

UNIVERSITY OF GHANA

MAINSTREAMING SUSTAINABLE PUBLIC PROCUREMENT IN GHANA'S
PUBLIC SECTOR: THE ROLE OF E-GOVERNMENT

BY

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DECLARATION

I do hereby declare that this thesis is the result of my own original research and has not been presented by anyone for any academic award in this or any other University. All references used in the work have been duly acknowledged.

I bear sole responsibility for any shortcomings in this document.

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CERTIFICATION

I hereby certify that this research was supervised in accordance with procedures laid down by the University.

.....

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.....

DATE

DEDICATION

I dedicate this piece of work to the Almighty God, the source of my knowledge and strength. I also dedicate this work to my late grand mum, Akua Sarfowaa Kakraba who always believed in me. May her lovely soul rest in peace. This work is also dedicated to my parents, Daniel and Rebecca, and all my siblings. I say, thank you for your love, support and encouragement.

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LIST OF ABBREVIATIONS

ADB	Asian Development Bank
AMA	Accra Metropolitan Assembly
CAGD	Controller and Accountant Generals Department
CIC	Community Information Centres
EGDI	E-Government Development Index
EPA	Environmental Protection Agency
ERP	Enterprise Resource Planning
EU	European Union
GIFMIS	Ghana Integrated Financial Management Information Systems
GOG	Government of Ghana
ICLEI	International Council for Local Environmental Initiatives
ICT	Information Communication Technology
ICT4AD	ICT for Accelerated Development
IISD	International Institute for Sustainable Development
ILO	International Labour Organization
ISO	International Organizations Standardization
LCC	Life-Cycle-Cost
LPO	Local Purchase Order
MDA	Ministry, Department and Agency
MDG	Millennium Development Goals
MMDA	Metropolitan Municipal and District Assembly
MTF	Marrakech Task Force

NITA	National Information Technology Agency
NPM	New Public Management
OECD	Organisation for Economic Co-operation and Development
PPA	Public Procurement Authority
PUMARP	Public Financial Management Reform Programme
PWD	People with Disability
SDG	Sustainable Development Goals
SPP	Sustainable Public Procurement
UNDESA	United Nations Department of Economic and Social Affairs
UNEP	United Nations Environment Programme

ABSTRACT

Considerations for environmental and socio-economic impacts in procuring public goods and services is arguably the most significant reform in public procurement meant to address some inefficiencies associated with government procurement behaviours. This practice, which is referred to as Sustainable Public Procurement (SPP) has stimulated a high level of research attention with several positive impacts. However, these studies are limited to the developed countries. Knowledge of the SPP practice is very limited in the context of developing countries despite their significant improvement in e-government structures. Through a case study design of the qualitative research approach, this study attempts to: i) explore SPP mainstreaming challenges; ii) the role of e-government in SPP; iii) assess readiness to roll-out e-procurement. The study purposively sampled and interviewed 18 participants from four Procurement Entities from Ghana's Public Sector. From a thematic content analysis of both primary and secondary data, the study found that the absence of a composite legal framework, limited capacity of relevant stakeholders, and lack of political will and budget constraint inter alia, impedes SPP implementation in Ghana's public sector. A Two-Way Principal Agency relationship is thus established among stakeholders in their quest to promote SPP. However, e-government tool akin government portals, social media handles and an integrated e-procurement software provide an informative avenue for assessing market readiness and sensitizing stakeholders on the SPP practice. Among other things, the study recommends a composite legal document on SPP and a robust monitoring and evaluation system as linchpins for mainstreaming SPP in Ghana.

Keywords: Sustainable Public Procurement, Ghana, E-Government, E-Procurement, Sustainable Development, Principal Agency Theory, Stakeholder Theory

CHAPTER ONE

INTRODUCTION

1.0 Introduction

Beyond the Millennium Development Goals (MDGs), Sustainable Development Goals are currently considered a means of securing the continuity of development objectives of the world, covering environmental, social and economic development aspects. These developments may be achieved as governments procure goods and contracts services and works from both local industries, large national and multinational companies for its citizens. To promote sustainable development through public procurement, the United Nations report on e-government recommends information and communication technology to improve accuracy in forecasting citizens' demand for public utilities and to control irregularities in public procurement to lower the risks and challenges to sustainable development (UNDESA, 2014). This research explores the role e-government can play in the implementation of sustainable procurement in the public sector of developing countries.

In an outline, this chapter initially presents the background of this research. It further states the research problem by clearly outlining the research problem necessitating this research. The chapter consequently presents the objectives and questions the research sought and answered respectively. Significance and scope of the research are also presented. Finally, the chapter presents how the other sections of this study are organized.

1.1 Background of the Study

Governments exist to provide for its citizens several varieties of services and public goods towards national development. In the course of providing these services, government collaborates and interacts with its citizens through local government and decentralized agencies, civil society and the private sector. In developing countries, however, governments often spend between 20% to 70% of their national revenues on the procurement of public goods and services to its citizens (UNDP, 2006). Considering the quantum of the proportion of national revenue used on procurement, most government around the world often fail to do due diligence in the contracting or procurement process leading to inefficiencies, hash environmental, social and economic impacts, as well as corruption scandals among others. These irregularities culminate into a loss of value for the citizens and impede national development.

In recent times, however, there have been calls to consider long-term economic, social and environmental benefits of governments' procurement practices towards continuous development (Preuss, 2007; Kjällerström, 2008; Walker & Brammer, 2009; Brammer & Walker, 2011). Goal 12 target 12.7 of the Sustainable Development Goals (SDGs) which seek to ensure sustainable consumption and production patterns by 2030, focuses on promoting public procurement practices that are sustainable, emphasizes the world's effort to achieve this. This process is referred to as Sustainable Public Procurement (SPP).

Sustainable Public Procurement basically refers to the act of spending public funds on products, services, works and projects that promotes sustainable development. The United Kingdom (UK) Sustainable Procurement Task Force in 2006, defined sustainable procurement as a process “whereby organizations meet their needs for goods, services, works and utilities in a way that achieves value for money on a whole life basis in terms of generating benefits not only to the

organization, but also to society and the economy, whilst minimizing damage to the environment” (cited in Kjöllnerström, 2008:1). This concept was earlier adopted by United Nation (UN) in 2002 and other international organizations like Organisation for Economic Co-operation and Development (OECD), European Commission, inter alia towards promoting sustainable development.

Consequently, the Marrakech Process, a global effort was launched in 2003 to develop a ten-year framework of programmes (10YFP) to aid the implementation of the concept in various regions. In the light of the global increase in ICT connectivity, the Task Force, as part of its operational plan, has developed an online assessment tool and training materials, which provide different stakeholders in the public procurement process an easy start to implement the concept of SPP (Kjöllnerström, 2008). This is partially due to the global performance in the e-government survey as reported by the Department of Economic and Social Affairs of the United Nations (2014).

1.2 Statement of Research Problem

Even though public procurement has been acknowledged by scholars as one of the major functions of governments as it is linked with value for money, improved public service delivery, and viable environment for the growth of private sector (World Bank, 2012), its process is constraint by several inefficiencies. Significant among them is the disregard for environmental and social impacts by the purchasing processes of government (Brammer & Walker, 2011). In other cases, governments fail to do due diligence in the acquisition process for goods and services leading to huge legal and economic impacts on public funds. These inefficiencies include unnecessary delays on the part of the government in the procurement process. For example, it was identified in Ghana

that the process of payment to contractors which often takes almost 2 months of legal timeframe, also covers over 30 steps: ranging from invoicing to receipt of payment (World Bank, 2017).

All these ineptitudes in the process have led to countless reform initiatives which are in line with the World Bank's argument that "...public procurement reform can contribute directly to improving a country's business, investment, and social environments" (World Bank, 2012:6). Noteworthy of these reform initiatives is the digitization of the procurement process (Neupane et al., 2012; Vaidya et al., 2006) and the integration of environmental and social variables into government procurement criteria (Preuss, 2007; Brammer & Walker, 2011; World Bank, 2012). Regarding the integration of environmental and social criteria into procurement practices of government, studies from developed countries have indicated a high level of attention and several positive impacts. Scholars such as Brammer, Walker, and Preuss have argued that, indeed, the practice has the tendency of promoting sustainable development which has been manifested in Switzerland and United Kingdom (UK) (Hall & Purchase, 2006; Preuss, 2007; Walker & Brammer, 2009). For instance, in 2009, Walker and Brammer through a survey, found a major variation in the sustainable procurement practices in the public sector of UK. Thus, while local governments prioritize buying from local firms, the health and education sectors recorded both lower social considerations. The latter observed high environmental requirements in their procurement process (Walker & Brammer, 2009).

However, same cannot be said about the developing country context despite reports of some improvement in their e-government development index (UNDESA, 2014). For example, on 30th August 2010, the Government of Ghana agreed with the Swizz Confederation to implement Sustainable Public Procurement (SPP) in Ghana in accordance with the Marrakech Taskforce Approach, towards improving its procurement practices (PPA, 2012). Unfortunately, the

agreement appears not fulfilled after over half a decade now. Why has Ghana not been able to mainstream SPP? There seem to be none or if any, very limited empirical studies that explore challenges hindering the mainstreaming of SPP in developing country context (Lund-Thomsen & Costa, 2011; Walker & Brammer, 2012) and particularly in Ghana, with its impact on their local industries also unknown.

Meanwhile, governments are focusing on deploying e-services for national development in the new era of information technology. For instance, a survey by the United Nations Department of Economic and Social Affairs on e-government indicates that Ghana (ranked 11th & 123rd in Africa and the World respectively), Bolivia, Vietnam, and Philippines among others have clearly advanced their e-government despite their relatively lower national income (UNDESA, 2014).

Similar to this, contemporary procurement process both in the private and public sectors has seen a shift towards digitization justifying its accuracy in forecasting organizations' demand for goods and services. Earlier studies on electronic procurement established that the new process enhances transparency and accountability (Panda et al., 2010), provide adequate information and reduces corruption associated with the traditional procurement process (Neupane et al., 2014), even though Brammer and Walker (2011) noted in their global study that it may hinder buying from small local firms that are not e-enabled.

Consequently, the UK Sustainable Procurement Task Force, as part of its operational plan, has developed an online assessment tool and training materials, which provides different stakeholders in the public procurement process an easy start to implement the concept of SPP (Kjöllerström, 2008). Even though this development appears to assume that e-government has a role in sustainable public procurement implementation (Walker & Brammer, 2012), empirical studies to

support this claim seem to be lacking. Can Ghana take advantage of its performance in the 2014 e-government survey by UNDESA, to mainstream SPP in its public sector?

1.3 Research Objectives

1.3.1 General Objective

This study, in a broader sense explores the implementation challenges of SPP and the role of e-government in promoting sustainable government procurement practices in Ghana's public sector.

1.3.2 Specific Objectives

In order to achieve this broader objective, the study was guided by the following specific objectives:

- i. To identify implementation obstacles in mainstreaming SPP in Ghana's Public Sector
- ii. To identify the role of e-government in the implementation of SPP in Ghana's Public Sector
- iii. To assess the readiness of Ghana's Public Sector to roll-out e-procurement

1.4 Research Questions

In order to achieve the specific objectives above, this study is directed at answering the following research questions:

- i. What are the challenges hindering the mainstreaming of SPP in Ghana's Public Sector?
- ii. What role has e-government in the implementation of SPP in Ghana's Public Sector?
- iii. Is Ghana's Public Sector ready to roll out e-procurement?

1.5 Significance of the Study

This research contributes to the scanty literature on sustainable public procurement in developing countries.

Again, the study provides policy directions and contributes to public administration by improving the inefficiencies in the public procurement processes and relationships between central government (MDAs), its parastatal agencies, and the private sector towards Goal 12 and target 12.7 of the Sustainable Development Goals (SDGs) which seeks to promote public procurement practices that are sustainable in accordance with national policies and priorities.

This research also contributes to laying the initial groundwork for future research on the relationship between sustainable public procurement and e-government in developing economies.

1.6 Scope and Limitation of the Study

This study does not claim to be exhaustive. It is limited to an inquiry into assessing the challenges that confront the mainstreaming of sustainable public procurement (SPP) in Ghana's public sector; the role e-government could play in this process as the world observes a global increase in information communication technologies (ICT) accessibility, even among low-income economies like Ghana; and assess the readiness of Ghana's public sector to roll-out e-procurement by recommending policy directions. In this case, challenges that impede successful implementation of SPP in developing countries are sought without throwing into the oblivion factors that may be employed to improve the practice in these regions.

The study uses Ghana's public sector as a case study drawing primary data from respondents from a cross-section of public sector organizations partly responsible for the implementation of the SPP policy. In selecting these public sector organizations, the researcher foremost considered

organizations with a key mandate for implementing e-government and sustainable public procurement respectively in Ghana. Aside this, the researcher also considered organizations whose activities are consistent with ensuring environmental and social sustainability in their areas of operation from among the 15 public sector organizations where e-government systems were initially piloted and currently being used for service delivery (see Table 2.1).

In this case, it may not be appropriate to make generalizations from the empirical findings since developing countries aside their common economic features may have different cultures among other characteristics which may influence their individual implementation process. Nevertheless, results from this study may be valuable in the process of building knowledge.

1.7 Organization of the Study

This research consists of five (5) chapters. The first chapter forms the introductory aspect of the study. It comprises the background to the study, statement of the research problem, objectives of the study, research questions, significance of the study, scope and limitation of the study, and lastly the organization of the study with a summary and conclusion.

Chapter two broadly focuses on a review of relevant literature. Both theoretical and empirical literature relevant to this research were reviewed. In this regard, the research foremost presents the concept of public procurement, sustainability, e-government, sustainable public procurement and other relevant concepts needed for the research. In the context of Ghana, it subsequently presents Ghana's policy on public procurement and its processes. It identifies the role of some key actors and stakeholders who have contributed to the formulation and implementation of this policy to achieve their intended goals and objectives. It further outlines some of the major challenges that

hinder efforts to promote sustainable public procurement in general and also reviews some relevant frameworks that are altered based on the study findings.

The third Chapter provides the methodology adopted for this research. This chapter deals with issues such as the research approach, research design, study area, sources of data, instrument and data collection tools and data management and analysis, limitations of this study as well as ethical considerations amongst others.

Chapter four contains a presentation of data analysis and discussion of key research findings. The last chapter finally summarizes the rich findings of the research, concludes and makes specific recommendations for policy considerations, practitioners, academia and the general public on the subject investigated.

1.8 Conclusion

In sum, this initial chapter lays a background to the research that seeks answers to why Ghana has not been able to mainstream SPP into its procurement practices over half a decade since it agreed to promote SPP in its public sector.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

While the preceding chapter presents the background and justification for this very research, this chapter presents a conceptual overview of the study. It discusses the extensive literature on key concepts in public procurement from different perspectives and on salient issues in order to position this study. This section, foremost, introduces the concept of public procurement as the main issue under discussion and further emphasizes its role in the global development agenda. Public procurement practice in Ghana is subsequently presented. The chapter also discusses some of the contemporary issues in public procurement such as sustainable procurement, green procurement and e-procurement among others. The literature on e-government is also reviewed and as a broader umbrella for e-procurement. Relevant models and tools proposed by scholars and actors for enhancing effectiveness in the public procurement practice towards development are also discussed, in addition to appropriate theoretical frameworks with which findings obtained was analyzed.

2.1 Public Procurement

Public procurement refers to the processes through which government agencies, departments and other public organizations acquire goods, services, works, and activities from third parties (Neupane et al., 2014). This includes buying, renting, leasing or acquiring supplies, construction or services. The term also comprises all such functions (description of requirement, selection, and

award of contract, among others) that relate with obtaining goods and services by government to serve its citizens.

Public procurement has been recognized globally by extant studies as one of the chief economic activities of government because it constitute a larger proportions (10% to 30%) of national income (Thai, 2001; UNDP, 2006; UNEP, 2011; World Bank, 2012). For instance, the World Bank (2012) postulates that public procurement is an essential tool for government as it is linked with the three pillars of effective governance: improved public service delivery, value for money, and enabling environment for private sector-led growth. The subject is a very specialized one with several dimensions.

This important function of government has constantly been under close scrutiny by scholars and experts, in their efforts to minimize corruption (Transparency International, 2011; Ochrana & Pavel, 2013; Neupane, et al. 2014), improve the system towards social outcomes (McCrudden, 2004), promote transparency and accountability (Transparency International, 2011; Ochrana & Pavel, 2013; Neupane, et al. 2014), increase participation of local firms, and small and medium scale businesses (Karjalainen & Kemppainen, 2008), promote sustainable development (Kjöllerström, 2008; Walker, & Brammer, 2009; Lund-Thomsen & Costa, 2011), improve performance (Vaidyanathan & Devaraj, 2008), and digitizing the process (Vaidya et al., 2006; Walker, & Brammer, 2012; Neupane et al., 2014).

2.1.1 Public Procurement in Ghana

With reference to the significant role public procurement play in national development, the Government of Ghana passed the Public Procurement Act 663 in 2003 to regulate the procurement activities of government at all levels: central and local. The act was necessitated by the need to

ensure sanity, value for money, and to enhance financial management practices in the public sector. A financial management programme (Public Financial Management Reform Programme (PUMARP) launched in 1996 by the then government, noted certain weaknesses in the country's public procurement system. Among these flaws included the absence of comprehensive procurement policy to coordinate and prescribe general procedures for all public procurement entities, hence, the Act (Ameyaw et al., 2012).

The Public Procurement Act 663 therefore provides for the establishment of the Public Procurement Board (PPB) which was tasked with the responsibility of drafting policy proposals, enforcement, approvals and harmonizing public procurement processes in the public service towards ensuring judicious, economic and efficient use of national resources (GOG, 2003). Also, the Board is responsible for outlining the main institutional and administrative arrangements for public procurement, as well as procedures for tendering and monitoring their compliance. It also facilitates capacity building of public procurement officials at all levels whilst the Public Procurement Authority (PPA) assumes an oversight role over public procurement and facilitate complete enforcement of Act 663 in the Republic of Ghana. There is a legal department staffed with legal practitioners who receives and addresses the grievances of tenderers regarding tender evaluation processes.

Although public procurement in Ghana has in the past two decades observed some developments in procurement disputes settlement and to some extent, promote transparency and competition as well as provided basic information on tender adverts on PPA's websites, it has amended major sections of Act 663 with Public Procurement Amendment Act 2016 (Act 914) to respond to contemporary public procurement snags.

Ghana in 2010 became a member of the Marrakech Task Force (MTF) on Sustainable Public Procurement (SPP) led by Switzerland (PPA, 2012). It is currently expected to be implementing the Swiss-Ghana Sustainable Public Procurement Project (SPP) to improve Government's public procurement practices. Consequently, with calls to correct the numerous challenges (Osei-Tutu et al., 2010; Ameyaw et al., 2012) confronting the practice by restructuring the system, introducing electronic procurement and to respond to sustainability demands by the emerging procurement practice, major sections of the Public Procurement Act 2003 (Act 663) has been amended by Public Procurement Amendment Act 2016 (Act 914). Gilbert Ankrah of the Information Service Department indicated on the Government of Ghana website that the objective of the amendment is to "...foster competition, efficiency, transparency and accountability in the public procurement process of goods, works and services" (Ankrah, 2016).

2.1.2 Public Procurement Methods in Ghana

In Ghana, public procurement takes different forms or methods depending on its nature and amount involved. According to the Public Procurement Act 2003 (Act, 663) and Public Procurement Amendment Act 2016 (Act, 914), a procurement entity may select from six (6) methods for public procurement base on the nature of product, service or works in question and the amount involved.

These methods includes:

2.1.2.1 Single/Sole Sourcing

In situations where physical or technical requirement can only be met by one tenderer or there is an urgent need for goods, works or services. It is mostly used for procurements of national security concerns. Subject to approval by the PPA Board, single sourcing also becomes the most

appropriate when additional supplies must be procured from a previous supplier, contractor or consultant because of compatibility or standardization with existing goods, equipment, technology or services. With this process, whilst price must be reasonable, alternative goods and services must not be suitable (PPA, 2014).

2.1.2.2 Restricted Tendering

This method offers some convenience to the procurement entities. Thus, it is used to invite prequalified tenderers who are already in the database of the entity. Hence, limited number of suppliers of a particular good, work or service are provided with tender documents to participate. It is therefore considered when estimated cost for evaluation is disproportionate to the cost required for evaluating a pool of tenders and that open competition is impossible. These methods are also subject to approval by the PPA Board (PPA, 2014).

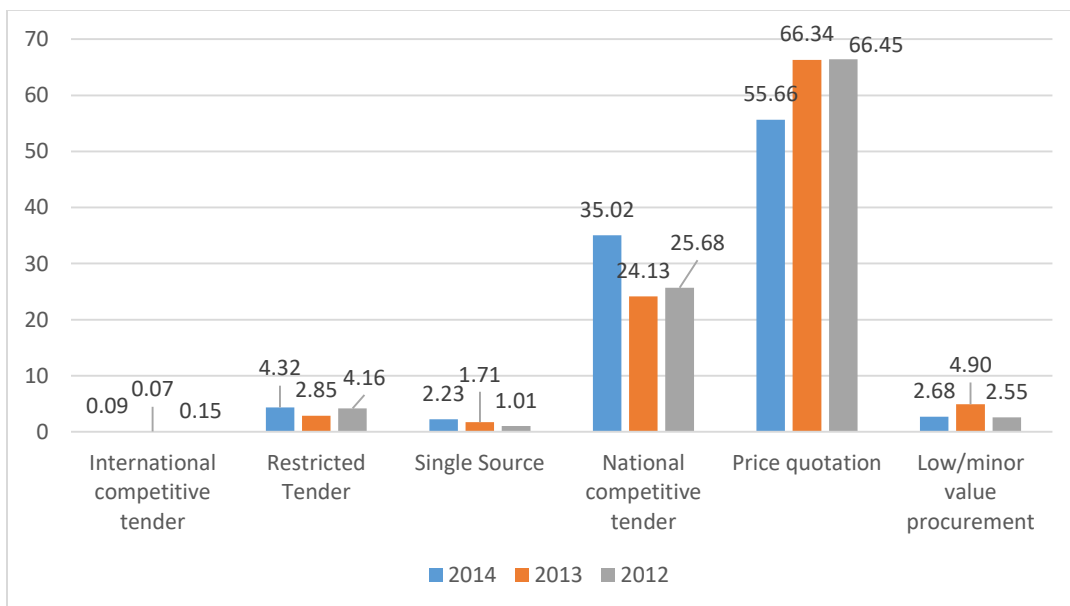


Figure 2.1: Procurement methods based on the total Number of Tender

Source: PPA Annual Report (2012; 2013; 2014)

2.1.2.3 Price Quotation

This method is used when the value of the goods, services or works to be procured has been estimated. Therefore, a threshold which has recently been amended is used. Thus, in the case of goods, the PPA (2014) demands that the value of the procurement should not be more than Ghc100,000; up to Ghc200,000 for works; and up to Ghc50,000 for services.

2.1.2.4 National Competitive Tendering

National competitive tendering is also used when the value of the goods, services or work to be procured is been estimated. The threshold which was recently amended specifies that this method should be used for goods above Ghc100,000 to Ghc10,000,000. With respect to works, national competitive tendering method is used when the value involved is above Ghc200,000 to GhcGhc15,000,000. Whilst with services, it should be above Ghc50,000 to Ghc5,000,000, according to the PPA (2014).

2.1.2.5 International Competitive Tendering

The threshold is also used for international competitive tendering. With this method, estimated value of procurement should be above Ghc10,000,000 for goods, above Ghc15,000,000 for works, and above Ghc5,000,000 for services. Aside Single Sourcing and Restricted tendering, all the other methods with thresholds are either approved by the Central Tender Review Committee (in the case of MDAs) or Regional Tender Review Committee (in the case of MMDAs) after evaluation and selection by the respective Entity Tender Committee.

2.1.2.6 Low/Minor value procurement

As part of effort to respond to some of the challenges faced by some particular entities in the course of their procurement practice, PPA introduced the minor/low value procurement as an intervention. This method which is currently being piloted among 2nd Cycle Institutions allows for procurement involving low value, of repetitive nature and mostly for perishable items.

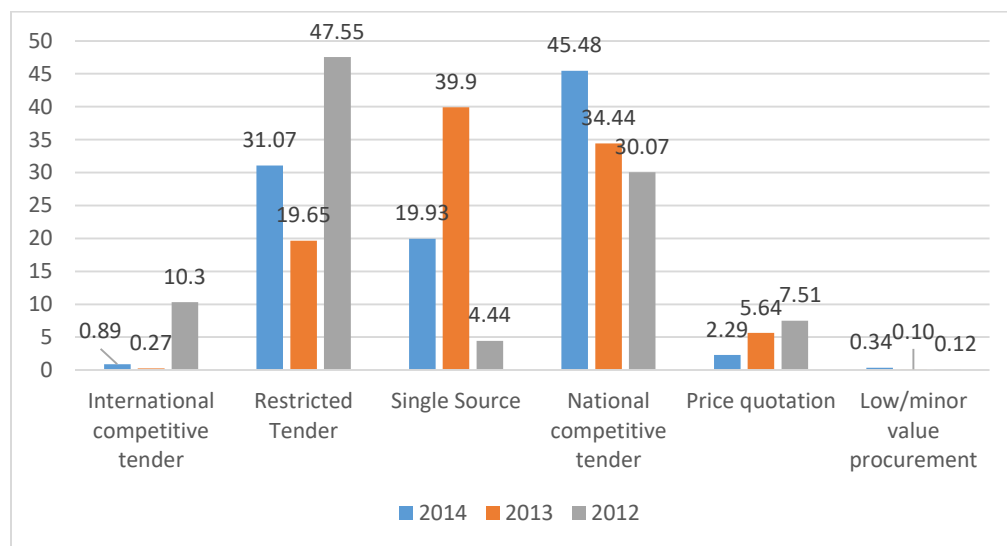


Figure 2.2: Procurement methods based on Tender Value

Source: PPA Annual Report (2012; 2013; 2014)

An analysis of the annual reports of PPA indicates that even though the total number of tenders that used the single/sole sourcing and restricted tendering method seem small (see Figure 2.1), the value involved was very high. For example, in 2014, about 48% of the total funds use for procurement in the country, was used for restricted tendering. Same was the case of single source tendering in 2013, where 40% of national funds was used (see Figure 2.2). Even though they are needed under expedient situations, these methods do not promote the general principle of competition in public procurement. With regards to transparency, only 165 out of 330 approved

single/sole sourced and 147 out of 404 approved restricted tender awards were posted on the PPA website by procurement entities as the end of 2014. This implies that citizens of Ghana have limited knowledge of what majority of public funds are dedicated to and why. Don't they deserve to know? Practitioners including the PPA Board are therefore required to ensure that due diligence, value for money, accountability and transparency is ensured in approving these procurements (PPA, 2014).

2.1.3 Inefficiencies in Public Procurement

Extant studies on the subject of public procurement have accused its previous methods as inefficient as this significant function of government has been confronted with delays, corruption, lack of transparency and competition, disregard to social concerns, environment and economic impacts of products, among others. In this section, some of these inefficiencies are discussed.

2.1.3.1 Corruption

Corruption has become a global menace with the World Bank, the United Nations (UN), the Asian Development Bank (ADB) and Transparency International (2009; 2011) reporting that the canker is increasing at high rate particularly among developing countries. Wilson (2004) and Myint (2000) contends that corruption thrives in the heart of systems with huge loopholes, coupled with administrative and legal laxity in addition to the lack of transparency and excessive discretionary powers exercised by politicians and public officials. Corruption in public procurement can thwart national development by discouraging external investment, increasing business costs, weakening national institutions, and eroding public trust among other things (Lio, 2011). For instance, in Africa, Mawenya (2008) estimates corruption to constitute about 70% of government contracts with about 20% to 30% price rise in Sub-Saharan Africa (Mawenya, 2008).

2.1.3.2 Undue Delays

Time is considered to be very significant both in the procurement process of contracting entities and in fulfillment or execution of contracts by contractors. In most jurisdictions, the selection and awarding process involves several steps which often delay the process. For instance, it was identified in a World Bank report on Ghana that the legal timeframe with which procurement entities use to process payment to supplies (ranging from invoicing to receipt of payment cheque) is about 56 days (World Bank, 2017).

These delays are mostly due to unclear legislative tools guiding the process or poor capacity of procurement entities, and to an extent, it officers performing the procurement responsibilities. However, in fulfilment of the contracts, time refers to the period within which orders are placed and when they are received (Hult et al., 2000), whilst with payment, it starts from the period where the invoice is submitted to the purchasing entities until when the contract amount is finally paid to the supplier. Vaidyanathan and Devaraj (2008) argue that time factor as compared to quality or accuracy of fulfilled orders is increasingly becoming an essential element in contemporary competitive environment based on the findings from their quantitative study to assess the role quality plays in e-procurement performance among private firms in the manufacturing and electronics industries, which sampled 131 procurement managers.

2.1.3.3 Lack of Transparency and Competition

Transparency is a principle of openness exhibited in the process with which contracting authorities or entities undertake procurement (Ochrana & Pavel, 2013). Transparency aims at ensuring clarity with adequate information of public sector award process across local and central government institutions which promote competition from contractors. Even though most legal instruments

guiding public procurement prescribe that this principle is observed, it is left in the hands of public administrators responsible for the procurement role to apply it due to their discretionary powers. Hence, observing this principle has been difficult globally over the past decade (Vlach & Nemeč, 2001; Ochrana & Pavel, 2013). Lack of it in public procurement affects competition and breeds corruption by politicians and public officials from the contracting authority (Wilson, 2004).

2.1.3.4 Over-emphasis on Price Criteria

With reference to all the considerations made during the evaluation of tenders, price of services, works or goods to be delivered has been identified to be the deciding factor in award decision of entities, which is quite inappropriate. For instance, in the Czech Republic, Ochrana and Pavel (2013) identified that price serves the main evaluation criterion for selecting tenders. Thus, during the evaluation, the tender with the least tender price is considered successful. This situation has led to several uncompleted projects, delays in execution, poor quality of project performance including legal disputes among entities and contractors.

In recent times however, practitioners are encouraged to shift attention from this single evaluation criterion to multi evaluation criteria in their evaluation and selection of tenders for projects. It is recommended that aside from price, a thorough life-cycle-cost of the products, service or works should be estimated before selection of contractors and awarding them consequently. Also, advocates for a comprehensive assessment of environmental and social impacts of products or services (McCrudden, 2004; Geng & Doberstein, 2008) are arguing that some of the fulfillments from contractors have detrimental impacts on the society and environment.

2.1.5 Public Procurement Reforms

In view of the widespread perception of corrupt practices and inefficiencies identified, government procurement practices in the world over have experienced several developments. Some of these developments include decentralizing and empowering of local government in public procurement (Preuss, 2007; 2009; Ochrana & Pavel, 2013), digitization of the procurement process (Walker & Brammer, 2012; Neupane, et al., 2014), adoption of the concept of co-creation towards end-user value, and integrating sustainability standards into public procurement practices of government (Preuss, 2009; Brammer & Walker, 2011; Walker & Brammer, 2012).

For instance, in an empirical study, Neupane et al. (2014) attempted to evaluate the possibility of public e-procurement to reduce corruption in government departments in the capital of Nepal. The study which adopted a positivist philosophy found that adopting an electronic public procurement technology reduces the risk of corruption as the system minimizes the discretion of public officials. This system reduces the information gap that often lies between government and bidders, and consequently promotes transparency and accountability in the procurement process. It was also highlighted by Walker and Brammer (2012) on the other hand, that even though the electronic process may promote the act of procuring sustainably, it obstructs buying from the local industries who often lack ICT capabilities.

With respect to evaluating procurement process at the local government units or decentralized level, Preuss (2009) assessed the various strategies through which local institutional authorities use procurement to achieve sustainable outcomes. This study using an exploratory approach actually revealed interesting efforts by local authorities in enhancing their procurement practices in England. He found that local authorities promote subcontracting to local firms by multinational suppliers and substitution of harmful materials in products among others of which he consolidated

into a comprehensive typology (Preuss, 2009). In the Czech Republic, however, Ochrana and Pavel (2013) found that public procurement is very transparent but hampered by some level of incompetent administrators, with price criteria dominating the procedure, upon their examination of local government contracts awarded (Ochrana & Pavel, 2013). Solely relying on price criteria may take the attention of procurement entities or authorities off some of the harsh environmental and social impacts these services, infrastructures and products may bring to users, usually in the long run. This therefore necessitates co-creation towards end-user value, and integration of sustainability standards into the procurement practices of governments.

In this light, Brammer and Walker (2011) also contributed to this emerging area in their attempts to find out how government organizations are implementing sustainable procurement towards reducing the negative social, environmental and economic impacts of products and service, including factors to encourage sustainability among private sector businesses in an international survey. Despite the significant variation in extent and nature across regions, these scholars identified some sustainable procurement practices in public sector procurement. However, resistance by the public sector to pay more to buy sustainably and lack of support from managers to incorporate sustainable procurement into planning and strategizing among other barriers discourage sustainable procurement in the public sector (Brammer & Walker, 2011). The formulation and enforcement of government policy and legislation to promote sustainable public sector procurement are therefore recommended (Brammer & Walker, 2011).

A bottom up approach must be adopted in the formulation of these policies so as the concerns and views of both local and multinational suppliers could be taken into consideration, while sensitizing them about the need for integrating sustainability requirements into public procurement. It is argued that bottom up approach to policy implementation accommodates the private sector's

strategic initiatives as well as those from local bureaucrats and other relevant policy subsystems (Sabatier, 1986).

2.2 Electronic Public Procurement

In light of the global increase in ICT connectivity, both the private and public sectors have seen a shift towards digitization of contemporary procurement processes partly as a result of the inefficiencies the manual process poses in the supply chain management process: delays, lack of transparency, corruption among others (Panda et al., 2010; Transparency International, 2011; Neupane, et al., 2014). Today, most businesses have adopted "...the use of internet or digitally enabled inter or intra-organizational information technology to accomplish business processes" (Boone & Ganeshan, 2004 cited in Walker and Brammer, 2012:261). These processes involve building information systems that link suppliers, buyers, manufacturers, and other functions of business together to enable organizations to add value to their physical assets (Jin & Robey, 2008). E-procurement is considered a form of e-business because it allows businesses to procure goods and services over the internet.

Electronic procurement refers to the use of web-based systems and internet facilities to facilitate the process of awarding and purchasing of contracts, goods and services by organizations. Even though the concept basically implies the involvement of digital technologies in the procurement procedure, attempts to define the term by scholars has generated some level of confusion which needs to be clarified. Thus, often times the term e-procurement is used interchangeably with e-procuring, even though they are distinct. Vaidya, et al. (2006) for instance, tries to dichotomize these two by claiming that while e-procuring takes quite a narrow position by focusing on specific stages of the procurement process such as e-auction, e-tendering, e-catalogue, e-ordering,

electronic invoicing among others, electronic procurement in general takes a broader view of the procurement act as it uses internet-based technologies to integrate all aspects of the acquisition process into an end-to-end process (Vaidya, et al., 2006).

In the private sector, e-procurement was described by Walker and Brammer (2012) as a type of e-business system which involves automation of the procurement procedure permitting firms to use the internet resources for procuring services and goods from upstream suppliers in the supply chain. With this method, potential suppliers are identified and interacted with at e-market places and with e-payments mode (Standing et. al., 2007). This process of procurement is also recognized for timely order fulfilment which is very significant in modern business environment (Vaidyanathan & Devaraj, 2008).

However, in the public sector, Cattaneo (2012, p.2) refers to the term as “...end-to-end digitization of public procurement processes, from the sourcing phase (pre-award: before the supplier is selected) to the purchases phase (post-award: after the supplier is selected)”. It involves governments’ use of electronic processing when tendering public work or acquiring good and services. According to Vaidya at al. (2006), electronic public procurement is an inter-organizational information system, which automatizes any part of the procurement process in order to improve efficiency, quality, and transparency in government procurement. Despite the broader view of both definitions, this study adapts the latter as it seems complete and further highlights the intent of the concept clearly. In this sector, the e-procurement process is currently popular among developed nations such as United States of America (USA), Belgium, Czech Republic, Italy, Scotland, Austria, Denmark, Canada, Australia and the United Kingdom (UK), but has however attracted very limited attention from scholars (Hardy & Williams, 2007; Walker & Brammer, 2012). Among the few studies on government electronic procurement practices, there seems to be

a proportionate distribution of both theoretical and empirical results from the developed world whilst those from developing context appears to be largely theoretical (Panda, 2010). This may be as a result of the low rate of adoption to electronic procurement among governments of the latter context because there seems to be a lack of requisite infrastructural support for this reform. This study however, contributes to the existing body of knowledge by exploring this area.

2.2.1 Benefits of Electronic Public Procurement

E-procurement in the public sector has been studied by a lot of scholars justifying the process on the grounds that it provides adequate information and reduces corruption (Neupane et al., 2014) associated with the traditional procurement process, enhances transparency and accountability (Panda et al., 2010). Some of these benefits are elaborated below.

2.2.1.1 Provides Adequate Information

The use of electronic procurement platforms by public procurement entities enhances openness and transparency in the process (Neupane et al., 2014). Information concerning the tender advertisement reaches a wider scope, including small or local enterprises as well as the global market. On the internet, prospective tenderers are able to access all terms and conditions, including deadlines and application procedures without physically contacting the procurement entity.

2.2.1.2 Reduces Corruption

As tenderers access adequate information through the electronic system without necessarily visiting the entities, they lack personal interaction with or unable to offer bribes to procurement or evaluation officers prior to their tender application (Shakya, 2012). The e-procurement therefore removes the human interaction which could serve as the basis for corruption (Neupane et al., 2014).

Conversely, procurement officers are also unable to exploit tenderers with the promise of influencing the selection in their favor.

2.2.1.3 Reduces Governments' Transaction Costs

Scholars have also argued that e-public procurement reduces cost often incurred by government in the procurement process (Panayiotou et al., 2004). This system saves huge government budget which was previously used to advertise calls for participation and tenders published in the print media and other media such as the television and radio platforms. Now, government or public procurement entities may choose to only post calls/adverts on its website and on that of the national procurement authority at no extra cost. The UN (2011) argues that Countries who have properly implemented their system have observed a higher involvement of small and medium scale enterprises (SMEs) because of the enhanced access to market and a fall in marketing costs.

2.2.1.4 Preventing Maverick Buying

With electronic public procurement, local procurement entities prepare their procurement plan which they share with the national procurement authority who is in charge of oversight responsibility of public procurement in the country. Public entities are therefore bound to procure according to the plan or seek approval to procure any other items which are not listed in the plan for the period from the national procurement authority with tangible reasons given. Also, entities are able to check the prices of services and goods or works at the e-market place which facilitates the procurement planning process. With these, Shakya (2012) argues that they are able to make better decisions towards more value rather than unplanned buying.

2.2.1.5 Enhances Transparency and Accountability

E-procurement has also proven to be an effective tool which promotes transparency and accountability in the procurement process of many countries both developed and developing (UN, 2011; Panda et al., 2010). It provides access to trace the details of all transactions for audit purposes which deter corruption. E-procurement method affords government the ease of using suitable monitoring and controls to re-evaluate the process in the case of complaints from aggrieved parties. This system therefore promotes timeliness without giving preferences to late application of tenders, and enforces streamlined and standardized procurement processes.

2.2.1.6 Emphasizes Value-for-Money

The technology also ensures value-for-money in the procurement process (Shakya, 2012). Since adequate information regarding the tender is available and accessible by a large pool of suppliers or contractors, it enhances competition and reduces transaction costs. Purchasers or public procurement entities are therefore able to select the best tender from the large pool base on a wide variety of criteria such as low environmental impacts, low price, low life-cycle-cost, use of high level of recycled materials, tenders with most socially responsible methods/approaches among others. This facilitates effective resource allocation management.

2.2.1.7 Enhances Competition

Again, the wide accessibility that e-public procurement offers to suppliers helps to promote competition by eliminating discrimination and the limitation of the process to only a few suppliers (Shakya, 2012). All types of firms irrespective of their physical location can participate in the process by accessing terms and conditions and applying through the prescribed means without

necessarily being present unless required by the terms and conditions (in case of dialogue or negotiation with tenders which can also be done electronically upon the consent of tenderers).

Notwithstanding these advantages of e-public procurement, some studies reserve that this may hinder buying from small local firms that are not e-enabled in their study which sought to establish a relationship between sustainable procurement and e-procurement (Walker & Brammer, 2011).

2.2.2 The Impact of E-Public Procurement on SMEs

Public procurement has been advocated to be used as a tool for development and good governance (Thai, 2004; Denes, 1997) as it also assists local firms and businesses owned by minority groups like women and the disabled. For instance, there is increased innovation, reduced unemployment, economic development, and entrepreneurial environment (Reed et al., 2004 cited in Karjalainen and Kemppainen, 2008). According to Denes (1997), small businesses often have high growth rate as compared to large firms, which could positively impact local economies. Also, they are seen as a locus for innovation since they produce original and more patents per worker comparably to larger firms (Hoffman et al., 1998; Clark & Moutray, 2004). SMEs also produce more personalized services with flexible organization and more well-organized internal communication. This is because local firms often understand extensively the operations of public organization and their socio-cultural environment based on which they deliver.

Despite all these benefits from SMEs, Walker and Brammer (2012) and the UNEP (2013; 2016) contend that the new development often limits the participation of small local firms in government procurement practices. It is an undeniable fact that public procurement legislations in most governments emphasize principles such as non-discrimination, transparency and competition to promote equal participation from all types of contractors or suppliers, irrespective of their size.

However, some inherent capacity challenges such as unavailability of IT systems, and administrative and legal expertise restraint small and medium enterprises from equal participation in public procurement (Karjalainen & Kemppainen, 2008). For instance, Karjalainen and Kemppainen (2008) identified in a survey analysis that low participation of small and local firms in public procurement was largely associated with the absence of electronic systems to be used for processing orders and lack of administrative and legal expertise. This same finding was also noted by Walker and Brammer (2012) in their global survey that e-procurement impede the participation of SMEs without e-enabled facilities. However, regarding the impact sustainable public procurement may have on SMEs in a developing country context, it appears to be unknown because there seem to be no empirical studies yet.

2.3 E-Government

On the other hand, e-government (a broader umbrella of e-public procurement) simply refers to the use of online or other digital media by governments to deliver information and services to its citizens, businesses, and between its agencies. The term is defined by Boateng (2013) as a governance strategy whereby the public sector uses information and communication technologies with the aim of improving information and service delivery. In a rather broader sense, the international consulting group known as Gartner, defines e-government as a “continuous optimization of service delivery, constituency participation and governance by transforming internal and external relationships through technology, the internet and new media” (Gartner, 2000 cited in Fang, 2002, p.3). Scholars argue that e-government encourages citizen participation in the decision-making process and make government more accountable, transparent and effective

(Boateng, 2013). Others also add that this innovation promotes privacy, security, integration, re-engineering, ubiquity and interoperability in public sector management (Fang, 2002).

However, despite these benefits, factors such as infrastructural constraints, lack of security and privacy of information, lack of partnership and collaboration, lack of strategic plans, resistance to change to e-systems and low knowledge about the e-government program among others often hinder smooth implementation of e-government projects (Alshehri & Drew, 2010).

The concept is one of the main elements advocated by proponents of the New Public Management (NPM) theory (Warkentin et al., 2002; Lapsley, 2009). According to them, public sector management will be effective if managers of public institutions adopt such management principles common to private sector organizations. The UN also argues that E-government can provide momentous opportunities that could help transform public administration towards an instrument of sustainable development (UN, 2014). The prospects presented by the recent digital growth (be it social media, big data, online services, cloud computing, or mobile applications) always increase our perspective of e-government. Consequently, there have been several forms of e-government services and system applications ranging from e-parliament, e-health, e-procurement, e-justice, e-immigration, to e-policing and e-education inter alia. However, amid the numerous e-government solutions, e-procurement has been noted with exceptional potential to improve governments operations towards good governance and government developmental reforms for accountability, effectiveness and transparency in government contracting and procurement processes (Vaidya et al, 2006; UNDESA, 2011).

2.3.1 Models of E-Government

Digitization of public services enables governments to interact with various entities through numerous means. From the literature, these means of interaction have been conceptualized into various models. For instance, Fang (2002) posits that these models include Government to Citizen (G2C), Government to Employee (G2E), Government to Business (G2B), Government to Non-Profit, and Government to Government (G2G). While the G2C model allows governments to interact with its citizens through the provision of information on websites of public entities, social media platforms, SMS alerts and through other basic technologies, citizens may also apply for public services or participate in decision making by submitting their application electronically to designated government websites.

With regards to the Government to Business (G2B), government is able to initiate and transact business electronically with corporate entities in the market place such as procurement of goods and service. Here, government may invite tenders from a wider pool of business entities on the website of either the entity or body responsible for procurement. The other processes of procurement (application, assessment, evaluation, contract award, payment, among others) may also be done digitally. On the other hand, Government to Non-profit (G2N) model enables government to interact with non-governmental, political parties, non for profit, among its agencies and other civil society organizations for legal information, guidelines and permits for their operation (Fang, 2002).

On employment, the use of conventional recruitment methods is no longer effective in terms of its timeliness and attraction of the right caliber of employees from enough pool (Yoon Kin Tong, 2009). Hence, the transformation of the conventional recruitment methods to online recruitment internet technology (Joyce, 2002). This is practiced by both private and public organizations of

which Fang conceptualize as the Government to Employee (G2E) model. According to him, government exchanges information regarding job vacancies, performance, pay, personnel policy, data, and notice for career management and development with both potential and existing employees (Fang, 2002).

The government may also partner with other governments for technical advice, trade and diplomatic purposes. For this reason, governments may need the Government to Government (G2G) model. However, among all the interactions with government, G2C and G2B is considered by Fang (2002) as the most significant models for government probably because they mainly exist to serve the public interest through collaboration with business. They therefore recommend that they should be treated as a holistic system in the area of e-commerce in the E-society (Fang, 2002).

This paper however examines the most important aspects of e-government that brings governments closer to private and corporate entities to seek their technical know-how and partnership towards the delivery of public good and services to citizens.

2.3.2 Stages of E-Government Adoption

Considering the potential of e-government towards enhancing effectiveness of public service delivery, its adoption has become quite problematic and chaotic to public administrators (Layne & Leeb, 2001). This situation has therefore sparked the curiosity of scholars and practitioners to find plausible measures to curb obstacles frustrating its adoption and promoting smooth implementation of the initiative among government organizations. To better assess the extent of e-government adoption in a particular context, Baum and Maio (2000), Layne and Leeb (2001), and Devadoss et al. (2002) among others have proposed various maturity stage models.

Laynea and Leeb (2001), for instance, proposed a four stage model in their attempt to reveal challenges and propose solutions to aid public administrators rethink e-government towards a fully functional one. According to them, the complexity and integration of e-government at different governmental levels consists of four growth stages: cataloguing (online information with downloadable forms), transaction (online database supporting online transactions), vertical integration (local system of same functionalities linked with higher systems), and horizontal integration (system integration across different functions). Similarly, Baum and Maio (2000) of the Gartner Group also proposed a four stage maturity model of e-government development. This stages comprise: “Web presence stage” (static web sites used to provide basic information to citizen); “Interaction stage” (tools for interaction with stakeholders like search engines, documents downloading and emails); “Transaction stage” (complete online transactions for services and goods); and “Transformation stage” (integrated and personalized processes) (Gartner Group, 2000 cited in Fath-Allah et al., 2014, p.74). Even though these studies played a major role in developing unique methodologies towards their proposed stage/maturity models, they seem to be incomplete since government provision of electronic service does not only depend on government online services and functionalities. Hence, the need for a more conclusive approach for assessing e-government adoption.

Consequently, the UN proposed the E-Government Development Index (EGDI) to address this challenge. The EGDI took a broader view about governments (member states) efforts to enhance electronic services by assessing human capacity to use ICT and ICT infrastructural development, in addition to the traditional advancement in online services.

2.4 The E-Government Development Index (EGDI)

In search for a comprehensive and holistic methodology to address the limitation of the stages model in assessing countries e-government adoption, the United Nations in 2001 came up with a framework called E-Government Development Index (EGDI) which has since been using to assess e-government implementation among its member states. The EGDI measures governments' provision of: online services; telecommunication connectivity and infrastructure; and human capacity (UNDESA, 2014) (see Figure 2.3). The EGDI basically provides performance ranking of e-government development on this holistic view among its member states and not in absolute sense.

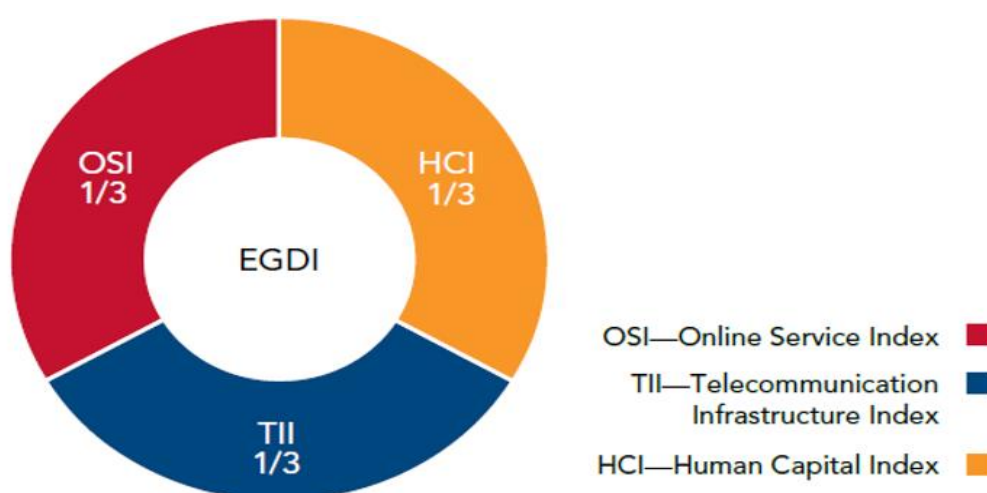


Figure 2.3: Components of E-Government Development Index (EGDI)

Source: United Nations Department of Economic and Social Affairs (UNDESA) (2014).

Whilst the online service index (OSI) measures each country's use of online or websites to provide certain information and services to its citizens, telecommunication infrastructure index (TII) looks at a country's effort to improve ICT infrastructural facilities in their countries. The human capital index (HCI) on the other hand also assesses a country's efforts to train and invest in its citizens on

ICT usage. Highlight of the 2014 e-government survey indicates that telecommunication infrastructure index (TII) was the least performing components which affected the global average index of member states and followed by online service index (OSI). The survey however, noted that the human capital index (HCI) was the lead index probably due to its capacity as a major factor for achieving the MDGs and poverty reduction (UN, 2014).

The survey indicated that “...meeting multi-faceted sustainability challenges, governments are ... increasingly using open data and data analytics to improve accuracy in forecasting citizens’ demand for public utilities or to screen for irregularities in public procurement to lower its risks” (UN, 2014, p.14). This survey seems to reiterate the role of e-government in sustainable procurement as Walker and Brammer (2012) established and consequently encouraged future research to investigate how to develop e-procurement tools to support various aspects of sustainable procurement. According to the survey, Ghana (ranked 11th & 123rd in Africa and the world respectively), Bolivia, Vietnam and Philippines among others have clearly advanced their e-government despite their relatively lower national income. Considering the development, this research contributes to the non or scanty literature in developing country context by assessing how Ghana can take advantage of its e-government infrastructure (Middle EGDI: 0.3735) to promote SPP among countries of this region.

2.5 E-Government in Ghana

The emerging information and knowledge economy is no doubt generating opportunities across all sectors in both developed and developing countries including Ghana. This information technology age is seen to offer Ghana a window of opportunity to leap-frog the key stages of industrialization and to transform its subsistence agriculture dominated economy into service-

sector driven that can successfully compete on the global market. In this light, Ghana launched the ICT for Accelerated Development (ICT4AD) policy in 2003 to represent its vision in this information age. Subsequently, from 2007, lots of government websites were constructed for all the Ministries and Department as well as Agencies of government under the Ghana e-Government Interoperability Framework (e-GIF). These websites serve as a one-stop window for services and information, and have helped to sensitize the general public, businesses and other nations on government activities and projects. However, a majority of these websites are informative in nature and offer little room for interaction between government and citizens (Boateng, 2013).

In 2008 however, the National Information Technology Agency (NITA) was also established by Act 771 as a public service institution mandated to be the ICT policy implementing arm of the Ministry of Communications. NITA is envisioned to provide leadership in the application of information and communications technologies (ICTs) in the public sector, by transforming Government of Ghana's administration, information dissemination and service delivery towards national development (GOG, 2008). Consequently, Ghana, through the Parliament in 2008, approved a \$30 million concessionary loan facility from the Chinese government for the construction of the initial phase of a nationwide e-Government infrastructure for Ghana. The proposed infrastructure was to be extended to all districts in the country and to provide a national data centre and a secondary data centre facility for disaster recovery capability, and ultimately connect all public institutions, MDAs and MMDAs to a single shared communications and computing infrastructure which will facilitate effective government service delivery to citizens, businesses and others. Huawei Technologies (GH) Ltd. (the local subsidiary of the leading Chinese telecommunications equipment manufacturer) and NITA (tasked by Ministry of Communications) were responsible for realizing the implementation of this project (NITA, 2013).

The first phase comprised: One-Stop Service Centre (commissioned by the Minister of Communications, Dr. E. Omane-Boamah), Tele-Presence, Call Centre for e-Government services, Metro fibre and Local Area Network for Ministries, Departments and Agencies (MDAs), Secondary Data Centre in Kumasi, supply of Desktop Computers and other ICT terminal equipment which has successfully been completed (Dowuona, 2013). The implementation of the US\$150 million project (comprising of loans from Chinese EXIM Bank, US\$40million loan from the World Bank and €37million concessionary loan from the Danish government) as the second phase of the e-Government project has also begun. This phase involves the construction of 21 Community Information Centres (CICs) in Nandom, Nabdam, Dobonso and many other locations far from the national capital.

According to the National Information Technology Agency website, e-government systems of different kinds have been piloted and currently being implemented in various public institutions (see Table 2.1).

In sum, the state, through these efforts seeks to bring to reality of what has become popularly known as e-Parliament, e-Executive, e-Health, e-Justice, and e-Services such as e-Immigration, e-Policing, e-Education and possibly introduce e-procurement in government's procurement process.

Table 2.1: Some E-government Systems used for Public Service Delivery in Ghana

No	Name of Public Organization	Type of E-government Application System	Nature/Purpose
1	Ghana Revenue Authority	Ghana Community Network (GCNet) and the Ghana Customs Management System (GCMS)	For efficient and effective cargo clearance at the ports of Ghana, by reducing unnecessary delays and malfeasance among other related bureaucratic processes.
2	Accra Metropolitan Assembly	Online service: marriage license application	Provides online forms for permit request, reprint of missing certification among others including electronic modes of paying for related fees.
3	Birth and Death Registry	Online service: birth certificate application	To provide accurate, reliable and timely information on all births and deaths occurring within Ghana
4	Driver and Vehicle Licensing Authority	DVLA Express Mobile Service (DEMOBS) and online license renewal and transfer of vehicle ownership	To provide customers with comfortable and convenient licensing services towards promoting road safety and environmental sustainability through integrity, professionalism, excellence and reliability.
5	Ghana Police Service	Online service: application for finger print check/nominal vetting	Police clearance certificate upon request by respective embassies or high commissions and employers as confirmation of criminal records.
6	Ghana Tourism Authority	Online service: forms for registration of accommodation/catering establishments	Investors may obtain license to operate accommodation and catering services at tourist locations.
7	Minerals Commission	Mining Cadastral Administration System (MCAS) and online service for licensing, mineral rights and permits as well as online request for cartographic search	Make it convenient for mining companies to get information in available mining fields among others even far away. The system elevates the manual processes of acquiring mineral rights onto an electronic system.

8	Ministry of Foreign Affairs	Online service: biometric passport application	To reduce inconveniences, unnecessary administrative processes and corruption at the passport office.
9	Controller and Accountant General's Department (CAGD)	Ghana Integrated Financial Management Information System (GIFMIS)	The use of Enterprise Resource Planning (ERP) to improve on public financial management in the Ghana.
10	Public Services Commission (PSC)	Human Resource Management Information System (HRMIS)	To monitor activities and manage data related to HR in the public service. Controlled by Controller and Accountant Generals Department (CAGD) and Public Services Commission (PSC).

Source: Author's construct, (2017)

2.6 Sustainable Development

Finding a comprehensive definition of development has been a major controversy among academia and practitioners. For instance, while some economics and political scholars refer to the term as economic growth (Bellù, 2011), others have quite broader definitions which make the term contested, complex, and ambiguous (Seers, 1969; Sen, 1973; Thomas, 2004). This controversy has led to several dimensions of development: economic development; territorial development (Bellù, 2011); human development (Sen & ul Haq, 1990); and sustainable development (Brundtland, 1987). This study places much emphasis on sustainable development as it goes a step further to promote economic activities that protect the environment and society as well as protecting the needs of both present and future generations. This dimension place emphasis on minimizing the use of exhaustible resources.

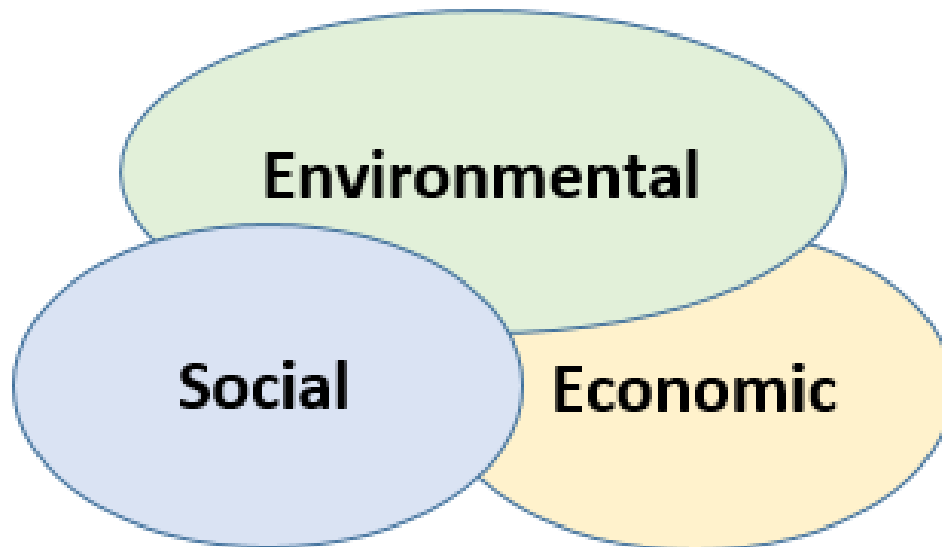


Figure 2.4: Pillars of Sustainable Development

Source: Authors Construct (2017)

Brundtland (1987, p.43), being the first to introduce the term, defines development as sustainable if it meets "...the needs of the present without compromising the ability of future generations to meet their own needs".

This practice was earlier limited to the relationship between nature (environment) and humanity (Gibson, 2001), however, it has been extended beyond environmental concerns, to include social sustainability (long term acceptance and ownership of development changes by the citizens, their organizations and associations) and economic sustainability (Bellù, 2011). This research places emphasis on how to promote this dimension of development through government procurement practices.

2.6.1 Sustainable Development and Goals

Beyond the Millennium Development Goals (MDGs), an international agreement to negotiate a new set of Sustainable Development Goals (SDGs) to guide the path of sustainable development in the world after 2015 was one of the key outcomes from the UN Conference on Sustainable Development (Rio+20) in 2012 (Osborn et al., 2015). This new development agenda contains 16 goals with 107 specific targets as areas of focus towards their achievement. Reports on the Post-2015 Agenda indicates that these goals are "action-oriented, concise and easy to communicate, limited in number, aspirational, global in nature and universally applicable to all countries, while taking into account different national realities, capacities and levels of development and respecting national policies and priorities" (UN, 2014, p.18). These goals are currently considered as a means of securing the continuity of development objects of the world, covering environmental, social and economic aspects.

While Goal 12 of the Sustainable Development Goals (SDGs) seek to ensure sustainable consumption and production patterns, target 12.7 focusses on promoting public procurement practices that are sustainable in accordance with national policies and priorities which this study contributes. These developments are achieved as governments procure goods, contracts services and works from both local industries, large national and multinational companies for its citizens.

2.7 Stimulating Sustainability through Public Procurement

Prior to SDG 12, there were calls to consider long term economic, social and environmental benefits of governments' procurement practices towards continuous development (Preuss, 2007; 2009; Walker & Brammer, 2012; Brammer & Walker, 2011; Lund-Thomsen & Costa, 2011). Majority of these studies which are from the field of supply chain management had already researched the practice and hence, essential for review towards positioning this study. This call sought to promote public procurement practices that are sustainable and also emphasizes the world's effort to achieving it. This process is referred to as Sustainable Public Procurement (SPP). The term basically refers to the act of spending public funds on products, services, works and projects that promote sustainable development (Adjei, 2010). Despite the level of attention gained by this innovation, these studies fail to present a definite definition for the term. Rather, they all place emphasis on government procurement behavior that also takes into cognizance both environment and social impacts aside the traditional price considerations.

For instance, Brammer and Walker (2011, p.455) defines the term as "...the act of integrating a concern for broader social and environmental impacts within procurement undertaken by government or public sector bodies". In 2006, the UK Sustainable Procurement Task Force also defined sustainable procurement as a process "whereby organizations meet their needs for goods,

services, works and utilities in a way that achieves value for money on a whole life basis in terms of generating benefits not only to the organization, but also to society and the economy, whilst minimizing damage to the environment” (DEFRA, 2006, p.10). Even though both definitions seems broader, whilst the former only involves an integration of environment and social impact requirements in government procurement practices, the latter goes further to ensure that value for money is achieved on a whole life period. This practice has become popular in light of the major adjustments in the global corporate social responsibility (CSR) and supply chain debates (Preuss, 2009). Lund-Thomsen and Costa (2011) reliably informs that while most public sector organizations have facilitated private sector engagement in CSR initiatives, they are now themselves examining whether “...they are abiding by socially and environmentally responsible purchasing principles in their own supply chains” (p.56).

2.7.1 Benefits of Sustainability Procurement

Both government organizations and private businesses stand a chance to benefit from several opportunities that sustainable procurement presents. Through sustainable purchasing practices, an organization can address issues such as waste reduction, efficient use of renewable resources, social inclusion, competition and effective participation of SMEs, material substitution through environmental sourcing of raw materials and minimization of hazardous waste materials (Karjalainen & Kempainen, 2008; Preuss, 2009; Adjei, 2010).

The literature clearly reveals that the concept is gaining some success in the health, labor and environmental sectors of some developed nations like the UK (Walker & Brammer, 2012; Brammer & Walker, 2011), Italy, Sweden (Uttam & Roos, 2015) and Switzerland, while studies on developing country context seem very scanty, if any. Even though African communities among

other developing countries are confronted with severe climatic conditions, environmental degradation, poverty, and deforestation (Adjei, 2010), SPP has been given limited attention in these areas.

Lund-Thomsen and Costa (2011) therefore recommends studies into the economic, social and environmental effects of government procurement in developing countries, its firms, workers and the environment. According to them, this gap could be addressed through the development of sustainable procurement impact assessment tools which would help test these through detailed studies of the actual as opposed to the postulated effects in developing country contexts which this study also focusses.

2.7.2 Green Procurement verses Sustainable Procurement

Even though there is no universal definition for sustainable procurement, the term and its practice is quite distinct from green procurement notwithstanding their common environmental perspective. Thus, while green procurement demands that organizations assess the environmental impact of products throughout its lifecycle in the procurement process (Bratt, 2013), sustainable procurement focusses on public buying that takes into account both economic and social in addition to environmental impact of products and services. This assessment includes environmental cost of buying materials for production, production cost, transport, storage, as well as using and cost of disposing the products after it becomes waste (UN, 2008).

The concept of Green Procurement in recent times has become very synonymous with the electronics industry (Nagel, 2000) as most nations are adopting measures to control the disposal of e-waste especially in developing countries. In 2017, for instance, government of Germany offered Ghana €25 million to support its efforts of establishing systems to effectively collect and

recycle e-waste (Bentil, 2017). These efforts are to ensure that environmentally hazardous substances like lead, mercury, cadmium, hexavalent chromium and some flame-retardants are not exposed to the environment. In a broader sense, however, green procurement is connected to a large variety of key words related to the procurement of products or components such as eco-labels, the avoidance of environmentally hazardous substances, energy use, the use of recycled materials and the re-usability of some parts, the recyclability and the disassembly time (Nagel, 2000). Green Procurement is a concept that can be positioned in each customer-supplier relationship, but the content may differ depending on the position in the chain.

2.7.3 Green Public Procurement

In the public sector, green public procurement has developed as a policy apparatus with a significant potential to navigate producers' and procurers' decisions towards a sustainable direction (Bratt, 2008). Bouwer et al. (2005) defined Green Public Procurement as “the approach by which public authorities integrate environmental criteria into all stages of their procurement process, thus encouraging the spread of environmental technologies and the development of environmentally sound products, by seeking and choosing outcomes and solutions that have the least possible impact on the environment throughout their whole life cycle”. Other scholars have also related to the terms as Environmentally Responsible Public Procurement (Li & Geiser, 2005), Sustainable Public Procurement (Preuss, 2007), Environmental Product Procurement, and Green Purchasing and Eco-Procurement (Bolton, 2008) among others.

According to Preuss (2007), the environmental demands in green procurement can either be related to purchased products or the services, or to potential suppliers, their competences and their environmental management systems. Bowen et al. (2001) provide a distinction between these. He

posits that ‘products based green supply’ are those that focus on the environmental friendliness of the products themselves whilst ‘greening the supply process’ involves focusing on the behavior of the actors, such as suppliers. Environmental demands can also be raised at different stages of the procurement process, from explicit demands in tender announcements to decision criteria in the final selection of tender (Bolton, 2008).

2.8 Theoretical Framework

2.8.1 Principal Agency Theory

The principal agency theory which is also referred to as Agency Theory describes the relationship between an individual (s) (principal) who has contracted another (agent) to undertake a responsibility on his or her behalf explicitly or impliedly comprising delegated authority to take a decision (s) (Ross, 1973 cited in Hill and Jones, 1992: 132). Hill and Jones (1992) highlight in their study which combines agency theory with stakeholder theory, the main assumption of the theory as the divergence interest of the principal and his or her agent. They therefore inform that to promote the welfare of the principal, there is the need to institute appropriate monitoring and incentive tools to redirect the agent from opportunistic actions (Hill and Jones, 1992). The theory has other assumptions which have been explained by Keil (2005) below:

- a) Both the agent and principal rationally behave towards their expectations under the principles of freedom of contract and private property;
- b) The actions of the agent have external effects on the welfare of the principal;
- c) The asymmetric information gives the agent discretionary freedom which leads to the agency problem when the agent takes undue advantage of the superior information. Hence,

the need for the principal to incur monitoring cost in the form of incentives or supervision if there is minimal control over the activities of the agent;

- d) There is divergence of interests. Thus, while both have their own interest, the agent is likely to undertake opportunistic acts to increase his/her own interest rather than that of the principal. Keil (2005) categorizes these three types of opportunistic behavior of the agent into hidden intention (goals and interests), hidden characteristics (unknown abilities and skills), and hidden actions (limited control over his/her actions).

The theory has mainly been used in the business and profit oriented circles to explain the relationship between managers and stockholders, managers and employees, among others (Jensen and Meckling, 1976). However, this extends beyond business to public governance (see Fama and Jensen, 1983; Hill and Jones, 1992; Leruth and Paul, 2006; Kivisto and Zalyevska, 2015). For example, Leruth and Paul (2006) used the principal agency theory to analyze public expenditure management systems in developing countries and subsequently advised the choice of an audit regime with lowest agency cost to the Ministry of Finance of the country in question. Governance structures that economize an agency cost are favored by natural selection processes (Fama and Jensen, 1983). Leruth and Paul (2006) illustrate that there are a number of activities that can be assimilated to principal agent relationship in government: Minister (principal) and Civil Servants (agent) to implement promised programmes; Parliament (principal) and Executive (agent) to implement national programmes at all levels of government; central government (principal) and local government (agent) to implement national programmes at the local areas. In all these instances, there is an observable element which is noteworthy in any principal-agent relationship (Leruth and Paul, 2006). This could be an output, outcome or impact which serves as an indicator for the responsibility or action for which the agent was engaged.

Applying the Principal Agency Theory (PAT), this study defines government (the executive arm) as the agent who has been contracted through elections to seek the welfare of its citizens (the principal), over a period of time. Welfare, in this case includes all national development programmes, projects and infrastructure that the government provides through acquisition or in partnership with the private sector (third party and agent to the government). However, since this study focuses on assessing the role e-government could play in the implementation of sustainable public procurement, the Principal Agency Theory alone will be inadequate to use as a theoretical framework for the procurement practice and its sustainability focus. It requires several other groups or parties with their own competing interests and responsibilities along the supply chain which must be managed to successfully realize the policy. Hence, the need for a fusion with the stakeholder theory as was done by Hill and Jones (1992).

2.8.2 Stakeholder Theory

The stakeholder theory is centered on the premise that an organization's actions or policies may have either positive or negative effects on certain actors and parties interested in its affairs. These actors or parties interested in the affairs of the organization are referred to as stakeholders. Freeman (1984) who is the main proponent of this theory suggests in his book (strategic management: a stakeholder approach), a collaboration among these stakeholders interest towards their benefits over time. Freeman (1984, p.46) traditionally defined a stakeholder as "any group of individuals who can affect or is affected by the achievements of the organization's objectives". Upon subsequent recognition of the significant input stakeholders may make towards an organization's success, Freeman (2004) redefined stakeholders as individuals or groups whose efforts are necessary to the success or survival of an organization. Even though the concept was derived from

shareholders of a corporation, stakeholders look beyond the economic interest associated with shareholders to a broader interest which needs to be managed by management of the said organizations towards its success.

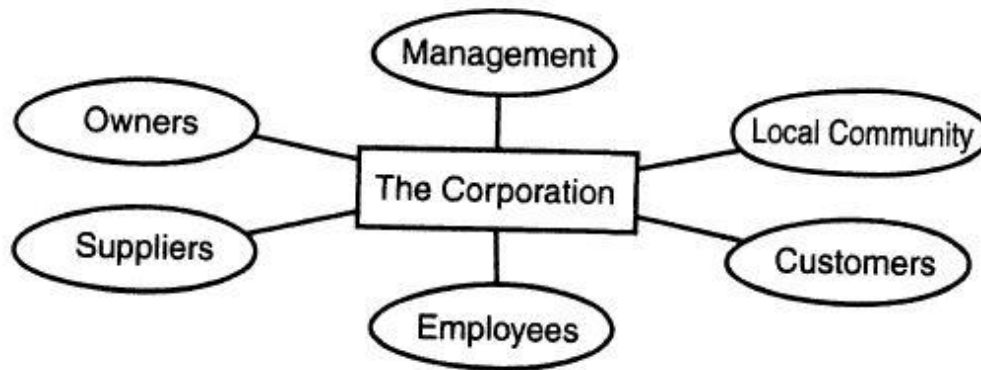


Figure 2.5: A Stakeholder Model of the Corporation

Source: Freeman (2001: 42)

From Figure 2.5, whilst management is responsible to work on behalf of the corporation in responding to and balancing the multiple claims of all the conflicting stakeholders, employees are the individuals management employs to carry out a variety of specific tasks towards achieving general organizational objectives and aims. The local community in Figure 2.5 above also refers to the social settings where the organization is located. While the organizations rely on the local community for raw material and social acceptance to smoothly operate, the local community also has its peculiar needs, which corporations are require through their management to respond to. Some of these needs may be adherence to social norms and infrastructural developments. In instances where ownership is separate from management as in the case of limited liability companies, owners also have a strong interest in the growth and profitability of their organizations that in turns maximizes their wealth. The organization also procures raw materials, items and other services from suppliers who are expected to be reliable at all times to meet the organization's needs

even in times of emergencies. These raw materials are then refined or manufactured into goods or used for services to meet the needs of its customers whom the organization exists to serve. Successfully responding to the competing interest of all these groups presents the organization a competitive edge from the good relationships created in the long run (Jensen, 2001).

The stakeholder theory seems to be popular in recent times due to concerns for sustainability of achieving objectives or outcomes of an organization, be it public or private. It must therefore, be acknowledged that government regulators, non-governmental organizations (NGOs), business, media, and policymakers in general have used the concept and tried to implement its principles in one way or the other. For instance, Ahenkan et al. (2013) use the theory to assess the various means through which the participation of local people could be enhanced in financial management and planning of local government agencies in Ghana. Upon categorizing stakeholders into mandatory and permissive (interest advocates and interest wielders), they however discovered among other things that most community members lack knowledge of the process and that they are not invited to community hearing meant to solicit their inputs. Hence, they recommend adequate time for local consultation, with evidence given before approving district budgets by the Finance Ministry of Ghana.

Donaldson and Preston (1995) further categorizes the literature of stakeholder theory into descriptive, normative and instrumental approaches to explain their argument that most studies on stakeholder theory are corporate social responsibility (CSR) oriented. With respect to descriptive approach, they claim that the stakeholder theory concentrate on describing how organizations acknowledge and manage the cooperation of their competing stakeholders (Donaldson & Preston, 1995). This helps them to determine appropriate management styles or strategies to be adopted. Also, according to them, while the instrumental thesis associates economic profitability and

growth maximization with stakeholder management style, the normative thesis concentrates on the ethical responsibilities of an organization. The question is, is the organization obliged to be fair or ethically responsible towards a stakeholder aside increasing their wealth or value?

The study considers Ghana as an organization which seeks to implement a policy to improve a very significant function (public procurement) towards the provision of public goods and services albeit in a sustainable manner. The stakeholder theory, even though has largely been used to analyze the strategic management approaches of private and profit oriented organization (Friedman and Miles, 2006), it is chosen to address first and third objectives of this study as it will help establish which groups are relevant to be considered in implementing sustainable public procurement in Ghana while the agency theory defines their implied or explicit responsibilities.

2.8.3 Marrakech Task Force (MTF) on Sustainable Public Procurement

The Task Force is a group of international team voluntarily constituted in 2003 by Switzerland, Mexico, Philippines, Argentina, Ghana, Czech Republic, Norway, China, United Kingdom, State of Sao Paulo, United States of America. Other international organizations like the United Nations Environmental Programme (UNEP), European Commission Services, United Nations Department of Economic and Social Affairs (UNDESA), International Council for Local Environmental Initiatives (ICLEI), International Institute for Sustainable Development (IISD), and International Labour Organization (ILO) are all members of this group aimed at the promotion and implementation of Sustainable Consumption and Production patterns globally. The Task Force is voluntarily led by the Swiss government offering a secretariat at Bern where periodic member meetings are organized to stimulate SPP practices among both developed and developing

countries. In August 2010, Ghana signed up to this task force to improving its procurement practices (PPA, 2012).

The task force was formed as a call for a global 10-year framework for action on sustainable consumption and production by the Johannesburg implementation plan in 2002. MTF on SPP has consequently developed an MTF framework to implementing SPP which builds on existing methodologies from other developed countries like the UK. This holistic tool serves as a methodology to help implement SPP in any country which is interested to include sustainability in their procurement activities. In 2011, the responsibility for managing and improving the MTF Approach was officially transferred to the UNEP by Switzerland during the group's 7th and last member meeting (UNEP, 2011).

2.8.4 The MTF Framework for SPP

The MTF framework makes significant references to guidelines developed and used by various international organizations towards global sustainable consumption and production. It provides an implementation plan, which guides both existing and new members to implement sustainable public procurement in their respective national context. There is therefore the need to examine and understand the specific aspects of the framework towards successful implementation.

The MTF framework as depicted in Figure 2.6 overleaf, is an implementation plan which involves several stages or activities to be undertaken by government towards SPP. These activities comprise status assessment, legal review, an assessment of market readiness, development of SPP policy plan, training programmes, and final implementation of SPP. These activities are explained below:

2.8.4.1 Status Assessment

This is the initial stage of the SPP implementation plan where assessment tools are completed by representative of public organizations to define the state of the public procurement. This involves the use of online questionnaires to assess in presence of the three dimensions of sustainable development in public procurement practices. This stage helps to identify areas of success and where further work is needed to improve SPP.

2.8.4.2 Law Review

Here, legal and regulatory frameworks are reviewed to determine whether they support SPP principles. Thus, whether they describe social and environmental criteria or green principles in their public procurement regulations. It is also relevant to appreciate the prospects of sustainable procurement before this public procurement reforms is introduced.

2.8.4.3 Assessment of Market Readiness

After reviewing available legal structures, the framework requires an assessment of the market for availability of product and services that are sustainable or environmentally friendly. Studying how the private sector (supplier) comprising of both national and small scale enterprises respond to likely calls for SPP tenders as well as their capacity to meet the current and future trends of public procurement requirements.

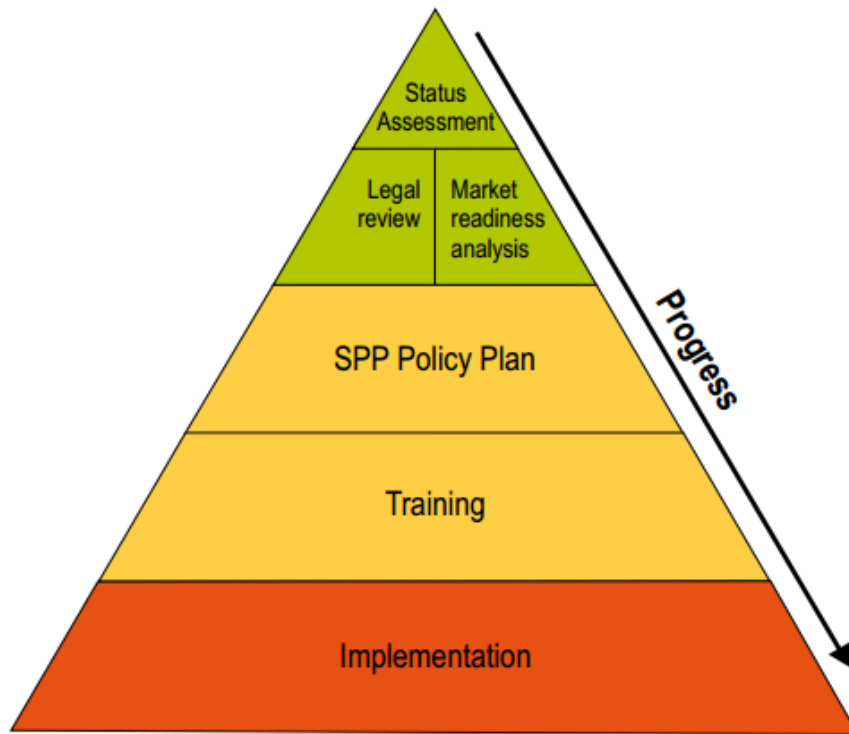


Figure 2.6: MTF Framework for Sustainable Public Procurement

Source: United Nations Environment Programme (UNEP) (2011)

2.8.4.4 SPP Policy Plan

An SPP policy plan is drafted based on the outcome of the first three activities of the SPP implementation plan. The policy plan provides a mandate and a clear direction for implementing SPP. It therefore outlines its objectives and principles and types of products and services to focus as well as communicating these to relevant stakeholders. It also defines how it monitors its progress and outcomes.

2.8.4.5 Training

The MTF at this stage, require the development of a training programme which ensures that important staff and stakeholders such as policy makers and procurement officers are familiar with

the implementation of SPP and has the requisite capacity on proper procurement practices to train others. The development of sustainable criteria for all stages of public procurement process and sustainability impact assessment may be the main elements of the training programme. Even though there is the need to ensure consistency which is the reason why training materials are compiled, they have to be contextualized to each country. The MTF on SPP 2011 activity report provides that face-to-face and written guides may be complemented by e-learning elements.

2.8.4.6 Implementation

The last stage of the implementation plan involves day to day sustainability procurement by government. At this stage, life-cycle-cost (LCC) is conducted in the procurement process. This affects the products and services (towards products and services with low negative environmental impacts and social justice) purchased as well as the attitude of stakeholders involved. The major members of the Task Force offers support to new members in their early years of implement. However, it should be noted that, even though MTF on SPP focusses on the national level, it ought to be implemented at the local levels of government as well.

With respect to objective two (2), the MTF framework for implementing SPP is used alongside the UN EGDI to explain how government can take advantage of ICT resources to facilitate the mainstreaming of SPP in Ghana.

2.9 Summary and Conclusion

The review above clearly indicates a growing attention of sustainable procurement in both private and public organizations, although limited to developed countries. Considering the limited resources, environmental and socio-economic challenges confronting developing countries,

empirical studies to understand their SPP mainstreaming issues such as existing SPP practices, implementation challenges, prospects, and measures to facilitate its promotion seem very scanty. However, the Marrakech Task Force on SPP has, as part of its operational plan, developed an online assessment tool and training materials to facilitate its implementation globally (UNEP, 2011). Perhaps, this is due to indications from reports that there has been a global increase in ICT connectivity and the increasing focus on deploying e-services for national development purposes. Consequently, Walker and Brammer (2012) sought the link between the two present initiatives, sustainable procurement and electronic procurement in the public sector through a quantitative research approach. Their study found in regression analyses that e-procurement supports some aspects of sustainable procurement (environmental, labour, health and safety), and hinders others (buying from small local firms that are not e-enabled) (Walker & Brammer, 2012). Further studies are however encouraged to investigate how e-public procurement tools among others might be developed to support various aspects of sustainable procurement (Lund-Thomsen & Costa, 2011), hence, the focus of this study. To conceptualize the link between E-Government and Sustainable Procurement, this particular research adapts the MTF framework for SPP implementation plan and the United Nations E-Government Development Index (EGDI) towards its contribution.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter presents the methodology used to collect and analyze data for this study. The chapter is composed of the research approach, design, study population, sample size and the sampling technique. It also includes data sources, and data collection instruments used. Further in this chapter are data gathering procedures, data analysis technique, limitations and ethical considerations.

3.1 Research Approach

This study adopts a qualitative research approach to addressing the research problem and arrive at its findings and conclusions. Qualitative methods are often linked with an assessment of social dimensions of this nature. According to Kothari (2004), qualitative methods help the researcher to portray how people feel as well as their motives and desire for a phenomenon. The literature review indicates that almost all or most studies which used quantitative methods (Neupane, et al., 2014; Walker & Brammer, 2009; Walker & Brammer, 2012) failed to show this perspective in their empirical studies which attempted to evaluate the practice of sustainable public procurement in their own research context. Hence, an exploration to assess the practice in Ghana, using a qualitative method cannot be overemphasized.

3.2 Research Design

This research adopts a cross-sectional study design to provide answers to the three questions: a) What are the challenges that confront the mainstreaming of SPP in Ghana's Public Sector?; b) What role can e-government play in its implementation?; c) Is Ghana's Public Sector ready to roll out e-procurement? A cross-sectional design, whilst gathering data once within the limited time frame, also allows for a fair representation of responses from the study population (Creswell, 2003).

Hence, the study selects public sector organizations representing both central government and local government agencies and the respective institutions mandated with the implementation of public procurement and ICT programmes in Ghana.

3.3 Target Population

For the purposes of this study, the target population is the entire procurement entities within the public service of Ghana. From the PPA, there are currently about 1,600 procurement entities in Ghana which have been categorized into special constitutional bodies; central management agencies, ministry, state-owned enterprises, regional coordinating councils (RCCs); agencies, teaching hospitals and tertiary educational institutions; regional hospitals and colleges; district hospitals and second cycle schools; and Metropolitan/Municipal/District Assemblies (MMDAs), base on their spending levels (low, medium and high spend) and functions (GoG, 2016). This research explores the challenges confronting the implementation of SPP and the role e-government could play in promoting SPP among these entities.

3.4 Sampling Technique

The study solely uses a purposive sampling method which is a non-probability sampling technique to identify respondents. Saunder et al. (2011) postulate that a purposive sampling technique allows a researcher to use his or her own judgments to select cases which best answer the research questions and meet the research objectives. Therefore, this study samples public institutions whose activities are consistent with sustainable procurement. These organizations which represent both local and central government, also have the legal mandate to promote environmental health and protection, and social sustainability, public procurement as well as information technology in Ghana.

In the inclusion and exclusion criteria, only public service organizations were considered. The research foremost identified a list of about 15 public sector organizations where e-government programmes are being piloted, out of which the Accra Metropolitan Assembly (AMA) and Minerals Commission was noted to also have a legal mandate that was consistent with sustainable development. In addition to these, the study further sampled Public Procurement Authority (PPA) and the National Information Technology Agency (NITA) who have been legally mandated by both Act 663 (2003) and Act 914 (2016), and Act 771 (2008) to respectively implement public procurement and e-government programmes in Ghana.

3.5 Sample Size

Considering the entire public procurement entities within the public sector of Ghana, four (4) organizations were sampled from which eighteen (18) principal officers including those working within the procurement department and in other capacities relevant to the subject under study are sampled (see Table 3.1).

Table 3.1: A Summary of Respondents Interviewed

Public Service Institutions	Legal Mandate and Brief Description	Respondents
Accra Metropolitan Assembly (AMA) (category F)	Aims at improving the quality of life of the people of Accra especially the poor, vulnerable and excluded through the provision of basic services and facilities in the areas of education, health, sanitation and other social amenities. It is regulated by the Local Government Amendment Act 2016 (Act 936).	1. A Director 2. An Expenditure Officer 3. A Legal Officer 4. An MIS Officer 5. A Budget Officer 6. A Procurement Officer 7. A Procurement Officer
Minerals Commission (category C)	The main promotional and regulatory body for the minerals sector in Ghana. Established under Art 269 of the 1992 Constitution and the Minerals Commission Act 1993, Act 450.	8. A Director 9. A Finance and Administration Officer 10. A Legal Officer 11. An MIS Officer 12. A Procurement Officer 13. An Administrative Officer
National Information Technology Agency (NITA) (category B)	The ICT policy-implementing arm of the Ministry of Communications. Established in 2008 by Act 771.	14. An Application Systems Officer 15. A Procurement Officer
Public Procurement Authority (PPA) (category B)	Oversight responsibility for public procurement and facilitate full implementation of Act 663 (2003) and Act 914 (2016) in the Republic of Ghana.	16. An MIS Officer 17. An Operations Officer 18. A Procurement Officer
Total Respondents		18

Source: Author's construct (2017)

These organizations comprise five (5) procurement professionals from Minerals Commission and seven (7) from Accra Metropolitan Assembly (AMA), with five (5) others from Public Procurement Authority (PPA) and National Information Technology Agency (NITA). These respondents were selected base on the categorization of entities under the Public Procurement Amendment Act 2016 (Act 914).

3.6 Research Limitations

In carrying out this study, the researcher encountered many glitches at the initial stages of the study including physical distance between the researcher and the supervisor as he (the researcher) was on an exchange programme at Mendel University under the Erasmus-CARIBU framework. However, the researcher relied on emails and telephone calls to bridge this gap. Again, financial challenges posed a major burden in the course of data collection for this research. Also, study participants were reluctant to provide responses to seemingly sensitive issues. In addressing this, interview questions were carefully framed during data collection.

Time factor also presented a great challenge to the research as the study was of exploratory nature. However, the researcher developed a strategic and flexible time schedule to attend to interviewees whenever possible. In the midst of these enormous limitations, however, the researcher employed all necessary means to ensure that findings of this study are valid and reliable.

3.7 Sources of Data

Both primary and secondary data were collected. The main primary data for the study were the 18 in-depth interview responses obtained from principal officers. However, to enhance data validity and reliability, primary data are complemented with secondary data for triangulation. The

secondary data on other hand included existing data relevant to the topic under study. According to Hanson-Thompson (2007), secondary sources have the advantages of providing bases for comparison and providing a useful background for identifying key questions and issues needed to be addressed by primary research.

These secondary data comprises internal publications such as procurement policy documents, and external documents, including evaluation reports. Also, the study resorts to other secondary data found from journal articles from credible databases on sustainable public procurement, e-procurement, and e-government to support primary data from the field.

3.8 Data Collection Instruments

This study uses an interview guide for data collection (see Appendix 1). Whilst the interview guide helps to conduct interviews which are a common method of gathering data in qualitative research, this type of interview guide allows comparability of results while leaving room for respondents to provide personal explanations of the topics under study (Yin, 2003). This is necessary when an understanding is being sought into the meaning of concepts and has the ability to bring out a true descriptive view of situations (Hansen-Thompson, 2007). It is structured into five main sections: biodata of respondent; awareness and current sustainability criteria specified in the tender document; challenges of implementing sustainable public procurement; the role of e-government in SPP; and readiness for public e-procurement. These teams reflect the specific objectives of the study.

3.9 Data Collection Procedure

Data collection was undertaken in three stages. This process began with a pilot stage in latter part of March and April 2017. Initial responses from the pilot were discussed with supervisor and other colleagues for their own inputs in the structuring of the main interview guide. The piloting helped by ensuring that questions posed will stimulate relevant responses suitable to the research objectives. Also, it informed a further reading of particular reports, from which extra information was essential for the robustness of this study. A second stage consists of the comprehensive data collection exercise where 18 in-depth interviews (lasting 25 minutes to an hour) were conducted with the sample size defined in Table 3.1. Based on the outcome of the data obtained and subsequent analyses, further data was collected in the third stage of the study to consolidate the findings in the early part of May 2017.

The study combined both face-to-face and phone interviews. With the face to face interviews, data were collected directly from the source without any flaws as the researcher had the opportunity to raise issues that the interviewer had not thought of (Bailey, 1983). Thus, whilst face to face interviews which allowed probing and spontaneity was used in the first and second stages of data collection, telephone interviews were employed to gather additional primary data to consolidate findings due to its flexibility.

3.10 Data Analysis

A thematic content analysis approach was used to analyze the data. Qualitative data from the in-depth interviews were foremost transcribed from audio recordings into words and were subsequently edited to detect and eliminate typographical errors. The transcribed data were further coded into themes under the three fundamental objectives in addition to an awareness assessment

of the SPP concept among public administrators: awareness and current practice of sustainable public procurement, obstacles in mainstreaming SPP in Ghana, the role of e-government in SPP implementation as well as Ghana's readiness to roll-out e-public procurement.

3.11 Validity and Reliability

However, to enhance data validity and reliability, the researcher initially piloted the interview guide of which results were discussed with the supervisor, and with peers during seminar presentation for their inputs and suggestions. Certain responses given by participants were further probed to clear all doubts, during the comprehensive face-to-face data collection process. Secondary data were compared with in-depth interview responses collected from a cross-section of procurement entities during the comprehensive data collection stage for purposes of triangulation and providing a useful background for identifying key questions and issues addressed by primary research.

3.12 Ethical Considerations

To demonstrate ethical responsibility, this research was conducted within the norms of ethical research in both literature and empirical study. Bless and Higson-Smith (2000) argue (cited in Walters, 2009, p.17) that the general aspect of the ethical rights of a participant is the right to privacy, voluntary participation, anonymity, and confidentiality.

The researcher foremost sought permission to collect data from procurement entities with an introductory letter from the University of Ghana Business School (UGBS) (see Appendix 2). The researcher further ensured that participants took part in the study voluntarily. Thus, they were informed that they were at liberty to withdraw at any stage of the study. In addition, participants

were informed that the results would be used for research purposes only. Respondents were also made to withhold their names to ensure anonymity in the responses provided. High degree of confidentiality was observed during and after the data collection.

CHAPTER FOUR

DATA PRESENTATION AND DISCUSSION OF FINDINGS

4.0 Introduction

The key findings of the study are presented and discussed in this chapter. The findings are from a thematic content analysis of qualitative data in the form of eighteen (18) in-depth interviews obtained from participants who were purposively selected from four (4) public sector institutions (see Table 3.1 in chapter 3).

The findings from Accra Metropolitan Assembly (AMA) and the Minerals Commission were compared with those obtained from e-government and sustainable public procurement implementing agencies, the National Information Technology Agency (NITA) and Public Procurement Authority (PPA) respectively. These primary data were further triangulated with secondary data in the form of internal publications such as procurement policy documents and evaluations reports as well as peer reviewed journals articles from credible databases on both public procurement, sustainability procurement, sustainable development, e-procurement, and e-government from which further inferences were made. Key responses obtained from the interviewees that buttress the findings of the study are also presented in italics to enrich and contextualize the discussion.

4.1 Demographic Characteristics of Respondents

From the primary data, eighteen (18) participants whose duties are related to public procurement in the four (4) procurement entities that were purposively sampled for this study, largely comprised males (14 out of 18) respondents. These participants included heads of the various institutions and

of specific units as well as legal, finance and administration, budget, expenditure, and procurement officers. Majority of them have been in their current capacities for the past five (5) years. Table 4.1 provides a detailed demographic characteristics of all participants.

Table 4.1: Demographic Characteristics of Respondents

Public Service Institutions	Job Description	Gender	Years of Service	No
Accra Metropolitan Assembly (AMA) (category F)	○ A Director	Female	1	7
	○ An Expenditure Officer	Male	7	
	○ A Legal Officer	Male	6	
	○ An MIS Officer	Male	9	
	○ A Budget Officer	Male	6	
	○ A Procurement Officer	Male	9	
	○ A Procurement Officer	Male	4	
Minerals Commission (category C)	○ A Director	Male	3	6
	○ A Finance and Administration Officer	Male	9	
	○ A Legal Officer	Male	11	
	○ An MIS Officer	Male	10	
	○ A Procurement Officer	Male	6	
	○ An Administrative Officer	Male	4	
National Information Technology Agency (NITA) (category B)	○ An Application Systems Officer	Female	4	2
	○ A Procurement Officer	Male	2	
Public Procurement Authority (PPA) (category B)	○ An MIS Officer	Female	5	3
	○ An Operations Officer	Male	4	
	○ A Procurement Officer	Female	4	
Total Respondents				18

Source: Author's construct (2017)

4.2 Awareness of Existing SPP Practice

To ensure that responses given by participants were valid and not floored by deficient knowledge on the subject under study, the researcher first assessed their level of awareness of sustainable public procurement (SPP) practices. They were therefore asked questions like, “what do you know about SPP?” The study found that majority (12 out of 18) of the respondents had no previous knowledge about the concept, except few procurement officers who were fortunate to have participated in a training programme organized by PPA on the subject.

4.2.1 Various Definitions for SPP

Whereas some respondents considered SPP to be adherence to procurement regulations, others viewed it as the moral dimension of public procurement. Another section of the respondents referred to it as financial sustainability of an organization to meet the procurement needs of public sector organizations to prevent the situation of under procurement or inability to implement the procurement plan.

4.2.1.1 Compliance to Public Procurement Regulations

Among respondents, SPP was defined amid others to be the act of adhering to procurement regulations and reforms towards adjusting to changes in future procurement practice. Thus, a section of the respondents were of the view that public procurement regulations guide the conduct of public procurement and ensure transparency, accountability and competition in the practice.

With doubt, a respondent informed;

“...the procurement Act was passed in I think 2003. It is meant to guide all procurement activities of government and even the private that has embraced it. So

when we look at it being sustainable, as years or time may pass, there need to be some changes or fine tuning to make it something that can last for long”

These regulations should be altered when necessary in a manner that will adapt to contemporary practices. According to them, non-compliance implies that procurement officers are not procuring sustainably.

4.2.1.2 Sustainable Funds for Public Procurement

Others considered SPP to be an availability of financial resources to meet procurement needs of an organizations. Thus, in procurement planning and budgeting, there should be adequate funds to support procurement plan all year round to prevent under procurement or if possible over procurement of goods and services.

Another officer whose responsibility was much more related to expenditure, explained;

“I have not actually heard but as the name suggest, sustainable means it should flow. It is the procurement in a way where you don’t say there is lack of funds or there is under procurement. Everything has been planned accordingly. So looking at cost of capital, interest rates and all of those”.

Partly informed by their background, an Expenditure Officer and a Budget Analyst were of the view that organizations procure sustainably when they have the needed budget for procurement all year round without experiencing the issue of under procurement.

4.2.1.3 Green Public Procurement

Only a few procurement officers who were fortunate to be present at the PPA training on SPP explained the practice as the green dimension to public procurement. Thus, according to them, the concepts requires procurement officers to be environmentally conscious in their procurement

practices to ensure they do not procure goods and services that could deteriorate the environment in future.

Unequivocally, a procurement personnel informs;

“It is a way of using public purse to control deterioration of the forest and all sorts... We are looking at whether the product that we are going to procure can be recycled, how energy efficient are they and even how we are going to dispose it”

Another added,

“It is basically a moral dimension to public procurement. As human beings, when we are consuming items, you have to think about posterity. So in a much as we consume, we have to have in mind measures to restore the environment. That is the moral dimension to procurement.”

However, it could be deduced from their understanding that they overemphasized the environmental dimension of sustainability and ignored social and economic dimension in their explanation, except one Procurement Officer whose explanation of the concept captured all three dimensions of sustainability.

“SPP basically is procurement where we need to take into account the economic, social and environmental issues. It’s not just about procuring but you have to take into consideration of whether what you are buying, you’ll gain value for money, whether it will not affect the environment negatively. You get it. And also the social aspect of it.”

The researcher however explained the concept of sustainable public procurement to all of them after they shared their own view on the concept. Consequently, all the respondents who didn’t seem to be sure, now expressed some appreciation of the practice and noted that they knew it to be a means of promoting social accountability. This affirms Warner and Ryall (2001) and Preuss’s (2009) argument that the practice has become popular in light of significant evolution of the global

corporate social responsibility (CSR) and supply chain debates. Thus, it is a means of ensuring suppliers to be socially responsible to the community and environment with which they operate.

4.2.2 Role in the Sustainable Public Procurement (SPP) Policy

Also it was necessary to know the role that each of the respondents and that of their organization play in the sustainable public procurement policy. This was relevant to gather information on the need and level of compliance to sustainability procurement requirements in public sector organizations. Interestingly, the study found that the Public Procurement Authority was the main institution responsible for the implementation of sustainable public procurement in Ghana. However, they rely on all other public sector institution and procurement entities to cooperate towards the realization of this policy in Ghana.

“We were actually given the mandate to acquire funds from the Swiss government to promote SPP in Ghana. So, it was launched at La Palm Beach Hotel in 2010, when I was doing my national service ...”

To provide a legal basis for SPP, the government of Ghana in 2016 amended the Public Procurement Act 2003 (Act 663) to include sustainable procurement issues into the existing legal framework. Currently, public procurement in Ghana is regulated by both the former and the Public Procurement Amendment Act 2016 (Act 914) including other public financial regulations.

A respondent said with relief;

“...now that we’ve incorporated SPP issues into the Act, it is compulsory for any government institution doing any procurement to bring all these issues to their specifications or as criteria to select any service provider.”

Another added;

“...it makes sure that when we are procuring, we should consider the environment, society from which they buy, their economic activities. That is what as an

organization we are doing to promote sustainable team in the public sector when it comes to procurement.”

Fortunately also, responses from the other public sector organizations revealed that even though they have no legal mandate to determine or prescribe the procurement practices to be adopted in the country, their scope of operations has some social and environmental dimension which was also necessary to reflect in their procurement behavior. For instance, Accra Metropolitan Assembly is mandated by Local Government Act 2003 (Act 462) to improve the standard of life of its people by improving sanitation, health and social structures among other things as a local government institution. Similarly, the Minerals Commission which is a special constitutional body is also mandated by Article 269 of the 1992 Constitution of Ghana and the Minerals Commission Act 1993 (Act 450) to regulate and ensure efficient and effective utilization of Ghana's mineral resources. It also ensures that mining activities do not negatively impact the environment through monitoring and evaluation. Hence, there was the need to find out whether these social, environmental and economic dimension of sustainability reflected in the procurement practice of all the public sector institutions sampled for the study.

4.2.3 Existing SPP Practices

Whilst most respondents were of the view that sustainability requirements are foreign elements the PPA plans to introduce into public procurement practices of Ghana, others confirmed that some of these requirements were already incorporated in our existing procurement practices which are informed by the Standard Tender Documents (STD) prepared by PPA and other separate legal documents. Basic criteria and specifications for several types of products, works and services are provided by the Public Procurement Authority in the STD on its website. This document is meant to provide Procurement Entities with basic specifications and requirement for common types of

items that are procured by government organizations in the delivery of public services to its citizens.

Even though this document does not strictly mention the exact standards to be met by entities, it provides them with guidelines and basic issues to be considered, leaving them some room of discretion to decide base on their financial capacity.

4.1.3.1 Environmental Sustainability Criteria

With respect to environmental sustainability criteria, respondents were asked whether they specify in their tender documents, environmentally friendly criteria that suppliers or contractors are required to meet. The study found that while majority of the respondents do not necessarily state in their tender documents environmental sustainability criteria except for those that are relevant to energy conservation and efficiency, fuel consumption and emissions levels from vehicles and ISO certifications of products like A4 papers, the rest only focused on the technical specifications of products or services needed.

i. Rating for Energy Efficiency and Fuel Consumption Levels:

Energy Commission in conjunction with Ghana Standards Authority and PPA has developed a five star rating (the more stars, the more efficient the appliance) for common electrical appliances in Ghana to control energy consumption in the light of power crises which have been confronting Ghana over some years now. Consequently, the study found that all public procurement entities according to the regulations of PPA is required to enforce the star ratings introduced by the Standard Authorities in their purchasing decisions of electrical appliances.

“...for now, we mainly look at how energy efficient electrical appliances are. Whether it is 3 or 4 star standard according to Ghana Standards Authority. So you don’t go to town and buy these second hand ones. As soon as you do that, it means you’ve gone outside the law. Hence, we can take you on”

Another added;

“...buying from 1 to 5 stars depending on funds available means that you are still within the confines of the law. I hope you get me”

Regarding efficiency, fuel consumption of vehicles was not left out. Thus, from that standard tender documents which are required to be used by all procurement entities, maximum fuel consumption levels are indicated for various types of vehicles.

ii. Emissions Levels:

Aside from energy and fuel efficiency, the study also discovered that carbon levels emitted into the air are also taken into account in procuring vehicles by the public sector of Ghana, especially those responsible for environmental regulation and promotion of environmentally friendly practices like Environmental Protection Agency.

“We also specify the level of emissions from the vehicles we buy.”

The respondent further explained;

“...with vehicles, we have to acquire it from a manufacturer who will not emit any hazardous chemical substances into the environment. So we include all of them in the detailed specifications. Before, we weren’t particular about these things but now, we look at all those things when acquiring a product”

iii. ISO Standards:

In other procurement entities, International Organizations Standardization (ISO) standards are required for specific products that are advertised for suppliers to respond to aside that energy

efficiency and consumption requirements. Specifically, ISO 9000 and 14000 standards regulate production systems of industries which their productions patterns must meet.

According to a procurement expert;

“Yes, with regards to A4 papers, we have to include in our specification, the ISO environmental certifications as well as star ratings for our fridges we buy.”

ISO is an “independent, non-governmental international organization with a membership of 163 national standards bodies ... which brings together experts to share knowledge and develop voluntary, consensus-based, market relevant International Standards that support innovation and provide solutions to global challenges” (ISO, 2015, p.3). With Ghana as a member, the international organization which commenced operations in 1946 has currently published more than 21133 standards covering several industrial activities and products (ISO, 2015). Some of these standards were found to be listed for specific products in the STDs of the PPA.

iv. *Other Environmental Considerations:*

Other environmental issues were also found to influence tender evaluation and selection processes. Thus, although they are often not stated in the tender document, some other environmental considerations inform the decision of the tender evaluation committees. This agrees with earlier arguments that environmental demands may be raised at diverse stages of the purchasing process: from explicit statements in tender advert to considerations for ultimate bid selection (Bolton, 2008).

As revealed in an interview;

“Honestly, the last major procurement activity that we did as per the evaluation criteria, we did not indicate that one specifically in our tender document. But in generality, to assess and evaluate tenders, there is always bits and pieces of some of these things, even though it is not captured in the tender document”

Instances where procurement entities provide in the tender document all criteria that will be used to evaluate and select successful supplier or contractor but also use foreign criteria to evaluate tenders may lead to serious litigations between procurement entities and tenderers. This is often caused by procurement personnel with limited capacity in the field, according to the PPA 2014 annual report (PPA, 2014).

4.2.3.2 Social Sustainability Criteria

On the social sustainability dimension, majority of the respondents in the institutions sampled confirmed that they do not state social criteria on their tender document when inviting bids from contractors justifying on the basis of quantum of procurements made annually, except the few who request for proof of payment of social security contribution for employees, grants quota to indigenous supplier or contractors in an international competitive bids, and re-emphasizing the law that demands access to all public buildings and facilities by the physically challenged.

i. Access to public buildings by People With Disability (PWD):

For instance, it was identified at the local government level that the directive on the provision of elevators and/or slope in all public buildings for easy access by the physically challenged was consistent with their tender documents for works or building construction.

“Like schools, you need to create space for the disabled people to also have access to the facility. In terms of that particular social disadvantage. Ahaa. Even though it is a law already, we also state it in the tender documents for the bidders to be aware”

This practice is consistent with section 6 of the Persons with Disability Act, 2006 (Act 715) which clearly states that “owners or occupier of a place to which the public has access shall provide

appropriate facilities that make the place accessible to and available for use by a person with disability” (GOG, 2006). This social criteria enhances easy access by the PWD to public places like schools, clinics, banks, work premises among others. This helps to boost their esteem and capacity as they get the opportunity to participate in socio and economic activities in their local areas.

ii. *Margin of Preference for Indigenous Companies:*

For international competitive bidding, some quota is granted to indigenous suppliers and contractors to promote their participation in public procurement. The quota is stated in tender documents and granted to them during evaluation, subject to their meeting certain specific requirements like basic specifications among others.

A respondent with over five years’ experience in procurement related task unequivocally explained;

“...this is meant to support the growing enterprises especially looking at their resources as against the big international organizations. But because most of our procurement is national competitive, we don’t normally apply that one”

This quota given to indigenous companies empowers and builds their capacity to withstand the competitive advantage and economies of scale that most international companies enjoy over them. In light of this, the study affirms the claims by World Bank (2012) that public procurement can be used to create enabling environment for private sector-led growth among other two pillars of effective governance: improved public service delivery and value for money.

iii. Sub-Contracting and engagement of Local Artisans:

Regarding works and building project in international as well as national competitive tendering, international contractors or indigenous contractors from outside the jurisdiction of the district assembly as procurement entity for example are required to sub-contract certain jobs to national companies (in the case of international competitive tendering) and to the local people (in the case of national competitive tendering). This revelation which was established at the Accra Metropolitan Assembly, was also confirmed at the Public Procurement Authority (PPA) office.

A respondent clarified;

“For example if you are considering a contractor to construct a road in a particular village, we give priority to a contractor who will employ people from that village because it is their area that you may be causing the inconvenience. There is always an impact from every project but the question is, are you giving them employment?”

He added;

“...the government may put some clauses in the tender document. Maybe, you should have to employ 40% of Ghanaians or sub-contract 30% of the job to local companies.”

However, this requirement depends on the kind of skills required by the job. Thus, whether the local companies have the capacity to deliver on certain specialized jobs. At this instance, it becomes the responsibility of international tenders to assess and identify local companies with the right capacity to perform that required fraction of job.

“It is acceptable that there are some areas that foreign experts may be needed. Even that one, we call something ‘transfer of knowledge’. There is sometimes the condition that the contractor, by the completion of the project should have trained some Ghanaians to do the same job”

These findings upholds that by Preuss (2009) that, amid other strategies, local institutional authorities use procurement to achieve sustainable outcomes by promoting the sub-contract of works and other projects to local firms by multinational suppliers.

4.2.3.3 Economic Sustainability Criteria

From the study, it was identified that some economic criteria are also specified in the tender documents and used for evaluation of tenders submitted. These criteria aside the traditional price considerations also included quality of the products, delivery or execution time, and financial capacity of contractor or supply to completely fulfill his/her contractual obligations. Also, it was found that life cycle cost which includes purchasing price, maintenance cost, energy consumption and emissions levels as well as disposal cost was also calculated for just some specific products.

i. Value for Money:

In the public sector of Ghana, it was found that cost price is a key factor in tender evaluation. Thus, suppliers with minimum price are given some level of advantage over those with high prices. However, although cost price is important in public procurement, the evaluation committee place initial emphasis on suppliers' ability to meet basic specifications mentioned in the tender documents. Thus, they first of foremost assess whether a supplier has the technical capacity to deliver product or service of high quality. So, availability of key professionals like engineers and certain technical people to get the job done are also assessed in the evaluation process.

A respondent explained;

“We look at the prices. Most at times, the tender with the least price seems to be the criteria but of course you need to also be able to satisfy the technical

specifications. With the technical specifications, if you meet the basic ones and you have the least quoted price, obviously, you'll become the supplier of choice"

However, with regards to value for money, other factors aside the cost price are taken into account. Some of these factors were identified to include delivery or execution time and quality of the items or services to be provided (partly based on previous experience with particular suppliers).

Another respondent from the local government opined;

"The cost price is another key factor and then the quality of the items and the delivery time all factor into those particular economic side. In procurement, price is not all that matters. Quality and the delivery time is also very very important."

Regarding quality and execution or delivery time, suppliers who fail to deliver on terms stated in tender documents and contracts in the case of competitive bidding are blacklisted and banned from future participation in the tender process. However, in the case of low value items which are not more than Ghc 1,200, such suppliers are not invited to participate in future bids by the procurement entity.

For instance, a principal officer illustrated;

"There was an instance where we bought about 20 pieces of toners. They were in good conditions according to the stores unit. So we kept it for a while, about two to three months but it couldn't last. When we had to use it, it wasn't functioning well. So the next time around, I will not invite such a supplier because I know that even though they meet the specs and all that, I will go for another supplier who was able to supply a good product. So sometimes, previous experiences count."

This finding contradicts previous findings (Ochrana & Pavel, 2013) that price dominates the evaluation criteria used for selecting tenders in the Czech Republic upon their critical examination of some local government contracts. Thus, during evaluation, tenders with the least tender price were considered successful. However, this situation seem to have changed the country's new

public procurement law, Act no. 134/2016 Coll. and under the European Union (EU) directives, EP and EC 2014/24/EU.

ii. Life-Cycle-Costing (LCC):

Aside the initial cost price and delivery time of products and services, other costs associated with usage and disposal of the products were also found to be another criterion used for selection of suppliers or contractors. Whilst all Procurement Officers acknowledged that least price is often looked at, they also emphasized that some other costs linked with the usage and disposal of the products were considered. This cost includes cost of servicing or maintenance, energy consumption, level of emission, and disposal cost (Adjei, 2010).

It was revealed that a product with very low acquisition price may have a high life cycle cost than products with high acquisition price. This may be due to the fact that the manufacturing processes of some expensive products employed technologies and measures to make them have long maintenance durations, energy efficient, and maybe biodegradable. Some manufacturers also instituted systems that encourage recycling and the collection of waste from their products.

Using a desktop computer as an example, a respondent illustrated;

“...if we can buy this for Ghc 2 and that for Ghc 4. You might say, oh lets go for the Ghc 2 but at the end of the day, you will be repairing this over and over. But with this, even though you bought it for Gh 4, it might last for a very long time without any issues of repairs. And at the end of the day, you’ll save money more than the Ghc 2 one. We also do this in relations to the vehicles we buy.”

She added;

“Like buying a vehicle, you have to calculate the maintenance cost and all that before you buy. But if I’m going to buy A4 sheets, what I’m I going to calculate? With computers, we do. We look at all those things.”

Although the study identified LCC to be calculated and factored into the evaluation of tenders, it was only the procurement regulatory agency, PPA that used it. And even with them, LLC is not calculated for evaluation of suppliers of all products. At PPA, LCC was limited to electrical appliances and vehicles. This implies that aside vehicles and electrical appliances, LLC is hardly calculated for goods and services procurement in Ghana. The revelation is no surprise due to the procurement of sub-standard goods and lack of due diligence that has engulfed the procurement of goods by government of Ghana in its quest to provide public goods and services to its citizens.

iii. Financial Capacity of Contractors:

In the tender documents, prospective suppliers are required to provide a proof of their financial capacity to deliver or execute the advertised contract. This condition ensures that contractors are financially secured to deliver on the terms and conditions of the contract. Hence, they are made to provide their financial statements comprising their balance sheet which gives a brief description about their worth comparing assets against liabilities. In some instances where contracts involves huge sums of money, a bid security is demanded as guarantee of suppliers' source of funding for the bid.

“Perhaps, looking at whether the company has financial capability to undertake this contract. The financial capability could be provided by an introduction letter from bankers that this organization is working on that project which we will be supporting financially.”

From the legal perspective, this document serves as a guarantee for successful execution of all contractual responsibilities by the supplier or contractor. This condition or economic requirement is very relevant to contracts and public procurement involving huge amounts which often are considered to be of high risk. Requirement of bid security in Ghana's public procurement which

has been confirmed by the World Bank's (2017) assessment of public procurement regulatory systems in 180 economies, is meant to secure the fulfillment of bidder's obligation.

Deducing from the above discussion and the definition given to SPP by respondents, it could be inferred that respondents confuse green procurement for sustainable procurement which explains the overemphasis of environmental impact assessment found in Ghana's public procurement at the expense of the other SPP dimensions: social and economic (Bratt, 2013). Hence, it can be concluded that the public sector of Ghana largely practices green procurement rather than actual SPP. From this study, this was synonymous with electronics (Nagel, 2000) and chemical products used for cleaning offices.

4.2.3.4 Factors Informing the Application of Environmental Sustainability Criteria

Legal Compliance

Those who specify environmental criteria in their tender document only do so with the intention of complying with the law. Thus, procurement officers only comply with the energy efficiency standards because it's a campaign being championed by the PPA in association with the Ghana Standards Authority and the Energy Commission in their procurement of particular products like lumps, fridges, and air conditioners including many other electrical appliances. These appliances which have been labelled with a maximum of five stars indicates their level of efficiency. So, during periodic monitoring by PPA, these are cross checked from the tender documents sold out as well as the evaluation results published at the various procurement entities.

Conditionality from Donor Partners

The study also noted that while procurement entities are compelled under the law to comply with some few sustainability criteria like emissions and fuel consumption of vehicles, energy efficiency of electrical appliances and some ISO standardizations, selection criteria and evaluation of contractors by these entities are also informed by the conditions given to them by their donors partners.

In an interview, some of the considerations made by the evaluation committee when engaging contractors to undertake building projects sponsored by some international agencies were revealed;

“...the EU micro project for instance demands the use of properly sawn lumbers. If you use what we call ‘bush cut’, what is sawn in the bush is chain saw, in fact, they will black list your district because it’s dangerous. So now you see that it is in line with what the EU people brought or what their money came here to do”.

This discovery implies that when management of all the procurement entities in Ghana are left to use their discretion in their application of SPP, there is a higher tendency that they will not apply them if criteria are not made legally mandatory or as condition for obtaining external funds (central government transfers or donor funds).

4.3 Obstacles in Mainstreaming SPP in Ghana

The first objective of this study was to identify the implementation obstacles in mainstreaming SPP in Ghana’s public sector. Despite its alarming attention from scholars of the increased presence and rate of acceptance among the public and private sectors of developed countries, Ghana (including other developing countries) has since joining the SPP task force in 2010 not been able to mainstream the concept in its public sector. There was therefore the need for an empirical study to explore the obstacles that are hindering SPP implementation in the public sector of Ghana.

The finding of this objective offers directions to policy makers including politicians and public administrators to address the major hurdles prior to the policy's (SPP) implementation.

Even though all eighteen (18) respondents were optimistic about the policy, they were quick in adding caveats that requires careful attention to enhance and facilitate smooth implementation. These conditions include the will and commitment of both politicians, management of the various procurement entities, suppliers and the general public. The need for appropriate capacity building and training scheme for procurement officers, suppliers and other stakeholders in addition to unambiguous legal backing were also underscored (see Figure 4.1). These were identified as the main factors hindering the mainstreaming of sustainable public procurement in Ghana.

4.3.1 Factors Hindering SPP Practice in Ghana

4.3.1.1 Lack of Relevant Legal Framework

The absence of clear legal framework to serve as a guideline and to regulate SPP practice in the public sector of Ghana was identified to be the most challenging factor that has hampered efforts to mainstream it. A legal backing to some extent, would compel procurement entities to comply with the tenets of SPP. This finding was also found above as one of the factors that informs consideration for using sustainability criteria in public procurement in Ghana. Without a legal framework, procurement officers and members of the various evaluation committees for selection of tenders for a particular contract are likely to act in a capricious and bias manner. The study found that without an enforceable legal framework and clear guidelines, these group of public administrators may exercise their discretionary powers in a manner that will be convenient to them. Public administrators responsible for public procurement will in most cases comply with SPP regulations due to the disciplinary measures that are associated with non-compliance.

A respondent explained in an interview;

“...being able to put in place systems that will be able to identify which bits are exploitative. Aside the price that makes it easier, if we are going to introduce other variables like sustainability, then we need to design the system that is able to measure what it has to. So that it is not subjective. So that I’m not using it just because I know somebody. We want the system that will be able to withstand that kind of biases”

Another added;

“...this is one of the reasons why the previous procurement regime has been amended ... to accommodate SPP issues.”

The amendment Act was meant to serve as legal framework for SPP in Ghana. However, the concern was how to get politicians to support it. Although both Acts are to be used alongside the other, the amendment Act seems to have failed to emphasize clearly why, what and how sustainability issues should be used.

A worried respondent shared;

“...we have gone about three or four years after some of our officers were trained but we are not finding any legal framework or system which is pushing for its implementation...so the amendment that was done recently, I was expecting it to be one of the key areas of amendment to the law. Because if you do it and you don’t have a law backing it, its implementation becomes a problem”

This discovery corroborates earlier findings of this study that SPP criteria found in the public procurement practice in Ghana emanate from stand-alone laws or separate legal instruments regulating the use and protection of environmental resources, promoting the rights of the marginalized, developing local capacities and economies. Some of these legal documents include the Persons with Disability Act, 2006 (Act 715), Labour Act, 2003 (Act 651), Environmental Protection Agency Act, 1994 (Act 490) among many others. In the absence of a clear composite

legal framework with guidelines for assessing level of compliance, procurement officers will have no single source for quick reference when it comes to SPP implementation.

Hence, there is the need for a composite legal documents that include blueprints, guidelines or frameworks developed in line with the various dimensions of sustainable public procurement. Whilst reflecting the Ghanaian context of public procurement, the frameworks or guidelines developed should not be ambiguous.

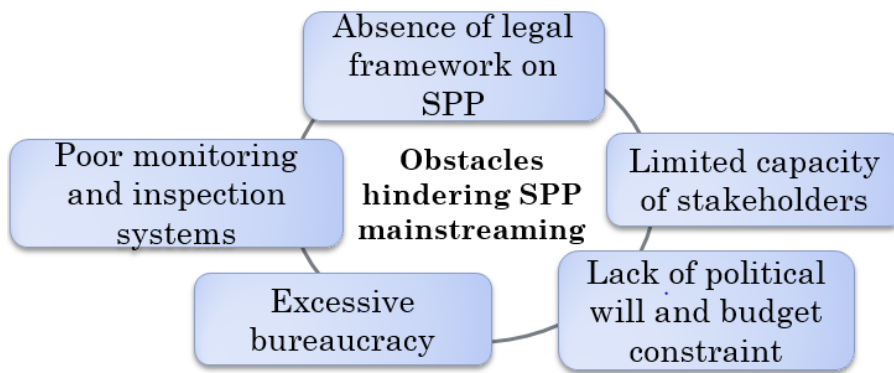


Figure 4.1: Obstacles hindering the mainstreaming of SPP in Ghana

Source: Author’s construct (2017)

4.3.1.2 Limited Capacity of Stakeholders

Also, the right capacity of stakeholders to design sustainability procurement criteria and evaluate suppliers and contractors of products, works and services base on SPP is lacking. With regards to procurement, several stakeholders are involved: procurement officers of all procurement entities, members of the tender evaluation committees at the various levels, suppliers and PPA which is the procurement regulatory body including other standardization institutions in Ghana and even the general public. All these stakeholders are to have adequate understanding of SPP to be able to exercise whatever responsibility is required of them.

“Yes, the challenges are many because people are not aware about this sustainable procurement. And even the procurement officers and directors of other departments need serious training about that in particular.”

Since the policy was launched in 2010, it was not until 2014 that procurement officers were trained on how to procure sustainably. This training, according to the Procurement Officer of PPA reliably informed that, not all procurement officers in the ten regions of Ghana were considered for the training due to financial constraint. This is confirmed by the PPA 2014 annual report that the training covered 570 procurement practitioners from only six regions namely, Upper-West, Northern, Central, Eastern, Greater Accra and the Western Region (PPA, 2014).

A section of the participants, majority of whom were Procurement Officers were of the view that in sustainable public procurement, suppliers are the key stakeholders who require great attention when it comes to training and capacity building. Thus, they have to be trained to understand the concept and if possible should be provided with all necessary support to build their capacity to respond to SPP requirements that are stated in tender documents.

A respondent illustrated;

“...if you are doing national competitive tendering and you restrict the tender to only local suppliers, but they don't have the capacity to meet the sustainability requirement, how will you be able to achieve your aim?”

Respondents were of the view that at the initial stages of implementing the policy, local suppliers and business will find it difficult to participate in the international competitive tender process of public procurement, which may force unethical suppliers to provide false information about their products or services due to high cost involved in producing or manufacturing sustainable friendly products. However, they were optimistic that with time and some support, local suppliers can match up.

4.3.1.3 Inadequate Public Education and Sensitization

Often times, there is inadequate information on most of the policies we implement in Ghana, here, which leads to implementation failures. Without robust systems to solicit for contributions from everyone on sustainable procurement requirements and also to disseminate such information to the general public and all other relevant stakeholders, the SPP policy will always be seen as foreign and will face resistance from procurement officers, politicians, and suppliers who often commit their scarce resources to either procure or supply sustainable friendly products and services.

“There should be wide spread dissemination of information. And that, standards are set that these are procedures and things to observe ... if that will not delay the time that you want the facility or delivery of service”

On assessing the awareness of respondents including procurement officers by this study, it was found that majority of them were unaware of the concept even though it was launch by PPA in 2010 with subsequent sensitization and training of some Procurement Officers in 2014. The 2014 annual report of the PPA provides that only 244 out of over 700 suppliers (including consultants and contractors) in the data base of PPA were sensitized during the sensitization programme on the concept (PPA, 2014). Inadequate education and sensitization may be the explanation for the failure of emphasizing specific issues of sustainable procurement in the recently amended legal instrument on the practice. This can be attributed to the fact that policy makers and practitioners in the public procurement themselves lacked adequate knowledge on sustainable procurement to make relevant inputs towards the amendment. This is an indication that authorities mandated to implement the policy has not done enough education and stakeholder sensitization on the need for government to mainstream sustainability procurement into existing procurement practice.

4.3.1.4 Excessive Bureaucracy

Bureaucracy is the formal procedures of undertaking activities or performs a task in an organization. Even though it is necessary to ensure that organizations' processes and activities are properly structured, its excessiveness leads to delays, corruption and bribery in both public and private organizations. The study identified that excessive bureaucracy in the Ghanaian public services may constrain the implementation of a new policy like sustainable public procurement. Thus, officers responsible for procurement in the various procurement entities will still lack the power to demand suppliers to meet certain sustainable procurement requirements unless there is a legal framework (if there is any) or the heads of their entities grant them approval.

For instance, it was highlighted;

“with regards to bureaucracy, just as you came and you are speaking about this. I have caught the vision. But if I want to move to the next level of applying it. Moving to the next system might become very challenging if the person above doesn't give you that room”

Another respondent added;

“...too much bureaucracy lead to corruption which may break down the system. Nepotism is also very harmful to this reform. It has currently become a social fabric.”

This unnecessary bureaucracy in public administration system of Ghana will frustrate considerations for sustainable procurement criteria in the country's procurement behaviour. In cases where they are even applied, it may delay the procurement process breeding corruption and affecting the value of procurement contract prices and litigations against government entities (judgement debt), especially in the MDAs.

4.3.1.5 Poor Monitoring and Inspection Systems

Again, the study also found that there are poor monitoring and evaluation systems with regards to public procurement in Ghana. A policy like sustainable public procurement requires strict compliance to legal frameworks, guidelines and standards for its successful implementation. Without them, enforcers of the policy who mainly constitute street level bureaucrats will do whatever they want on the field.

As reliably informed;

“...we also lack SPP compliance inspectors. How are we going to get people to inspect it to make sure that people are complying? As we are sitting down here, even PPA, the whole staff we are not up to 100. How do we get to know that each institution in Ghana is complying with the SPP issues? Because it’s expensive, people will just dodge it”

Another respondent from the local government institution added;

“...if PPA is able to put in the right monitoring mechanisms to check this type of procurement activities of government institutions, I think it will help, it’ll help to achieve that target.”

In public policy cycle, policy monitoring and evaluation is a very important process which is necessary to ascertain whether the intended goal or objective are being achieved with prescribed guidelines for the policy’s implementation. Inferring from the data, the study concludes that there is no formalized monitoring and evaluation process for SPP within the public sector. To mainstream SPP, PPA should develop a vigorous M&E guideline with relevant indicators and well defined responsibilities; developing a comprehensive mechanism for capturing and managing data to support results-based M&E towards accountability and transparency in SPP implementation.

4.3.1.6 Lack of Political Will and Budget Constraint of Government

The will and commitment of relevant stakeholders including politicians, heads of the various procurement entities and street level bureaucrats to be enforcing the SPP policy are necessary for the policy see the day of light. Owning a policy helps individuals to commit themselves and their resources to enforce it. It was emphasized in the study that, considering the nature of the policy, politicians especially who are custodians of public purse lack the will to accept and support SPP due to the high initial cost involved. Without strong political will, there will always be that hindrance.

“You know, they have a perception that if this thing is too expensive, we can even use the money to buy two or three of that. So they will in a way resist its implementation. They won’t encourage you to go in for that product. But at the end of the day, that is what might help”.

“the country may not be able to finance the high budget. When you use SPP criteria to buy anything, it will be expensive. There might not be enough fund to finance the reasonable budget.”

The management staff added;

“...we have to change our STDs and put in SPP requirement in our tender documents. That is a lot of work, ok. So, basically my challenge is funding.”

Procuring sustainable products and services with impacts or results that may only be realized after a long while will most likely be ignored by politicians who often desire quantity and quick results, most of which are physical. To them, quick and physical results provide the needed political capital for renewing their mandate with the citizens.

The policy therefore will rely on a concerted effort from everyone relevant to public procurement in the public sector of Ghana even though some respondents highlighted that the practice was not

new to Ghana's context. There is, however, the need for all stakeholders to change their mindset and look at the brighter side of SPP, than placing too much emphasis on acquisition price.

4.4 The Role of E-Government in the Implementation of SPP in Ghana

Contemporary studies and reports provides enormous evidence of how businesses have taken advantage of and consequently benefitted from information communication technologies (ICT) to facilitate their processes ranging from marketing, accounting, human resource management, supply chain management, among others (Boone & Ganeshan, 2004 cited in Walker and Brammer, 2012:261). Recent reports on e-government adoption among member countries of the United Nation also confirms that this ICT adoption is not limited to the private businesses as the e-government developing index (EGDI) shows a consistent increase in global average (UNDESA, 2012; 2014; 2016). The same study also provides that Ghana among other developing countries have advanced their performance of EGDI despite their low level of income. In relation to Ghana's public sector, this study again sought to identify the role this performance in e-government can play in the implementation of SPP using the UN e-government development index. On this objective, however, the study initially assessed existing e-government systems; the nature of e-government adoption in Ghana's public sector using the stages model by the Baum and Maio (2000) of the Gartner Group, which helps the study to assess the current level of functionalities embedded in government websites and consequently how e-government can be used to facilitate SPP using the United Nation's EGDI.

4.4.1 Current Experience with E-Government Systems

From all the sampled public sector organizations, it was found that there are various forms of government services that information technology (IT) applications have been developed for. This service includes integrated public financial management, human resources and payroll management, marriage registration, exemption granting for imported minerals mining equipment, provision of information on available mining sites to mining companies among other online service tools.

4.4.1.1 Ghana Integrated Financial Management Information Systems (GIFMIS)

For an integrated and effective public financial management in Ghana's public sector, the Ghana Integrated Financial Management Information Systems (GIFMIS) is used. The e-government system which is controlled by the Controller Accountant Generals Department is mandatory for all government agencies. The system was introduced to control corruption and also to correct the mistakes in financial management like over invoicing among others. For public procurement purposes four departments operate the GIFMIS system: finance, procurement, stores and budget. From PPA, AMA, NITA and Minerals Commission, the system which was implemented in 2015 was identified to be used for budget preparation, capturing revenues and expenditure as well as financial reporting.

“...we are asked to do our inputs of our receipts and payments into the system. It will mean that it will give us some balances, bank balances at any point in time. And when you pull your report, then they can do a consolidated account out of it for the whole Civil Service”.

4.4.1.2 Human Resource Management Information Systems (HRMIS)

Aside the GIFMIS, some respondents underscored that there was another e-government application used for managing data related to human resources in the public service of Ghana. This application is called Human Resource Management Information System. This system is a component of the GIFMIS which is managed by Controller and Accountant Generals Department (CAGD) and Public Services Commission (PSC). It monitors the activities of human resource units of the public sector organizations as well as their payroll. Therefore it engages heads of human resource and finance units, and directors of the organizations monthly to cross check and approve payments of salaries to public servants.

A respondent explains how the HRMIS works;

“the HRMIS has information of staff, so for every month, controller forward the details to us to validate before payment is made. If the Director of HR has issues with a person that she feels he or she should not be paid, I mean, automatically, she will just update the record and send it to Finance. Then Finance will intend forward it to the Coordinating Director who gives the final approval”

She added;

“...it brings out details of people who are supposed to leave the service. And it helps us to amend our records here accordingly because they don't have that information to be reconciled immediately but we do. So this removes the issue of ghost names sometimes found in the system...we also check to prevent over payment and under payment of public servants' salaries.”

This system has gone a long way to reducing the rate of ghost names as well as over payment of salaries and back-pays in the payroll.

4.4.1.3 Online Marriage Registration

At the local government institution, AMA, an online marriage registration system was also identified. With this system, prospective couples can now apply for a marriage license online. This makes it possible for partners abroad who intends to marry in Ghana to start making preparations towards their marriage far before they even arrive in Ghana. It must however be noted that this system does not include obtaining marriage certificate for the first time. Applicants are required to be present to physically sign their marriage certificates. It is only in cases where certificates have been damages and lost that applicants may be far way but request for new copies to be posted to them.

“You can now marry online. However, the law requires that the two parties should be present before me for final approval base on their residence. It doesn’t allow room for filling caveat to oppose the marriage”.

Despite the convenience that the online marriage has brought to the work of the Assembly, the experienced legal practitioner at the marriage unit of the AMA was worried. According to him this system does not provide room for objections and caveats to be filled to oppose some of the marriages as some were not morally appropriate. This process was piloted in 2015 and was officially in use since 2016.

4.4.1.4 Ghana Community Network (GCNET)

There is also the GCNET which is fully called the Ghana Community Network Service. It is digital service used by a couple of government agencies including the Ministry of Finance and Economic Planning (MoFEP) and the Ghana Revenue Authority (GRA) for clearing imported goods from the ports. Respondents at the Minerals Commission indicated that they use the system to grant

some exemptions on import duties of mining companies who import certain specified mining equipment into the country.

“...they can sit in the comfort of their offices and submit request into the system that they want to be given exemptions covering this mining equipment they are importing. We will vet it and recommend the exemption to the Ministry of Finance and the GRA to grant them”.

4.4.1.5 Mining Cadastral Administration System (MCAS)

The Cadastral Administration System known as MCAS for short, is an internal management tool use to assist mining companies to identify mining fields in the country. This has made it convenient for mining companies to get information even far away and not rather come to the organizations premises.

“Whoever is interested in it can log on to the system even far away and know which places are available and earmarked for which activity. So that if the person is interested, then he or she can submit his application for approval”

This system elevates the manual processes of acquiring mineral rights onto an electronic system.

4.4.1.6 Other Services

Section 26 of the Electronic Transactions Act 2004 (Act 772) mandates and regulates all e-services in Ghana. This act prescribes the manner in which all government institutions and public agencies are to convert their services to electronic process. This includes the manner in which the electronic records shall be filled, created, retained and issued. These processes are to be Gazetted. It is also acceptable to publish them on the agency’s website and on other publications with wide public coverage.

“you see that when you go to most of the agencies now and at the one stop shop at circle, you see that they have listed all the procedures for you to acquire every

permit that is being issued by the agencies because the law says that you should gazette it”.

Consequently, NITA which also enforces the electronic transactions Act is spearheading GH-services for certain transactions and payments to be made electronically when it comes to the ATM, VISA, and mobile money payments. With regulations and guidelines from NITA, some of these public institutions like the Minerals Commission receives applications of mineral rights, licensing, permits and procedures and also sell all forms of publications including the licensing application forms, research materials among other on the their websites.

A technical officer directs;

“So when you go to portals like the e-services portal of NITA. And at the Ghana single window project, all these services have been recognized there as e-services.”

However, an Officer who disclosed that the e-marriage registration was piloted in 2015 but roll out in 2016 also added;

“Sometimes the net is down and you can’t render services to clients. Sometimes two, three days. Sometimes one week, the system is down. You can’t do anything. So that one is our biggest challenge.”

All respondents were concerned about connectivity problems. This situation interacts the flow of work. NITA is the main internet service provider (ISPs) to the MDAs and MMDAs. They hoped that government could invest into the necessary infrastructure that could enhance smooth flow of connectivity to improve their productivity through the various e-government tools. This situation has forced some management of public sector agencies to consider other private ISPs for reliable internet connection.

4.4.2 Ghana's Partial E-Procurement Process

The study established from some of the respondents who were largely Procurement Officers and few Legal Officers (largely members of the tender evaluation committee) that the current public procurement process is partly electronic. According to them, the initial process of procurement as well as later processes involves the use of information technology tools which provides online resources to procurement officers and suppliers/contractors.

“Oh yes. It’s not solely ‘e’. But we do it partially. For instance, with our procurement plan, we post it online. And then our supplier database too, we always update it online. With competitive tendering, although we advertise the tenders online, from the portion of submission through evaluation and payment, it is done manually, except publishing of the evaluation of the result or report which is also online”.

The initial processes of public procurement involve procurement planning and budgeting. It was realized that while plans of all procurement entities are uploaded onto the PPA portal in the beginning of every year for scrutiny and transparency purposes, the GIFMIS is used to prepare budget which includes those related to procurement. With respect to tender advertisement, entities access STDs on specific products and services from the PPA website to prepare their tender documents and publish adverts both on the same websites and in two other newspapers of nationwide coverage (according to the PPA Act, 663).

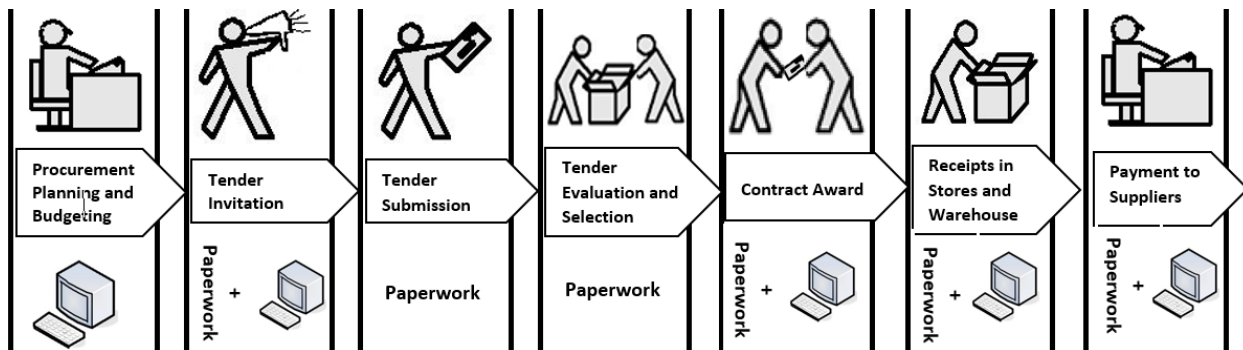


Figure 4.2: Ghana's partial e-procurement process

Source: Author's construct (2017)

However, receipt of tender application, evaluation and selection of successful candidates are all done manually as presented by Figure 4.2. The digital process is again engaged when successful supplier (s) and evaluation results are published on the PPA website. After successful supplier or contractor have been invited to officially accept the offer of contract, a commitment is made in the GIFMIS on their behalf according to the terms agreed upon.

In an interview with a Principal Officer, the partial e-procurement process was described;

“Internally, we prepare the Local Purchase Order (LPO) after we have identified the suppliers. But when the goods come, they are accompanied with a way bill which is given to the Accounts unit. Stores also prepare Store Received Advise (SRA) as confirmation that the specifications of the LPO have been delivered. Payment Voucher (PV) is prepared and finally, suppliers are electronically sent their payment without resorting to the physical cheque.”

Even though the GIFMIS was programmed to facilitate digital financial transactions, it is not currently in use as other participants still write cheque. So, for now, cheques are still manually written for suppliers and contractors according to their contractual terms.

4.4.3 Nature of E-Government Adoption

The study also assessed the nature of e-government adoption using the stages model proposed by the Gartner Group. This was relevant to know and understand the various tools and functionalities of the websites of most public sector organizations. Therefore the study investigated whether or not an organization had a website, use this website to interact with citizens and clients, whether this websites support transactions, and how integrated they are with or feature other websites and portals.

4.4.3.1 Web Presence

All the public sector organizations sampled were found to have websites. These websites which are hosted by NITA provides basic information about the activities of each of them, their scope of operations, managements, basic publications among others. However, regarding public procurement, Procurement Officers upload their procurement plans including amendments made to the plans and publish their tender invitations and evaluation reports on the PPA website, aside the manual publications in 2 newspapers of nationwide coverage (in the case of tender invitations).

“When we are doing the adverts, we use our internal notice boards. And apart from that we also have our websites we are also supposed to put there. Then we also put a copy on the PPA website. We also publish it in two newspapers of nationwide coverage”.

However, a section of the respondents were unhappy about the fact that most of these websites were rarely updated and therefore seems too static.

“Well, I don’t know who is building these things but sometimes they are down for the most parts. They are not well run and all that. They are not updated regularly”.

4.4.3.2 Interaction

Regarding the level of interaction of these websites, it was found that not all of them provides interactions tools like search engines and easy links to emails and other social media platforms. While the NITA, PPA and Minerals Commission websites provide stakeholders and citizens easy access to these additional services, the website of AMA does not allow these, even though they all had downloadable documents on their websites under either their publication or media menus.

“...because I am the technical person in charge, it will prompt me that a customer is requesting for a particular service from a particular officer. Then if I see that the time is elapsing and the officer is not attending to it, I remind the said officer that a particular customer needs a particular service”.

A respondent added;

“yes ... we have a portion where clients ask any question they need and they would have to reply. We also have e-bulleting that we always post on our website every two months. So, if the public has any comments on some of these things, they put it on the website and we take it up”.

4.4.3.3 Transaction

Modern websites support all kinds of activities like live chat and transaction among others. In Ghana’s public sector, the study found that there is an integrated payment gateway system which allows several forms of online payment options on the various government websites for users. While websites of some public sector agencies support online payments, others did not.

At the Minerals Commission, it was brought to bare that various application forms could be bought online including that of mineral rights and services. These services may be electronically paid via visa or debit card, and even through mobile money as it’s done for the online marriage registration at AMA.

“...after the transaction, it will generate a transaction pin for you like an invoice code then you pay base on the code and it will reflect the service you are paying for. Then you are either given access to download the file or the file is sent to you. You can try it from the e-services portal, it will take you through all the process”.

With regards public procurement, the various websites of procurement entities have not been built to support transactions yet. However, authorities and stakeholders are currently in the process of developing the revenue models and the payment methods to be used.

4.4.3.4 Transformation

The NITA and PPA website was identified to be connected to all MMDAs and MDAs including other public sector organizations all citizens and users access to them all. This is probably because

it is the main implementation agency for Ghana's e-government policy. The other public sector institutions could get on both the PPA and NITA for certain particular information or even direct their clients to access some services. With regards to the NITA website, some respondents explained;

"I think it is linked with NITA. You know what, we are all on the NITA. So our website will also be linked with NITA. You understand?"

The Principal Officer added;

"Now you can apply for all the online services through the NITA website. They are all linked to our website."

For instance, with the PPA website, procurement officers post their procurement plans at the beginning of each year for monitoring purposes in addition to news items and bi-annual e-bulleting for all stakeholders particularly procurement entities to read.

"...we also put news items on it for all of them to view in addition to the e-bulleting I was talking about. I think we are working on our next edition. It is on SPP"

4.4.4 Using E-Government to Promote Sustainable Public Procurement

4.4.4.1 Online Portal Services

The study established that NITA and the Ministry of Communications are mandated to provide all MDAs and MMDAs with websites to facilitate delivery of their services. The Head of Applications Systems of NITA acknowledged that all the MDAs have websites except those that were recently created, which plans are being made to establish them. These government agencies make available on their websites information about their operations and activities to the general public. Currently, citizens or members of the public are able to request for some of these services online (birth and deaths, marriage certificate, online passport application system among several others) upon

applying the right procedures. All these online services provided by the government can be accessed by logging into the e-services portal. Almost all respondents opined that these websites can be used to promote SPP by providing wide variety of information on the concept including requirements or criteria that need to be met for common products and services.

“...the moment you maybe log into websites, you are prompted about some of these things. Maybe the need to undertake procurement activities that are environmentally friendly and socially responsible. So these websites should make it possible to know some of the environmental and social factors to be considered when procuring”.

It was established by the study that online portals services can be used to promote SPP information sharing and transparency, reduces paper work, and speeds up services delivery and saves time used for public procurement.

i. SPP Information Sharing

With e-government, there will be adequate information about sustainable procurement requirements to stakeholders in the procurement process. This minimizes the problem where suppliers will have to call procurement entities for further information concerning a tender advert or document. In this case, the procurement officers only have to update the entire tender documents if they have already been printed and also recall or send updated copies to suppliers who purchased theirs earlier. The study found that e-government has the potential to reduce information asymmetry between government through procurement entities (agent) and citizens (principal) often found in most principal agency agreements.

“If everybody knows what is going on. If information is available, nobody should get a product that is not sustainable. Once you are talking about electronic means of doing things, it means that SPP information can get to everybody at the same time. So you can take decision based on the information available to you”.

All respondents confirmed this view that e-government can be used to publish information on SPP criteria, and why procurement officers and suppliers should purchase and supply goods that are sustainability friendly in addition to the various means through which products or services could be produced or manufactured and recognized as sustainable friendly.

ii. Transparency in the Procurement Process

Considering the fact that SPP is a new concept, not all officers in public procurement will know what and what to look out for. They may therefore be subjective with their decisions just because they know or have previous relationship with a supplier. However, using e-government to promote SPP will mean that there are criteria to consider in the procurement of common products and services which procurement officers will use. This criteria may even be available to suppliers and the general public even before they are stated in the tender publications.

“Because that solves the problem subjectivity and not being transparent that I was talking about. So everybody can review, if I gave how the people evaluated this. A lot of transparency makes it difficult for people to do underhand deals”.

Another added;

“All I’ll be looking at is the value of that product. And if you are able to demonstrate that value through an online base system and all we are looking at is evaluating based on data and facts. It actually helps suppliers as well.”

A transparent system, in the end, will build trust and strong support from all aspects of the economy including citizens in public procurement process towards good governance.

iii. Reduces Paper Work

In terms of upgrading information sharing processes from paper work to digital publications, e-government is considered to be a sustainability tool in itself. In public procurement, the tool will reduce the current excessive printing and use of paper in the office.

“Oh yes, there will be less paper work ... currently, we print a tender document of about 20 to 30 pages. But once we go on e-procurement, all these documents will not be printed hard copies anymore. The supplier will be able to fill tender forms and submit them online.”

Another added;

“There will also be less interaction with officer and less travel from very far distances to purchase or submit tender documents which sometimes causes a lot of inconveniences.”

Reduction in printing and paper work will translate into less administrative cost for public procurement processes and submissions of tenders by suppliers. Here, e-government in itself will present the procurement administration with sustainable benefits at least in the area of environmental and economic growth for procurement entities as well.

iv. Speeds up Services Delivery and Saves Time

A section of the respondents was of the view that e-government speeds up work process and saves time. With the available information on SPP, suppliers are able to quickly respond to tender adverts in no time. Similarly, tender evaluation committees can also receive and evaluate tenders conveniently without necessarily being present at their work premises. This can be done anywhere in the world provided the member can access the internet.

An experienced Director who was presented with some documents to work on, in the course of the interview explained;

“At this age, this thing could be done away with. It could be sent to me through the PC, just work on it and pass it to whoever is next to work on. Most of these are suppliers that we procure things from”.

He passionately assumed;

If you log on to the PPA website, you have list of suppliers and the list of prices that they have given at a point in time. For instance, if minerals commission has it and you are suppliers, we only contact you through the system and whatever details or specifications we desire, we just give it to you. So you may not necessarily travel all the way to the commission to buy tender document, go fill and come back. Those things may all go wrong”

4.4.4.2 Telecommunication Infrastructure

From the United Nations E-Government Development Index (EGDI), telecommunications infrastructure index assessed member country’s effort to improve ICT infrastructural facilities. From the study, it was found that Ghana has over the years made tremendous improvement in its telecommunication infrastructure which is manifested in the various programmes and software that have been acquired to improve the performance of its public services as demonstrated above. Government through NITA has built 200 Community Information Centers (CICs) with 10 regional coordinating centers across the country and a model of the One Stop Service Center in Accra. The Director of Applications System informed that access to these CICs which is being managed by the District Assemblies is free of charge. Government is however taking advantage of the adequate telecommunication infrastructure to initiate e-procurement as it is accessible and convenient to suppliers.

With regards to public procurement, another Director underscored;

“...there is going to be a centralized portal for use by government agencies for public procurement ... the portal will take care of all aspects of end to end procurement processes and activities. So tendering, competitive bidding, auctioning, sole sourcing, etc. will be adopted.”

She added;

“So we believe that if an individual or supplier want to participate in any e-procurement service, they should be able to locate out of all these facilities. Since these platforms also are mobile enabled. So once you have data network, you should be able to access it.”

These systems which are also termed e-government mostly rely on internet to operate. In Ghana’s public sector, the study established that internet access is a challenge and without effective internet connectivity, information about sustainable procurement could not be shared. NITA is the ISP for the provision of internet to all the MMDAs and MDAs. From the experiences shared on the current e-government services discussed above, it was revealed that respondents were unhappy about the sluggish internet connection. They complained bitterly that internet connectivity has humper their use of the e-government applications. So some of these organizations have convinced their management to get other private ISPs to run in tandem with the NITA network. Others still use Enterprise Resource Planning (ERP) software that was previously acquire before they were mandated to use the GIFMIS for instance.

A Principal Officer with over 9 years of experience in Finance illustrated;

“With the GIFMIS for example, when the systems go down, we cannot access it. In that case, if you are doing any payment, you would have to halt the whole thing until you have access to it. So we have an accounting software (SAP) that we use in our recordings of our revenues and payments. But now that we have this, we are running parallel systems. But along the line, when the GIFMIS becomes robust enough we may consider stopping the use of the SAP.”

It was realized that even though Government has made tremendous effort to build internet infrastructure in the major cities in Ghana, human practices like digging and road construction activities among others destroys fiber cables unknowingly which often impedes its efforts. It will disrupt the internet service provided. Therefore, the use of Long-Term Evolution (LTE), a standard

for high speed wireless technology was recommended by respondents from the Minerals Commission to be used by all other public sector organizations as solution for this problem.

4.4.4.3 Level of ICT Literacy

To promote sustainable public procurement, all stakeholders are to be trained to understand specific things they should look out for in all products and services. In this light, the study assessed from the perspective of participants, the level of ICT literacy of procurement officers and all other stakeholders including suppliers and members of the evaluation teams of the various procurement entities. The study found that even though government has built websites for all of its institutions, most members of the public still come to offices from long distances just to enquire about information and resources that are readily available on their websites. This implies that there is not adequate promotion and education about government online services.

“...even though the portals that are being used, most of us don't know about the portals of government. There must be better promotion and education so that the people will understand how they can use these portals and apply it when it comes to these services.”

Although government is doing its best to train procurement staff, the Assistant Director of AMA considered it not enough and consequently advised that basic and secondary school students studying ICT at various levels in public and private schools should be introduced to these e-services so they can grow up to become ICT compliant.

All procurement officers and personnel who serve on the evaluation committee need to be introduced to ICT tools that will help their understanding of why and how they should and can respectively procure sustainably. Other respondents were worried about the low capacity of local

and indigenous companies (suppliers). According to the participants, these stakeholders lack the capacity to respond to SPP demands that may come from procurement entities.

“For instance, when it comes to international competitive bidding, you find the national companies wanting. They can’t compete with the external ones. In terms of sustainability, ICT infrastructure and literacy, they are there. So the moment we go e-procurement, it means the nationals are totally cut off. Only a few of them will be able to compete with those people. You understand?”

However, an aggregated data from the last six biannual e-government survey by the UN reveals a contrasting view that the country’s human capacity to use ICT is rather higher than available online services and level of telecommunication infrastructure facilities (see Figure 4.3). This may be as a result of the high rate of self-learning and presence on social media by citizens. It is therefore plausible to suggest that this process augment government’s effort of providing formal ICT training to its people, especially its staff.

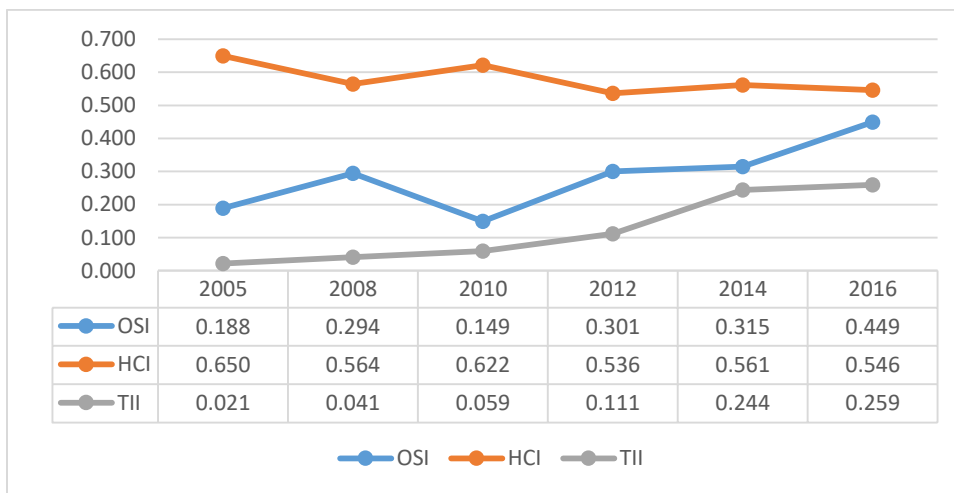


Figure 4.3: Aggregated data for EGDI 2005-2016

Source: UN E-Government Knowledge Database (2017)

Hence, relevant information could be provided via new media to facilitate SPP. The study recommends to PPA to take advantage of the high presence on social media to educate all

stakeholders and the general public. Those popular social media that people were familiar with were noted to include Facebook, YouTube, WhatsApp, twitter among others. This is because most people are resistant to change but will not resist anything they are already familiar with.

“...if all other agencies are able to access our write ups, our adverts about SPP, read and go through it. Some people will change their mentality and the way they do things.”

Whilst a section of the respondent believed that public procurement stakeholders including the general public (both old and young) are ICT literate enough because they use the internet and their mobile phones for several variety of services and transactions (mobile money) except that they initially approach such with some kind of fear, others were of the view that when it comes to sustainable public procurement, stakeholders should be trained adequately to equip them with the requisite IT tools to determine the level sustainability of products and services offered by suppliers.

4.5 Ghana’s Readiness to Roll-out E-Procurement

The last objective of this study was to assess the readiness of Ghana’s Public Sector to roll-out e-procurement amidst the development of numerous forms of e-services used to enhance public administration and performance of the public service. Assessing Ghana’s readiness from the perspective of key public procurement stakeholders, the study identified a check-list that will require government’s attention as it plans to embark on a full e-procurement for its public sector considering the prospects it presents to the procurement practice and public administration.

4.5.1 Perception about Readiness

The study generated a contradicting views from respondents. Whilst majority of them perceived that Ghana is not ready to roll-out e-procurement until certain issues are addressed although they

were optimistic, others were of the view that Ghana is currently ready. The later believes that since Ghana is part of the global world which seem to be responding to the rapid growth of ICT for public procurement, there is the need for the country to also put in place prerequisites to also adapt to the trending practice. Indeed, Ghana has over the years done quite well in providing infrastructure and organizing IT tailored programmes to support it teaming youthful population. They are been encouraged to see governments effort in providing infrastructure as a way of providing them with the capacity to used ICT to promote all forms of development in the countries. According to the IT head of Minerals Commission, e-procurement can be supported with such capacity that has been built over the years.

On the other hand, however, several other respondents were of the opinion that Ghana is not ready to roll-out e-procurement at all, unless rigorous training and sensitization on e-procurement is done; clear policy guidelines or manuals are prepared, explained and disseminated; with a robust and user friendly e-procurement software acquired.

4.5.1.1 Absence of Clear Policy Guidelines or Manuals Needed

In most cases, government activities and programmes are backed by policy frameworks that spell out how things should be done as well as the role of each the relevant stakeholders in implementing such a policy. This policy is required to also specify corrective actions that will be observed for lack of compliance towards making it enforceable. However, in the case of the e-procurement policy, there is no such thing in existence. Thus, there is no clear policy guidelines or manual that has been gazette to regulate the e-procurement process. This guidelines are needed to provide step by step approach with which the e-procurement process will be used, enforced and implemented by all procurement entities in Ghana.

“...in the amended act, you cannot see any guidelines on e-procurement there for procurement officers. How to go about it. There is nothing in the act guiding the e-procurement.”

In publications about the recent amendment of the Public Procurement Act, government explained why the previous act needed to amend. And among the reasons given, it was also to support the adoption of e-procurement to enhance transparency among other procurement principles in the country’s public procurement. Unfortunately, the amended Act 914 seems to have presented lesser information concerning e-procurement than was expected. Hence, with clear policy guidelines or manuals, it will be possible to successfully implement an e-procurement system for the public sector of Ghana.

4.5.1.2 Inadequate Capacity Building, Training and Sensitization

A section of respondent viewed that until the rigorous training and sensitization on e-procurement are carried out, public sector of Ghana is not ready to use an e-procurement system for its public procurement practice. There is the need to thoroughly train and educate procurement officers at all levels in the public sector so they can properly do public procurement via an electronic system. Without this training, public procurement may even delay, become complex, and attract a lot of procurement disputes from suppliers. With respect to e-procurement, the study established that there has been no training of any kind although all procurement officers are supposed to be trained before it can be implemented.

A Principal Procurement Officer disclosed in an interview;

“...as part of the evaluation that we did to select a vendor for the e-procurement software, we were looking at the training programme or schedule for the MDAs. So we don’t think even training management in one month is enough time.”

According to some procurement officers, there has still not been any training on the e-procurement practice which the Vice President of Ghana, Dr. Mahamadu Bawomiah directed to be introduced in June at the PPA office premises (Business News, 18th March, 2017). However, it was discovered that for pilot purposes, there has been some form of training in MDAs on the system for some technical people in the IT departments of the proposed organizations leaving the procurement personnel and its stakeholders out. An Officer who was fortunate to have benefited from the training explained its nature;

“So there should be proper change management strategies. So we went through that first. In doing the change management, we first need to educate the public, and then our staff. Train them on how to use the portal. We have contracted NITA to connect our offices also to also the GovNet which is a government network. So that we can reduce the cost of communication”

4.5.1.3 Available Technological Infrastructure

To roll-out an e-procurement system, there is the need to develop or acquire certain infrastructure to facilitate the process. This infrastructure may include the acquisition of a user friendly Enterprise Resource Planning (ERP) software with very strong security feature which will be integrated with all procurement entities and relevant stakeholders in the country. There is also the need for strong and reliable electrical and internet connection across the country.

i. Acquisition of E-Procurement Software

With respect to the e-procurement software, it was brought to bare that government with the World Bank’s support is making plans to acquire and roll-out a full e-procurement system to take care of all public procurement process ranging from posting of procurement plans, budgeting to making payments to successful contractors based on the terms of their contracts.

“...what we worked on is supposed to be like there wouldn't be any physical or face to face interaction when it comes to procurement ... yeah, we've selected the company already. It was a World Bank project. So having done our part, the remaining is with them”

It was established at NITA and PPA that the full electronic procurement system will initially be piloted at Volta River Authority (VRA), Ghana Health Service (GHS), Ghana Grid Company Limited (GRIDCO), Ghana Cocoa Board (COCOBOD), Department Feeder Roads, and the Social Security and National Insurance Trust (SSNIT), due to their high revenue generation and nature of spending.

“So when the award comes, we shall see more of these projects next year God willing. They are taking time because of the procurement processes involved, availability of funds and the piloting”

A Principal Officer who also serves on the technical committee of this project confirmed this revelation;

“The portal is being designed where even agencies can do their bidding and everything through e-procurement. So once that is done, it will become like the GIFMIS ... even evaluating tenders will be done electronically.”

The vendor for the new system which has already been selected will take away all human and physical interaction when it comes to public procurement. Currently, all the necessary software configurations towards the government's e-procurement system underway.

ii. Current Internet Connection Problems

Ghana has a high level of internet penetration with the presence of several private internet service providers (ISPs). However, the study established that NITA is the internet service provider for the MDAs and MMDAs in Ghana. The government's ISP provides internet to facilitate e-service delivery of these public sector organizations considering the high cost involved in using private

ISPs. However, the NITA network was found to be slow and sometimes unavailable for some periods.

Referring to a telephone call that interrupted the interview, the respondent added;

“I think they should look at the network, internet facilities should at least be improved upon. Already we have NITA that we are using but sometimes it gives us challenges.”

Another respondent further explained;

“...so when you have a challenge like that, you don't enjoy the speed at which it should work. With such system, if the manual is even faster than it, people will naturally develop a dislike for such a platform. So because of this, we are not able to use it as fast as it is required.”

Due to these connectivity challenges, some management of the organizations studied, like Minerals Commission and AMA also use other private ISPs alongside the NITA network even though it is quite expensive. This revelation was confirmed by the two respondents from NITA that some MDAs are also on private ISPs. According to them, about 90% of MDAs have some basic connectivity and that it was left with the software. To make internet service affordable to the general public including public sector organizations, it was brought to bare that government is currently negotiating with private ISPs to support e-government infrastructure.

“...government is also looking at maybe to reducing the communications tax. That 6%. Bring it a little down. Or take part of the tax that government is taking from the telcos and put it in a special fund to provide government infrastructure.”

However, should bandwidth and internet services become cheap, there will be increased acceptance of e-government service in the country which could bring it to the level of East African and South Africa. Thus, the citizens will demand more e-service which will drive economic growth.

iii. Data Capturing Issues

Proper data collection and capturing have also been a major challenge that affects most policies in Ghana. There is the need to have a secured system that has a mechanism for capturing the data of all registered organizations that are likely to be suppliers or contractors to public procurement entities in Ghana. These suppliers may comprise both local and international companies.

“Assuming you undertake a transaction which is not won by one of our traditional suppliers, when it comes to capturing of their names, it’s not in that data. So I have to maybe find a way of adding it to it. You understand. But with the manual, whoever comes, you prepare and pay the person whether the person belongs to our suppliers’ data or not”.

Such a system like the e-procurement software which will also be assisting to promote sustainable public procurement may be integrated with Registrar Generals Department for data on their legitimacy for operating, Ghana Revenue Authority to check and enforce their tax compliance, Social Security National Investment Trust (SSNIT) for social security payment for employers, and other relevant institutions like Environmental Protection Agency (EPA) for their environmental impact assessment certifications and standardizations among others.

4.5.1.4 Absence of Technical Complains Unit

The study also found that there is no properly instituted technical complains office with the existing e-services ranging from the passport online registration service to the GIFMIS, except maybe the internal online services where individuals could walk in and enquire or complain to the IT unit of the organization responsible. Even though contacts numbers have been provided for enquiries, they are mostly unavailable and they hardly answer in the few instances that the lines are available.

A Procurement Officer opined;

“...because it is faceless, if there is a problem in their system and you have not been paid for two or three months, who do you talk to? You just have to wait for the system to resolve whatever problem there is. Our interface in the system is limited after raising the LPO and my boss scrutinizes it and forwards it to Account...”

He further added;

“... it is linked with let's say Bank of Ghana, Ministry of Finance and Controller. So after you have prepared everything and asked them to effect the payment, some body somewhere must work on it. If the person does not work on it on time, there comes the delay.”

There is therefore the need for a central complains unit to receive technical complains and feedback from citizens regarding their use of various e-services. With this information, government could correct challenges that confronts existing systems and to improve upon them. This unit, while assisting users (suppliers, procurement officers and members of the evaluation committee) with their challenges experienced with the e-procurement process, could inform monitoring and evaluation towards its robustness.

4.6 Discussion

In this section, key findings of the study are discussed after a revisit of the specific objectives for which this study was undertaken. In attempt to explore the reasons for the delays and low presence of sustainable public procurement (SPP) among developing countries and to find out how this region can take advantage of the global growth in ICT connectivity, this study sought to identify the mainstreaming challenges of SPP in Ghana's public sector; the role e-government could play in mainstreaming SPP in Ghana; and the country's readiness to roll-out an e-procurement system towards sustainable development.

The study discovered that lack of a composite legal framework, limited capacity of relevant stakeholders, and lack of political will and budget constraint among others, hinders the implementation of SPP in Ghana's public sector. Meanwhile, e-government tool including government portals, social media handles and a robust e-procurement software provides an avenue for information dissemination, assessing market readiness, and for educating and sensitizing stakeholders on SPP. These findings were compared with existing body of knowledge to ascertain variations and validations.

4.6.1 Challenges to Promoting SPP Practice in Ghana

Regarding the challenges of mainstreaming SPP in Ghana, the study revealed interesting findings, including lack of comprehensive legal framework, limited capacity of stakeholders, poor monitoring and inspection systems, lack of political will and budget constraints, and undue bureaucracy as the main factors impeding the mainstreaming of SPP practice in Ghana. This validates findings of Adjei (2010). Although the Public Procurement Act 2003 (Act 663) has been amended by Public Procurement Amendment Act 2016 (Act 914) to promote sustainability in public procurement, the Act (GoG, 2016) fails to provide clear guidelines to realizing this. Thus, aside sections 2 and 22 of the amendment Act (GoG, 2016) which recognizes sustainability in Ghana's procurement practice, there is no clear manual guiding and/or binding procurement entities to consider environmental and social requirement in their procurement practices. As a result, procurement entities are left to their moral discretion to adhere to some standalone laws related to different sustainability issues like Persons with Disability Act, 2006 (Act 715), Labour Act, 2003 (Act 651), and the Environmental Protection Agency Act, 1994 (Act 490) which again corroborates Adjei (2010). Adjei (2010) who regarded SPP as a new approach to new governance in Ghana, identified legal framework as a challenge. He argued that although most of these

requirements are not captured by a particular law, there are standalone regulations on them. In other cases, these entities are also compelled to procure sustainably as adherence to donor conditions.

Efforts to mainstream the SPP policy has also been hampered by limited capacity of important stakeholders. A critical analysis of the 2014 annual report from the PPA shows that the training programme organized by the oversight institution (PPA) to sensitized stakeholders (procurement officers) on SPP covered just 570 procurement practitioners from only six regions namely, Upper-West, Northern, Central, Eastern, Greater Accra and the Western Region (PPA, 2014). Consequently, lack of awareness of the SPP concept was evident among a large proportion of participants during data collection. Without understanding the need for, what to and how to integrate SPP requirements into public procurement, it will be a hopeless journey.

Aside the absence of a comprehensive legal framework and limited capacity of relevant stakeholders, excessive bureaucracy was also identified to hinder the mainstreaming of SPP. Notwithstanding the importance of structuring organizational processes, excessiveness of it, in addition to administrative and legal laxity leads to delays and corruption in public procurement thwarting national development as established earlier by Myint (2000), Wilson (2004) and Lio (2011).

4.6.2 The Role of E-Government in Promoting SPP

Regarding the role of e-government in the mainstreaming of sustainable public procurement, the study relied on the United Nations E-Government Development Index (EGDI) and the Marrakach Task Force (MTF) framework towards its contribution. This is because whilst the MTF framework serves as an implementation plan for the SPP, the EGDI reflex the strength and weaknesses of the

said country's level of e-government development. In the initial stages of implementing SPP, the MTF framework requires status assessment to be conducted to identify areas of success and where further work is needed for SPP. Here, online questionnaires were identified to be helpful in assessing the presence of the three dimensions of sustainability in Ghana's current procurement practices. This validates findings by earlier studies that online assessment tool were developed as part of the task force's operational plan to assist stakeholders with an easy start to promote SPP (see Kjöllström, 2008). Hence, adequate telecommunication infrastructure can help these questionnaires to be accessible online at all levels and sectors of government with adequate training on how they may be completed.

Subsequently, stakeholders of public procurement, including procurement officers in the various entities, private sector and legislature are guided by experts to scrutinize existing procurement laws. At this stage, a ubiquitous telecommunication infrastructure may be necessary to collate views and comments from stakeholders through diverse digital platforms, especially social media or websites to facilitate the review process.

After reviewing existing legal documents, the framework requires an assessment of the market's readiness to respond to sustainability demands for products and services. With the available telecommunication infrastructure and online services, governments may undertake simulation exercises. This exercise may advertise and invite tenderers to tender for common products and services or works that contain standard sustainable procurement requirements on major public procurement websites.

An SPP implementation plan which provides a mandate and a clear direction to the policy is drafted based on the outcome of the first three activities. ICT may help the stakeholders (see Figure 4.4) to review several similar policies of other countries with similar market characteristics as well as

receive inputs from citizens. The plan outlines objectives, principles and types of products and services to focus on, as well as monitor mechanisms and how they will be communicated to relevant stakeholders via national and entity's websites.

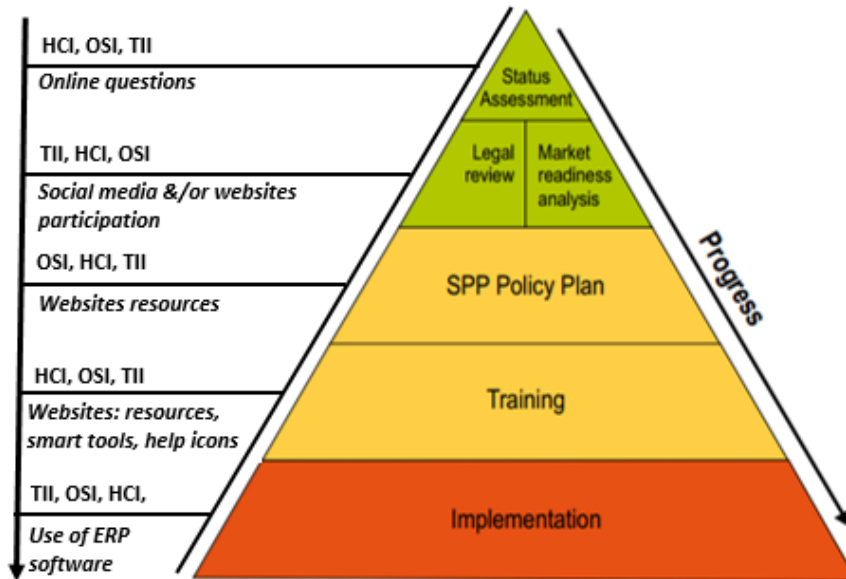


Figure 4.4: A Framework for Mainstreaming SSP using E-Government

Source: Adapted from UNEP (2011) and UNDESA (2014)

With respect to training, e-learning elements (Kopp, 2011) may be used by PPA to complement face-to-face and written documents to equip important staff and stakeholders such as suppliers, policy makers and procurement officers with the requisite capacity on sustainable and proper procurement practices. Some of these e-learning elements may include training resources, smart tools for calculating LCC, including help menus may be provided on government websites and on integrated e-public procurement system.

Finally, to implement SPP, government may acquire an integrated e-procurement systems also known as Enterprise Resource Plan (ERP) software for the whole public sector. With this system,

all activities pertaining to public procurement may be completed with minimal time, limited personnel interaction with suppliers, and at low cost which reduces corruption and promotes efficiency. On this electronic platform, standard sustainability criteria for common products may be provided, advertise tenders, access tender documents, submit bids, receive tenders, evaluate, announce results and award contracts, and pay contractors, all via the digital system. With this, life-cycle-cost (LCC) could easily be calculated for relevant products upon suppliers providing all relevant information in the online application system.

4.6.3 Ghana's Readiness to Roll-out E-Procurement

Ghana has a partial e-procurement system aided by improvement of PPA's website functionalities and the GIFMIS application. Thus, this system supports procurement planning and tender advertisement at the initial stages of the procurement process as well as announcing evaluation results and contracts to the general public. However, submission of tender applications and evaluation are purely manual. Unfortunately, the study confirmed that most websites of public sector institutions are rarely updated which supports an earlier study by Boateng (2013) that they offer little room for interaction between citizens and government, since they are mostly informative in nature. Without oblivious to the prospects digitizing the procurement process offers to the public sector, the study prescribes training and a clear policy guidelines on e-procurement, with a robust and user friendly e-procurement software as linchpins towards a complete (end-to-end) e-procurement system as Ghana does not seem to be ready.

4.6.4 The Double Agency Perspective

This research adapted the Principal Agency Theory in fusion with the Stakeholder Theory (Ross, 1973; Freeman, 1984; 2004 cited in Hill and Jones, 1992) to explain the relationship between citizens (s) (principal) who through elections impliedly contract various governments (agent) to undertake the responsibility of public procurement on its behalf towards sustainable outcomes. This responsibility and authority are further delegated to about 1,600 procurement entities. The study thus established a two-way principal agency relationship with regards to sustainable public procurement in Ghana. Again, the study could not ignore the fact that the procurement practice and SPP policy involve several other groups or parties with their own competing interests and responsibilities along the supply chain, which must be managed to successfully realize the policy (Jensen, 2001; Ahenkan et al., 2013). These are used to present the challenges of implementing SPP and readiness of Ghana to roll-out e-procurement as it helps to identify the responsibilities of the relevant stakeholders and their competing interest.

From the study, citizens as the principal engage the government of Ghana as the agent through elections to engage suppliers and contractors (third parties) to seek its principal interest of providing sustainable public goods and services (see Figure 4.5). Therefore, government actions have external effects on the welfare of the citizens, which is why this should be done in a manner that promotes value for money, accountability, transparency, and sustainability. The study acknowledges the tendency of government (the politicians) using this function or responsibility to advance their own interest of mobilizing political support, enhancing their image and amassing funds for campaigns (hidden intentions) at the end of their tenure rather than seeking the long term welfare of it citizens (Keil, 2005). This is facilitated by the asymmetric information available to them. The asymmetric information in the process seems to give government some discretionary

powers, which may lead to corruption and abuse of public funds, as a public administrator responsible for the process may take an undue advantage of the superior information. Hence, there is the need for monitoring mechanisms, transparency advocacy and accountability either in the form of incentives or supervision to control the abuse or undue advantage of superior information by government entities (Keil, 2005).

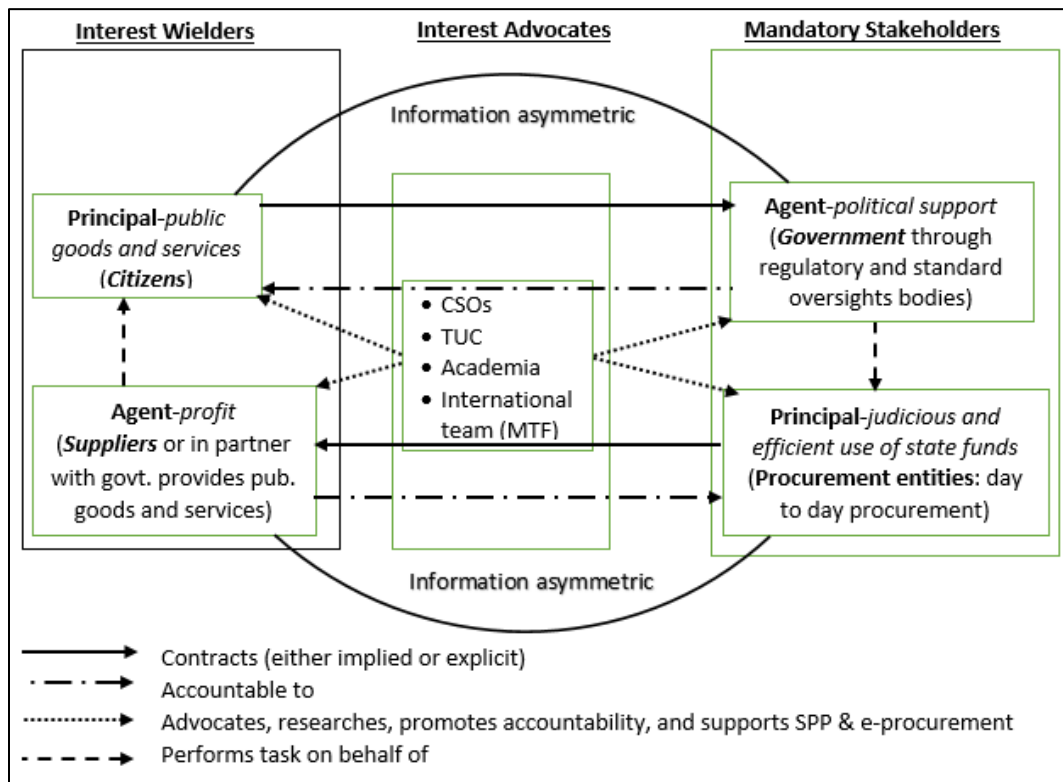


Figure 4.5: Stakeholder-Agency model for SPP

Source: Author’s own construct (2017).

To promote sustainable public procurement through e-government in Ghana, several stakeholders with various interests are required (see Figure 4.5). Apart from PPA and NITA, who are constitutionally mandated to ensure overall implementation of public procurement regulations and procedures, and e-government in Ghana, efforts of procurement entities (both central and local

levels), suppliers (mainly the private sector), civil society organizations (CSOs), standards oversight bodies (like Minerals Commission, Environmental Protection Agency, Energy Commission, Ghana Standards Authority, Food and Drugs Authority, Institutions of Architects and Engineers), Trade Union Congress (TUC), academia, politicians (government), and citizens are also necessary for the success or survival of the SPP policy through e-governance tools.

All these stakeholders have their respective roles and interest to advance, even though some may be conflicting. The responsibility lies with government to prioritize and harmonize the support of all relevant stakeholders towards promoting sustainable public procurement in Ghana in line with the clarion call to address issues of climate change.

4.7 Summary and Conclusion

In the nutshell, the study which sought to explore the implementation challenges and the role e-government can play in promoting sustainable public procurement in Ghana (considering its performance in e-government development despite its low level of income), revealed that there was no relevant legal framework on SPP, inadequate capacity of important stakeholders, inadequate public education and sensitization, excessive bureaucracy in Ghanaian public administration, improper monitoring systems, and lack of political will and budget constraint were the main implementation challenges that confront sustainable public procurement in the public sector of Ghana. These challenges were as a result of limited awareness of the sustainable procurement concepts among public administrators, including procurement officers. However, some few sustainable procurement practices were identified but only applied at the convenience of procurement entities except those emanating from a wide variety of national legal documents.

Procurement officers were found to comply with them to avoid negative legal actions and also as an adherence to conditionality by international donor agencies.

Also, e-government was found with a potential to play a very significant role in the implementation of SPP. It was foremost established that online portals of government can be used to provide a wide variety of information on the sustainable public procurement concept, including requirements or criteria that needs to be met for common products and services. Aside information sharing, it could instill transparency and trust, reduce paper work, and speed up service delivery. Secondly, in the midst of the quantum of e-government infrastructure that has been built, ICT tools could be developed to enhance stakeholders' understanding of why and how they should, and can respectively procure sustainably. It was revealed that the Public Procurement Authority may take advantage of the rate at which the general public uses social media to educate all stakeholders on SPP. Therefore, there is the need to identify popular social media such as Facebook, YouTube, WhatsApp, twitter, among others to facilitate education on SPP in Ghana.

With respect to the country's readiness to roll-out an e-procurement in its public sector, the study revealed that the country is not ready at all. However, a rigorous training and sensitization on the e-procurement system; preparation of clear policy guidelines or manuals, explained and disseminated; installation of a robust and user friendly e-procurement infrastructure; with a central technical complaint unit were found to be the main linchpins for an end-to-end e-procurement system.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter summarizes the entire study which sought to assess the implementation challenges of Sustainable Public Procurement (SPP) and the role e-government can play in promoting the concept in Ghana's public sector. This research specifically focused on identifying the challenges affecting the mainstreaming of SPP in Ghanaian Public Sector, how e-government may be used to facilitate the implementation of SPP, and Ghana's readiness to roll-out an e-procurement system.

Having analyzed and discussed these data in the previous chapter, a summary of the study, contribution to theory, conclusions based on the findings, implications of the study and recommendations for academia (for future research), policy and practice are presented in this chapter.

5.1 Summary

In this section, key aspects of this study are summarized. The section is therefore organized under the precise objectives for which this study was conducted, methodological approach used as well as key findings of it.

5.1.1 Research Objectives

In spite of the limited presence of SPP in Ghana, this study explored the mainstreaming challenges of sustainable public procurement (SPP) in Ghana's public sector. As a second objective, the study identified the role e-government could play in the mainstreaming of SPP in Ghana's public sector.

This was meant to substantiate claims made by some international organizations that government use of ICT may promote SPP and consequently, sustainable development. Thirdly, it assessed Ghana's readiness to roll-out e-procurement system towards sustainable development.

5.1.2 Research Methodology

Findings to the above objectives were attained using a qualitative research approach with a cross-sectional study design. The study adopted a three-stage primary data collection procedure using an interview guide via both face-to-face and telephone methods. Upon a thematic content analysis of primary data which purposively sampled and interviewed eighteen (18) participants from four (4) out of about 1,600 procurement entities from Ghana's public sector, the study discovered interesting findings which are summarized in the following section. To ensure validity and reliability, these findings were triangulated with secondary data akin procurement policy documents, evaluation reports, and journal articles on SPP, e-procurement, and e-government. Key findings are presented below in accordance with the specific objectives.

5.1.3 Key Findings

5.1.3.1 Challenges of Mainstreaming SPP in Ghana

With respect to the first objective, the study discovered that the country lacks a composite legal framework which spells out specific criteria and requirement for goods, services and works towards sustainable public procurement (SPP). Without relevant legal framework supporting a policy, enforcement and promotion of SPP policy become very difficult and otiose. In addition, inadequate capacity of important stakeholders to either request or respond to SPP criteria, lack of public education and sensitization, excessive bureaucracy in Ghana's public administration,

improper monitoring systems, and lack of political will and financial constraints were the main implementation challenges hindering SPP in Ghana. These challenges were as a result of little awareness of the sustainable procurement concepts among stakeholders including procurement officers and other relevant public administrators.

5.1.3.2 The Role of E-Government in Mainstreaming SPP

Regarding the potential role e-government could play in mainstreaming SPP, it was established that government adopting information technology tools has lots of prospects in implementing SPP. To begin with, it was found that Ghana can use its ubiquitous online portals to provide a wide variety of information on sustainable public procurement concept, including requirements that need to be met for common products and services. Secondly, it was identified that e-government could instill transparency and trust, reduces paper work, and speeds up services delivery. It was confirmed that the tool could help cut government budget. Thirdly, with reference to the existing level of e-government infrastructure built in the country, e-learning tools could be developed to enhance stakeholders understanding of why and how they should and can respectively procure sustainably. It was revealed that Public Procurement Authority (PPA) may take advantage of the wide presence of social media among its citizens, to educate stakeholders on SPP.

5.1.3.3 Ghana's Readiness to Roll-out an E-Procurement System

On assessment of Ghana's readiness to roll-out an e-procurement system in its public sector, the study revealed that the country is not ready, until certain prerequisites are addressed. Thus, there has been no comprehensive training and sensitization on the e-procurement system; no clear policy

guidelines or manuals prepared for the process; and no robust and user-friendly e-procurement infrastructure installed with a central technical complaint unit.

5.2 Conclusion

In the nut shell, the study through it earlier chapters have provided major issues regarding the challenges that confront sustainable public procurement (SPP) and how e-government may be used to facilitate its implementation. The study identified that the absence of appropriate legal framework on SPP impedes its implementation. The few existing SPP requirement are from stand-alone laws which are only applied at the convenience of procurement entities. Some procurement officers comply with them to avoid negative legal actions and also as adherence to conditionality of donor partners.

Also, limited capacity of relevant stakeholders, lack of public education and sensitization, excessive bureaucracy, improper monitoring systems, and lack of political will and budget constraint of government were the other stumbling blocks affecting the mainstreaming of SPP in Ghana.

E-government was found to be a potential tool as it plays significant role in the implementation of SPP. It was established that online portals of government offers an informative avenue providing a wide variety of information on SPP concept and practice to stakeholders. This includes SPP requirements for common products, works and services. Aside information sharing, e-government may be used to promote transparency, trust, reduce paper work, and delays in the procurement process.

Again, in the midst of the substantial investment into e-government infrastructure by government of Ghana, ICT tools could be developed to support stakeholders understanding of the principles of

sustainable public procurement. This includes explaining to them why and how they should and can respectively procure sustainably. The oversight procurement authority may take advantage of the use of social media to educate all of its stakeholders on SPP.

Even though Ghana enjoys a partial e-procurement, the country does not seem ready to roll-out a full e-procurement system as rigorous training and sensitization on the process has not been done. Currently, there is also no clear policy guidelines or manuals to explain the process and to be disseminated to stakeholders, although the procurement of a robust and user-friendly e-procurement software was confirmed to be underway.

5.3 Implications of the study

The main aim of this research was to identify the implementation challenges of sustainable public procurement and the role e-government can play in implementing it in Ghana's public sector. The research which discovered several significant issues such as the stumbling blocks of SPP in Ghana, the role of e-government in mainstreaming it and the readiness of Ghana's private sector, validates earlier findings that SPP and e-procurement limits the participation of small business that are not e-enabled (Walker and Brammer, 2012). The study also found that even though there is no composite legal framework for SPP, there were some SPP requirements for certain goods, services and works which were largely influenced by standalone laws in Ghana.

This research which contributes to the scanty literature on sustainable public procurement in developing countries, also explored how e-government may support SPP implementation. The study is again important because the findings provide, if not all, some prerequisites needed to mainstream the reforms in the public sector of Ghana and other developing countries.

The study again provides policy directions and contributes to public administration by improving the inefficiencies in the public procurement processes, harmonizing the relationships between central government, its parastatal agencies, and the private sector towards the present and long term welfare of citizens. Initial groundwork for future research on the link between the sustainable public procurement and e-government in developing economies is laid by this study.

5.4 Recommendations

The thesis arguing that the information technology tools contributes to development and its sustainability, the role of e-government in achieving sustainable development through sustainable procurement practices were explored. This is to contribute to Ghana's efforts towards Goal 12 and target 12.7 of the Sustainable Development Goals (SDGs) which seeks to promote public procurement practices that are sustainable in accordance with national policies and priorities. In light of the findings established by this study, the following recommendations and policy directions are made.

The study foremost recommend that appropriate legal document or manual should be developed to facilitate smooth implementation of the SPP policy. Unlike the Public Procurement Amendment Act 2016 (Act 914), the legal document or manual should clearly outline it objectives and principles, specific criteria for common goods, services and works, and monitoring mechanisms.

Secondly, the needed funds should be sourced by government and judiciously committed to training and sensitization of stakeholders especially law makers, procurement officers and suppliers to facilitate the implementation of sustainable public procurement.

The study also recommends that PPA should take advantage of the rate at which the general public use social media to educate all stakeholders on sustainable public procurement.

Again, government through PPA must develop a vigorous monitoring and evaluation guideline with relevant indicators and well-defined responsibilities. These guidelines must have comprehensive mechanisms for capturing and managing data to support results-base monitoring and evaluation towards accountability and transparency in implementing SPP.

Fifthly, the ICT implementation agency should be resourced with the relevant capacity to enhance the robustness of ICT infrastructure in the public sector, especially in the ministries and local government institutions. This will correct the existing sluggish nature of internet connection.

Lastly, government is encouraged to provide sufficient, affordable, user-friendly and secured telecommunication infrastructure and e-procurement system as plans to roll-out e-procurement to reassure fair participation by all type and size of firms including small and medium scale enterprises (SMEs).

5.5 Avenue for future studies

Considering the limited studies on the mainstreaming of sustainable public procurement in developing countries and especially in Ghana, further empirical studies are directed towards assessing market readiness to respond to SPP requirements in Ghana. This will inform policy makers about the capacity of local firms towards enhancing their participation in sustainable public procurement in the country.

Future studies should also focus on assessing the impact of both e-procurement and sustainable public procurement on suppliers with small and medium scale (SME) characteristics. Without these, the policy makers and practitioners may mainstream SPP at the detriment to the growth of small local firms in Ghana.

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APPENDICES:

Appendix 1: Interview Guide

UNIVERSITY OF GHANA

Interview Guide

*This Interview Guide is from a student pursuing an MPhil in Public Administration from University of Ghana Business School (UGBS). It is meant to collect data to conduct a study on the topic: **Mainstreaming Sustainable Public Procurement (SPP): The Role of e-government in the Public Sector of Ghana**. Kindly assist by responding to these questions. All information provided will strictly be used for research purposes only. Thank you.*

A: Bio data;

1. Which organization (public service, etc.) do you work with?
2. What is your current position?
3. How long have you been performing procurement related responsibilities?
4. What role does your organization play in the Sustainable Public Procurement (SPP) policy?

B: Sustainability criteria in Public Procurement

5. What do you know about sustainable public procurement?
6. Do you evaluate your suppliers on environmental performance criteria? Please explain how. What are some of the environmental requirements?
7. Do you ask for a formalized environmental management system from suppliers? Why, please?
8. Does public procurement in Ghana consider the social dimension of sustainability? What are some of the social requirements? Why?
9. Does public procurement in Ghana consider the economic dimension of sustainability? What are some of the economic requirements? Why?

10. Do you require supplier to publish an annual sustainability report?
11. Does the supplier maintain a chemical exclusion list to ensure that their processes are free from environmentally harmful strategy? (Berger 2012).

C: *Expect challenges of sustainable public procurement*

13. Is SPP attainable in developing economies like Ghana? Why?
14. Kindly identify five (5) challenges to promoting SPP practice in Ghana?
15. Please identify any five (5) benefits of practicing SPP (both to public administration and development)?

D: *The role of e-government in SPP*

16. Do you have any form of e-government system in your organization? Kindly describe it.
17. Do you believe that the system enhances services delivery or performance of job in your organization? Why?
18. In your view, what is the **nature** or which of the **e-government adoption stages** is applicable to your e-government system:
 - **Web presence** (the stage where, the Web site is static and used to provide basic information to the citizen)
 - **Interaction** (this stage features tools for interaction with stakeholders: search engines, documents downloading and emails)
 - **Transaction** (the stage where users can perform complete transactions online. This includes payments for services and goods bought)
 - **Transformation** (the stage where processes are integrated and personalized to allow access to different public institutions or private sector)
19. Can e-government promote Sustainable Public Procurement in the Public Sector? If yes, how can this happen in your view?
20. Can SPP be promoted through Ghana's online portals? If yes, please explain.
21. Can SPP be promoted with the current telecommunication infrastructure in Ghana? If yes, please explain.
22. Can SPP be promoted under the current level of ICT literacy? If yes, please explain.

D: The Readiness of Ghana's public sector to roll-out e-procurement.

23. From your experience of the current e-government system, do you believe that Ghana is ready to roll-out e-procurement system for public sector? Kindly explain your answer.
24. Has there been capacity building / training programmes regarding e-procurement? Kindly explain.
25. Is the required technological infrastructure available? Kindly explain.
26. What is left to be done? Any lessons to be learnt?

27. Any other comments regarding the role of e-government in promoting SPP in Ghana's public sector?

Appendix 2: Introductory Letter



UNIVERSITY OF GHANA
BUSINESS SCHOOL
DEPARTMENT OF PUBLIC ADMINISTRATION
AND HEALTH SERVICES MANAGEMENT

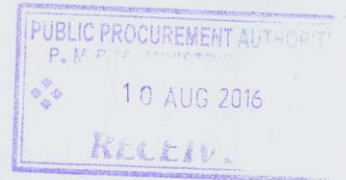
UG | BS
University of Ghana Business School

Ref. No.: PAHS/26

9th August, 2016

TO WHOM IT MAY CONCERN

Dear Sir/Madam,



LETTER OF INTRODUCTION

The bearer of this note, Mr. Peter Adjei-Bamfo, a final year student of the University of Ghana Business School, Legon. He is undertaking a course leading to the award of Master of Philosophy (MPhil) in Public Administration. As part of the requirements of the programme, he has chosen to research on the topic: *Assessing the role of e-government in promoting sustainable public procurement in developing countries: a case of Ghana.*

I would be most grateful if you could give him the necessary assistance to facilitate his data collection.

Thanks for your cooperation.

Yours faithfully,

[Signature]
for Dr. Theophilus Maloreh-Nyamekye
Lecturer / Supervisor

⑤ COO/PAS
Pls contact this student and assist in the effort. *[Signature]*

⑥ DIR - PAS
Pls assist *[Signature]*

③ ~~Ag CFO~~
Pls he was here yesterday & wanted to see the person responsible for Sustainable Public Proc. I directed him to the relevant department in the absence of the person. *[Signature]*

0249857526
Peter Adjei-Bamfo

COLLEGE OF HUMANITIES

P. O. Box LG 78, Legon, Accra, Ghana.