU FOR YOUR TIME

SECTION A: GENERAL INFORMATION

15. What is the name of your organisation?

_____

_____

16. What do you supply to SPB?

_____

_____

_____

17. How long have you been in the organization?

   f) Less than 1 year   [ ]

   g) 1 to 5years   [ ]

   h) 6 to   10 years   [ ]

   i) 11to 15 years   [ ]

   j) Above 15 years   [ ]

SECTION B: GOVERNANCE, BUSINESS, MANAGEMENT, AND TECHNICAL ISSUES THAT ARE MOST LIKELY TO BE ADDRESSED

18. From the supplier's or customer's point of view, how do you view the following:

   a. Governance of e procurement

      Adequate   Not adequate   Very poor

      If your answer is not adequate and poor in question above what do you think should be done on governance of e procurement in order to improve it?

_____

_____

_____

_____

   b. Technical issues of e procurement

      Adequate   Not adequate   Very poor

If your answer is not adequate and poor in question above what do you think should be done on technical issues of e procurement in order to improve it?

_____

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_____

19. From the following factors which ones have affected the usage of E-procurement? Tick the appropriate.

f) Supplier participation and influence.

Strongly agree [ ]   Agree [ ]   Neutral [ ]   Disagree [ ]   Strongly Disagree [ ]

g) External organisational pressures.

Strongly agree [ ]   Agree [ ]   Neutral [ ]   Disagree [ ]   Strongly Disagree [ ]

h) Internal organisational support

Strongly agree [ ]   Agree [ ]   Neutral [ ]   Disagree [ ]   Strongly Disagree [ ]

i) Network connectivity/integration.

Strongly agree [ ]   Agree [ ]   Neutral [ ]   Disagree [ ]   Strongly Disagree [ ]

j) Perceived task improvements/convenience.

Strongly agree [ ]   Agree [ ]   Neutral [ ]   Disagree [ ]   Strongly Disagree [ ]

20. With reference to your interaction with SPB what are the critical e-procurement success factors? (Please fill in the spaces provided below).

_____

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SECTION C: ASSESS THE PERCEIVED BENEFITS OF ELECTRONIC PROCUREMENT

21. For the following statements please make use of Likert scale, 1=Strongly agree, 2=Agree, 3=Not sure, 4=Disagree and 5=Strongly disagree.

e) The use of internet technologies in procurement is proving to be faster

1   2   3   4   5

f) E-procurement leads to a reduction of administrative costs in the procurement process.

1   2   3   4   5

g) E-procurement enables companies to decentralise operational procurement

1   2   3   4   5

h) E-procurement offers the greatest opportunity for companies to improve processes, reduce costs, and increase productivity across the supply chain.

1   2   3   4   5

22. In the spaces provided can you please state the benefits the perceived benefits of electronic procurement and how they have manifested in the organisation?

_____

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SECTION D: THE LIKELY CHALLENGES THAT CAN BE FACED IN THE ADOPTION OF ELECTRONIC PROCUREMENT SYSTEM IN AT SPB

23. For the following statements please make use of Likert scale, 1=Strongly agree, 2=Agree, 3=Not sure, 4=Disagree and 5=Strongly disagree.

c) Concern over security is a factor limiting the implementation of e-commerce systems.[   ]

d) Poor infrastructure in areas such as IT and telecommunications challenges the adoption of electronic procurement.[   ]

24. The table below lists some of the likely challenges that can be faced in the adoption of electronic procurement system at SPB. Can you please agree to the extent to which they have affected the adoption of electronic procurement?

	Strongly agree	Agree	Not sure	Disagree	Strongly disagree
High development costs					
Lack of client supplier readiness					
Slow and unstable connections					

25. In the spaces provided below can you please state the likely challenges that can be faced in the adoption of electronic procurement system in dealing with SPB?

_____
_____
_____
_____
_____
_____

END OF QUESTIONNAIRE THANK YOU FOR YOUR TIME