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EXPLORING PROCUREMENT RISK MANAGEMENT STRATEGIES IN THE HEALTH SECTOR

(CASE STUDY, ASHANTI REGION)

BY

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A THESIS SUBMITTED TO THE DEPARTMENT OF BUILDING TECHNOLOGY IN PARTIAL FULFILLMENT OF THE REQUIREMENT OF THE MASTER OF SCIENCE IN PROCUREMENT MANAGEMENT

JUNE, 2014

DECLARATION

I hereby declare that this submission is my own work towards the MSc. in Procurement Management and that, to the best of my knowledge, it contains no material previously published by another person nor material which has been accepted for the award of any other degree of the University, except where due acknowledgement has been made in the text.

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ABSTRACT

Contemporary procurement management practices are characterized by late delivery, exceeded budgets, shocks in supplier, price risk, reduced functionality, corruption and questionable quality. On this basis, the study aimed to develop procurement risk strategies in the health sector procurement lifecycle. The study employed questionnaire as a means of soliciting for information from 20 experts in health sector procurement in Ghana. The respondents were selected from five randomly selected public hospitals in the Ashanti region of Ghana. The study sought to identify the various forms of risk and procurement risk management practices in the health sector, and propose appropriate procurement risk management strategies for the health sector procurement lifecycle. The study revealed that the four major procurement risks in the procurement process of the public hospitals in the Ashanti Region part of Ghana are (1) market risk, (2) supply risk, (3) fraud risk and (4) compliance risk. The most focused and managed of the procurement risks in the hospitals are fraud risk, compliance, supply risk and market risk. The major procurement management practices of the hospitals in the Ashanti Region include identification of issues and setting the context, assessing key risk areas, rank risks, set desired results, develop options, select a strategy, implement the strategy, and monitor and evaluate procurement performance. The identified procurement risk management strategies in the various hospitals in the Ashanti region include collaboration with suppliers, increased supplier performance/increased collaboration, performance contracts with suppliers, supplier audit, performance and risk controlling, supplier rating, insurance, commodity hedging by using derivate, and vertical integration. On the basis of these findings, recommendations such as the need for risk transparency, designing appropriate procurement structure, the adoption of performance based procurement strategy, hedging of procurement, adoption of dialogue process as a measure to reduce market risk, and the adoption of strategies to expand the market base.

ACKNOWLEDGEMENT

To God be the glory for guiding my steps and bringing me this far.

I am greatly indebted to my Supervisor, Prof. Edward Badu of the Department of Building Technology, KNUST, whose guidance, direction, assistance and input provided me the opportunity to complete this study. Sir, accept my heartfelt gratitude.

I wish to acknowledge the invaluable support of all lecturers of the Department of Planning, KNUST who in the course of our studies shared with us their wealth of experience and impacted knowledge unto us, God richly bless all.

The production of this work would not have been possible without the support of my family.

I also wish to extend my gratitude to my dad Nana Osei Bosompem for his support and encouragement. My profound gratitude goes to Mr. Ernest Kissi for helping me complete this work.

DEDICATION

This thesis is dedicated to my family and friends, most especially to my late mother Faustina Abena Achiaa.

TABLE OF CONTENT

DECLARATION II

ABSTRACT III

ACKNOWLEDGEMENT IV

DEDICATION V

TABLE OF CONTENT VI

LIST OF TABLES VIII

LIST OF FIGURES IX

LIST OF ABBREVIATIONS X

CHAPTER ONE 1

INTRODUCTION 1

1.1 BACKGROUND OF THE STUDY 1
1.2 PROBLEM STATEMENT 3
1.3 AIM OF THE STUDY 4
1.4 RESEARCH QUESTIONS 4
1.5 OBJECTIVES OF THE STUDY 5
1.6 SIGNIFICANCE AND RATIONALE OF STUDY 5
1.7 SCOPE OF THE STUDY 6
1.8 METHODOLOGY OF THE STUDY 6
1.9 ORGANISATION OF THE STUDY 7

CHAPTER TWO 8

LITERATURE REVIEW 8

2.1 INTRODUCTION 8
2.2 OVERVIEW OF PROCUREMENT MANAGEMENT 8
2.3 RISK MANAGEMENT 10
2.3.1 The Risk Management Process 15
2.3.2 Risk Management in the Public Sector 16
2.4PROCUREMENT PRACTICES IN THE HEALTH SECTOR 19
2.4.1 Procurement Risk Management in the Health Sector 22
2.5 PROCUREMENT MANAGEMENT STRATEGIES 24
2.6 PUBLIC PROCUREMENT RISK MANAGEMENT CHALLENGES 30

CHAPTER THREE 31

RESEARCH METHODOLOGY 31

3.1 INTRODUCTION 31
3.2 RESEARCH PHILOSOPHY 31
3.3 RESEARCH DESIGN 32
3.4 POPULATION OF THE STUDY 34

3.5 SAMPLE AND SAMPLING TECHNIQUE **34**
3.6 SOURCE OF DATA **35**
3.7 DATA COLLECTION INSTRUMENTS **35**
3.7.1 Questionnaires Development 36
3.7.2 Content and Administration of Questionnaires 36
3.8 METHOD DATA ANALYSIS **37**
3.9 ETHICAL ISSUES **38**
3.10 QUALITY OF THE RESEARCH DESIGN **39**
3.10.1 Validity of the Study 39
3.10.2 Reliability of the Study 40
3.10.3 Degree of Generalisation 41
CHAPTER FOUR **42**
DISCUSSION AND ANALYSES **42**
4.1 SOCIO DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS **42**
4.2 PROCUREMENT RISK IN THE PROCUREMENT PROCESS OF THE HOSPITALS **44**
4.2.1 Most Managed Procurement Risk in the Hospitals 45
4.3 PROCUREMENT RISK MANAGEMENT PRACTICES **46**
4.4 PROCUREMENT RISK MANAGEMENT CHALLENGES OF THE HOSPITALS **47**
4.5 PROCUREMENT RISK MANAGEMENT STRATEGIES OF THE HOSPITALS .. **49**
4.5.1 Aims of the Hospitals Risk Management Strategies 51
CHAPTER FIVE **53**
CONCLUSION AND RECOMMENDATION **53**
5.1 INTRODUCTION **53**
5.2 RESEARCH QUESTIONS **53**
5.3 REVIEW OF THE RESEARCH OBJECTIVES **53**
5.3.1 Review of First Objective 54
5.3.2 Review of the Second Objective 54
5.4 LIMITATIONS OF THE STUDY **54**
5.5 CONCLUSION OF FINDINGS **55**
5.6 RECOMMENDATIONS FOR THE HEALTH SECTOR **56**
5.9 RECOMMENDATION FOR FUTURE RESEARCH **58**
REFERENCES **59**
APPENDIX **69**

LIST OF TABLES

Table 4.1: Socio Demographic Information of Respondents..... 43
Table 4.2: Frequently Occurring Procurement Risks in the Hospitals 44
Table 4.3: Procurement Risk Focused On By Management..... 45
Table 4.4: Procurement Risk Management Practices of the Hospitals..... 46
Table 4.5: Procurement Risk Management Challenges..... 48
Table 4.6: Procurement Risks Management Strategies of the Hospitals 50
Table 4.7: Aim of the Hospitals Risk Management Strategy 52

LIST OF FIGURES

Figure 4.1: Presence of Risk Management Strategies at the Hospitals..... 49

LIST OF ABBREVIATIONS

ADB	Asian Development Bank
CHRAJ	Human Rights And Administrative Justice
DP	Development Partners
ECEG	Electronic Commerce Expert Group
GDP	Gross Domestic Product
GHS	Ghana Health Services
GSCL	Ghana Supply Company Limited
HIPC	Highly Indebted Poor Country
ISO	International Organisation For Standardization
IT	Information Technology
KMA	Kumasi Metropolitan Assembly
MCH	Maternal And Child Health
MoH	Ministry Of Health
MOU	Memorandum Of Understanding
OECD	Organisation For Economic Cooperation And Development
OGC	Office Of Government Commerce)
PSM	Purchasing And Supply Management
RH	Reproductive Health
SCM	Supply Chain Management
SPSS	Statistical Programme For Social Sciences
SWAP	Sector Wide Approach

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Public procurement accounts for about 20% of government expenditure worldwide (ADB/ OECD, 2008). Governments of both developed and developing countries spend a lot on goods and services to deliver public service effectively and efficiently, as well as to achieve value for money for taxpayers. To make efficient and effective use of the state's money, public procurement is needed. However, it should be emphasized that procurement is still a much-undervalued area in the public sector (Heyen-Perschon, 2005). This is particularly true for the health sector. The expenditure of public sector health services has increased by nearly 30% since 2001, yet this increase in expenditure has not been reflected in indicators of output, which grew far more modestly (Heyen-Perschon, 2005).

The primary concerns in the health sector, according to the Ministry of Health's Development Framework focus on a number of areas and are incorporated into MOH's current Five Year Programme of Work. They include access, quality, efficiency, collaboration and mobilization of resources. Government budgets make significant contributions to public sector drug financing, often allocating 20-50% of the government health budget to procure drugs (Falkenberg and Tomson, 2000). The total expenditure on health in Ghana is about 12 dollars per capita with 50% of this being out-of-pocket payment now gradually being replaced with the national health insurance scheme (Ghanaian MOH, 2009). The health sector receives between 8% to 10% of total government recurrent budget and about 6% of capital budget. Donor support to the health sector has been increasing rapidly from 4 million dollars in 1990 to 25 million dollars in 1995 and about 27 million dollars in 1998 (Ghanaian MOH, 2009). It has been said that in Ghana

public procurement represents 24 per cent of national imports accounts for between 50 per cent and 70 per cent of the national budget, excluding personnel emoluments, and represents about 14 per cent of Gross Domestic Product (GDP) (Daily Graphic, Monday, June 12, 2006, pp.35).

There has been an increase in finance by the World Bank for procurement of health sector goods; pharmaceuticals, vaccines, contraceptives and nutritional supplements under various health, population and nutrition projects over the past few years, and this trend is expected to continue (WHO, 2007). Assistance under these projects supports the procurement of, for example contraceptives for Family Planning programmes, pharmaceuticals, vaccines and other health sector goods for AIDS, Tuberculosis, Leprosy, Malaria and Maternal and Child Health (MCH) programmes. The bank programmed $1.8 billion for the period 1997/98 for the health, nutrition and population sector of which financing for pharmaceuticals accounted for between $220 million and $250 million of this total (Woodle, 2000). Apart from salaries, pharmaceuticals represent the largest category of recurrent health expenditure in most government budgets. The total value of pharmaceuticals changing hands in the developing world is estimated at $44 billion (Woodle, 2000).

Irrespective of these improvements in the public health sector procurement, low availability of and access to essential health commodities are major barriers to the delivery of essential health care in developing countries. A recent survey in Nepal found that the availability of 32 selected essential reproductive health (RH) commodities in public sector outlets was less than 25 percent (Rao and Thapa, 2005). In a companion study in Nicaragua, only 20 percent of these medicines were available to public sector clients (PATH, 2005). In Ghana, 95% of the resources allocated

to the health sectors end up in the pockets of individuals (Owusu-Bempah, Amoako, Frempong, &Assampong, 2013). Ghana is second to Chad as the most corrupt in resources management in the health sector (Owusu-Bempah *et al*., 2013). Efforts to address this challenge have focused on seeking additional and diversified funding sources and procurement channels. Though these efforts are essential, it is also imperative to pay great attention to procurement risk management practices as a mean of cost minimization strategic tool.

A significant risk minimization through strategic procurement management among other may improve public procurement. Any improvement in the public procurement system can have a direct and beneficial effect on the overall economic situation of a country. One measure of this fact is the emphasis which the World Bank and regional institutions like the African Development Bank are placing on assisting developing countries to review and revise their procurement systems. It is therefore on this basis that the current study aims to study the various forms of procurement risk and develop appropriate strategies to mitigate the risk associated with the health sector.

1.2 PROBLEM STATEMENT

Contemporary procurement management practices are characterized by late delivery, exceeded budgets, shocks in supplier, price risk, reduced functionality, corruption and questionable quality (Smith et al., 2006). Risk management is a recognized practice that helps suppliers deliver on schedule and within cost (Project Management Institute, 2004), the risk management performed in the procurement has traditionally been that of gut feel or a series of rules-of-thumb (Al-Bahar and Crandall, 1990). In most hospitals, a greater percentage of expenditure constitutes wage and

salaries and purchase of goods and services. These areas of procurement in the health sector in many developing countries are fraught with risk of integrity and transparency which could aid in achieving value-for-money (Ismail, Takim& Abdul HadiNawawi, 2012). The biggest risk in the procurement process is the process. However, other forms of procurement risk associated with the public health sector include supply risk, organisation and people, probity and governance and demand risk. In situations where health facilities operate in a relatively small global purchasing market, supply is subject to a plethora of uncontrollable, external vagaries and is not always controllable. Moreover, it is difficult to recruit and retain good staff, especially in area of public health on longer term. The Procurement process in the health sector also faces ever-increasing demands for higher levels of customer service and satisfaction (Ismail *et al*., 2012). Risk of corruption and inefficiency in procurement decreases the benefits that public resources otherwise could have delivered to citizens, and also lowers the level of trust and confidence in governments (Owusu-Bempah *et al*., 2013). Corruption may arise at any stage of the procurement process. It can take place through violations of ordinary procurement rules or through misuse of legal authorisation for discretionary decisions (Schultz and Søreide 2006).

1.3 AIM OF THE STUDY

The aim of the study is to;

- Develop procurement risk management strategies for the health sector procurement lifecycle.

1.4 RESEARCH QUESTIONS

To explore several imperative areas in this field of research, the study poses questions such as:

1. What are the various forms of risks and procurement risk management practices in the health sector?
2. What are the appropriate procurement risk management strategies for the health sector procurement lifecycle?

1.5 OBJECTIVES OF THE STUDY

The current study specifically seeks to:

1. Identify the various forms of risk in the health sector.
2. Identify the various procurement risk management practices in the health sector.
3. Propose appropriate procurement risk management strategies for the health sector procurement lifecycle.

1.6 SIGNIFICANCE AND RATIONALE OF STUDY

According to the procurement policies of Ghana, it is recognized that, the procurement of goods, works, and services has a major impact on the successful execution of a project (PPA, 2003). To a large extent the quality, cost, and timely completion of a project depend on the management of procurement. The application of sound policies and practices, characterized by equitable, fair, and open procedures, is indispensable, not only for creating dependable and stable markets that are able to attract efficient contractors and suppliers, but also to safeguard the principle of accountability and the cost-effective use of public funds. The ability of firms to control related procurement risks also enhances their ability to maximize profit and ensure business stability.

The rationale of this study is based on the fact that the many corporate organisations in the Ashanti region have for many years centered their attention on financial risk management in the

neglect of procurement risk management which also imperatively could affect the performance of the company financially (Boateng, 2008). Moreover, organisations that properly manage its procurement risk could gain some level of competitiveness in the industry they operate (Baldry, 1997). Additionally, the current study could significantly foster creation of new knowledge and awareness in the area of procurement risk management in all industry sectors both in the private and public sectors. It could also further provide value addition to corporate organisations by way of improving performance, gap identification as well as proposals to mitigate the gaps. The researcher anticipates that the findings and policy recommendations generated from the study may be of invaluable input to the stakeholders including government, corporate organisations and others.

1.7 SCOPE OF THE STUDY

The study is conducted in an attempt to assess the risk management in procurement of goods and services in the health sector. Geographically, the study is limited to procurement by the public health sector in the Ashanti region of Ghana.

1.8 METHODOLOGY OF THE STUDY

Both qualitative and quantitative data were collected for the current study. The necessary data for the study was collected through the design and administration of a structured questionnaire. The questionnaire was personally administered on face to face bases to avoid any form of inappropriate response to questions. The target population of the study was principally all public health institutions in the Ashanti region of Ghana. The respondents for this study were from five randomly selected hospitals in the Ashanti region of Ghana. The sample size covered 20 experts

in health sector procurement in Ghana. This included 5 top officials of the 5 health institutions, heads of procurement departments, heads of IT departments, and heads of finance. These respondents were chosen because of the level of their involvement in the procurement process. The proposed samples are more involved in procurement practices and are adequately knowledgeable in the area. The sampling frame indicating the number of public hospitals in the Ashanti region were obtained from the Ashanti Regional Health Secretariat. A simple random sampling by balloting procedure was used to select five hospitals for the study. The collated data was synthesized and analysed with the aid of the Statistical Software Programme for Social Sciences (SPSS). The result was presented and discussed descriptively.

1.9 ORGANISATION OF THE STUDY

The study is organised into five chapters. It begins with Chapter One which basically comprises the background of the study, the problem of the study, research objectives, and significance of study. Chapter Two, however, deals with the review of related literature of the study. The third chapter, Chapter Three also deals with the method and methodologies applied in the study. Chapter Four deals with the analysis and discussions of the data collated. The final chapter, Chapter Five however, contains a summary of the findings of the study, conclusions and the appropriate recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

In this chapter of the study, literature related to procurement risk management was reviewed. It touches on the procurement management overview. It also discusses the definition of risk, five major procurement risks, risk management, the risk management process and risk management in the public sector.

2.2 OVERVIEW OF PROCUREMENT MANAGEMENT

Procurement encompasses all activities involved in obtaining goods and services and managing their inflow into an organisation (Gebauer&Segev, 1998). Traditionally the corporate function of procurement is divided into strategic and operational tasks. Whereas the strategic tasks include sourcing activities, supplier management, and design and implementation and buying procedures, operative tasks embrace all transaction-oriented activities such as the excitement of purchase orders (Kaufmann, 1999; Gebauer&Segev, 1998).

In the procurement world, saving money is the name of the game. Procurement departments do not generate revenue – they improve performance by reducing product cost or staff, sometimes both. Often operational expense budgets are required to target percentage reductions in the cost of goods sold by vendors. Purchasing then goes out to bid, seeking to increase savings for high volume products (Kevin 2009).

Demands for newer and more innovative goods and services, limits on resources, and the increasingly complex, interrelated nature of the global market place have each created pressure on public managers to optimize new and innovative process methodologies to meet procurement needs (Ronnie, Laourse, &Korosec, 2003). Procurement management strategically integrates the whole procurement process, including the "identification, acquisition, access, positioning, and management of resources" in a series of carefully considered steps, in order to attain stated objectives (Duffy, 2002). In the research by Stanley and Wisner (2001), procurement management is upgraded into the higher level of part of important business strategies that provide added value for its immediate or ended customers. But we have moved to a different wording to identify a change in the organisation. Similarly, according to Smeltzer *et al.* (2003), procurement functions are not just the matter of price and delivery time, but they are aligned with the organization's long-term goals. Furthermore, Smeltzer *et al*. (2003) also argue that in order to complete firm's strategic goals, selecting the right suppliers to ensure their dependable and flexible supply is one of procurement management objectives.

In the research by Stanley and Wisner (2001), they pointed out that procurement function has changed significantly in the last 15 years from pure transactions-oriented order processors to supply managers with an emphasis on supply chain management strategy for adding value for customers and meeting the company's long-term goals. Besides, Carr and Pearson (2002) addressed that since the demand of his customers will probably change at will, one of the important firm's objectives of procurement management is to make sure that it can obtain the dependable and flexible supplies from its suppliers. At the dawn of the 21st century, the strategic character of procurement management has been widely recognized in the literature (Carter

&Narasimhan 1996; Humphreys, McIvor &McAleer, 2000). Procurement Management (PM) is seen as a powerful competitive weapon for improving profitability and strengthening competitive advantage (Spekman, Kamauff&Salmond 1994; Carr & Pearson 2002). However, this competitive potential critically depends on whether PM decisions and activities are aligned with the organization's overall strategic objectives (Farmer 1978; Watts, Kim and Hahn 1992). Specifically, procurement strategy management practices must be designed to optimally support the requirements of business strategy in order to positively affect performance (Nollet, Ponce & Campbell 2005).

2.3 RISK MANAGEMENT

Generally, the definition of risk is commonly related to negative consequences rather than positive consequences. Studies by Cabano (2004) and Baldry (1997) defined risk as "the potential for realization of unwanted, negative consequences of an event". Baldry (1997) added for an event to be considered as a source of risk, there must be a reasonable loss associated which arises as a consequence of this chance event. The scale of the loss is referred to as the risk impact while it attempts to place an acceptable value on this loss, which often associated in monetary term.

According to Utter (2005), the birth of risk management is based on the "internal control process and the monitoring and management of market and credit risks". The banking industry laid the foundation for enterprise risk management with the release of the 1988 Basel Capital Accord by setting the minimum capital requirements for banks. Prior to this, many companies are said to have been managing risk in an "old way" that is, they managed risk in "silos".

Loghry and Veach (2009) define enterprise risk management as a coordinated approach that an enterprise takes to assess and respond to all risks affecting the company. Leech (2002) defines enterprise risk management as a concept that postulates that a business entity needs to manage all kinds of risks holistically. The Chief Executive Officer of a company is responsible for the vision and goals of the organisation, the Chief Risk Officer must know the objectives and functions of each department, and in addition must know the risks associated with the goals of the organisation. In fact, the Chief Risk Officer assists the Chief Executive Officer by adjusting the organisational vision to be in line with the risks. The other functions of an organisation that are important to the functionality of enterprise risk management are internal audit, legal services, company secretariat, compliance, finance, executive management and the board (Utter, 2005) .

Risk results "from the direct and indirect adverse consequences of outcomes and events that were not accounted for or that were ill prepared for, and concerns their effects on individuals, firms or society at large. It can result from many reasons both internally induced and occurring externally with their effects felt internally" (Kogan&Tapiero, 2007). Based on a review of academic literature and case studies carried out, ECEG (2010) has identified five major types of risks in the case of public procurement.

Technological risks are all those risks that lead to non-completion, under-performance or false performance of the procured service or product for reasons that lie in the technical operation. Technological risks could arise from suppliers not being able to find the solutions as promised, choosing the wrong or a suboptimal technology (it does not work as expected or is not fit for purpose, does not match standards, etc), choosing a technology prematurely, failing to

acknowledge technological compatibilities or failing to develop the solution in-house or buy components and knowledge as claimed in the tender process.

Market risks refer to a situation where the private demand does not respond to the extent necessary or expected, public markets remain fragmented or there is a lack of companies delivering innovations (Edler 2007, 2009). The reasons could lie in too radical requirements of the specifications, etc.

Organisational risks are all those risks for the procurement to fail or under-deliver for reasons situated within the organisation that procures. Indeed, there tend to be too many goals to follow in modern public procurement for the public administrators – cost savings, transparency, sectoral policies (e.g. environmental, energy, industrial etc.) – which often contradict each other (Cave &Frinking, 2007; Nyiri *et al*., 2007). This may lead to misallocation of resources, where agency goals conflict with wider policy goals. There is a dilemma between the micro cost effectiveness of a contract and the higher costs of R&D-based product/services in order to boost innovation (Cabral et al., 2006). The process itself – procurement for innovation – is a costly and time-consuming effort. Procurement for innovation demands strong coordination between stakeholders and constant evaluation and learning. But coordination and evaluation always involves transaction costs, which have to be taken into account when implementing the process. Cave and Frinking (2007) have pointed to the fact that there exists the potential for expensive coordination failure. When the payoff is unclear, the innovative solution can be perceived as the more expensive solution (Brammer& Walker, 2007). Therefore, at the end of the day, under the current culture of public procurement, cost savings may still be perceived as the most important

goal. Relatedly, societal risks are those related to a lack of acceptance and uptake by the users of the new or changed service delivered within society.

The financial risks in public procurement are mainly twofold, one related to the uncertainty in meeting target costs, the other to the ability to secure the funds needed in the first place. Finally, turbulence risks are those that are mainly associated with large-scale projects. Risks emerge from a range of unforeseen events.

Moreover, the risk of waste, abuse, and fraud in procurement is real and pervasive (PricewaterhouseCoopers, 2007). The various forms of risk in procurement that requires management by institutions include Raw material price risks, availability of qualified procurement employees, energy price risks, foreign currency risks, organizational risks, compliance, process risks, supply risks, geopolitical risks, loss of intellectual property, market risks, outsourcing, fraud risks, supplier risks and many others (BrainNet, 2007).

Different specific risk-management methods exist to manage risks, including awareness measures, contract design, early supplier involvement, training schemes, etc. (ECEG, 2010). However, there is not much literature available on risk management on the local level. Nyiri *et al*. (2007) have stated, though, that lack of innovation orientation, budget and skills are considered to be the main barriers for local governments in implementing procurement for innovation, the shortage of proper know-how among procurement professionals about suitable procurement methods for fulfilling wider social goals seems to be a global phenomenon

(Brammer& Walker, 2007). Lack of awareness and readiness by public authorities to understand markets and technologies can be regarded as an additional barrier (Lember et al., 2011).

2.3.1 Procurement Risk Management

Procurement risk management represents the process of measuring or assessing risk and then developing the right strategies throughout the procurement lifecycle (IHS newsletter, 2011). Procurement needs to address risk management head on, incorporating it within corporate strategies, integrating it within the business and defining its importance across the organisation. The procurement process needs to be defined first and foremost and then ensure that risk management is a partner all the way. The procurement process is an enabler to achieve the procurement goal of "value for money."

According to European Commission Expert Group (2010), there are three major tasks for risk management: Firstly, to define and assess risks and rewards for all partners involved at the various stages of the procurement process, including the nature of risks, which may change during the various that lead various actors in the whole process to re-assess their priorities, to change their expectations, which may lead to further dysfunctional reactions by other actors in the process, and so forth. These risks may occur within organisations, but often are a result of the interplay of various actions and actors within the whole project, procurement stages, the causes and source for risk, the likelihood of risks to occur, and the potential consequences of risk occurrence (additional costs, reduced rewards); and secondly, for each risk, to take action to avoid or reduce the likelihood of the risk to materialise and allocate responsibilities to take action to reduce the likelihood. Third, for each risk, to define actions to mitigate the potential

consequences and allocate who bears the cost of mitigation and the reduced benefits (Ward & Chapman, 1991; Hood & Rothstein, 2000; Zhao &Duan, 2008).

2.3.2 The Risk Management Process

The risk management process has in the last decades become an important event in most project based organisations (Flanagan *et al*., 2007). Potts (2008) says that the risk management within the construction industry has historically been either ignored or dealt with in an arbitrary way. Today, risk management techniques are best developed within industries with heavy engineering events or in organisations where there are high levels of technical risk involved (Maylor, 2003). However, Flanagan *et al*. (2007) claim that it is important for most organisations to implement an effective risk management system that enables minimum loss from occurred risks. By the risk management system, risks can be transferred into opportunities which can generate gain for the company.

To be competitive and able to make correct decisions in the project processes it becomes crucial to take advantage of the knowledge and experience within the organisation. The risk management principles describe how knowledge should be managed in a systematic manner. Most organisations adopt an informal risk management approach, without realising its content. The informal approach will often give the outlook of risk management as something subjective and uncontrolled. Subject related literature argues for a more formal attitude to the risk management process. The attitude should include a more systematic approach, with established routines, which should give involved parties guidelines and structure on how to manage risk in

their daily business (Flanagan *et al.*, 2007). In reality, even small incidents can have significant impact associated with big losses.

These incidents can start a chain reaction that can threaten the whole project's existence and in the long run, even be a threat for the survival of the company. Therefore, it will be essential to provide a risk management system that enables identification of those risks and a comprehensive analysis of its triggers (Flangan*et al*., 2007).

2.3.3 Risk Management in the Public Sector

Havens (1999) stated that effective management control or internal control system is a way of how risk should be managed. He considered it to be at the heart of budget and policy implementation. Effective management control should also describe all the policies and procedures that were put in place by a government to ensure the proper and effective functioning of the overall government or the individual entity.

Currently, no universally applicable list of financial controls, reporting, performance monitoring and effective communications are described as categories of controls. An effective financial reporting is essential as the management should receive a timely, reliable flow of information about its financial status. The need for good financial reporting is supported by a study by Allen and Tommasi (2001). They listed that the principles of good reporting should consist of completeness, legitimacy, user-friendliness, reliability, relevance, consistency, timeliness, comparability and usefulness. The need for timely, accurate and complete reporting is the basis for two performance indicators in the PEFA framework (World Bank, 2005). The implicit

assumption for non-production of timely reports is lack of capacity, however no research could be found to verify this assumption. Also Drebin, Chan and Ferguson (1999) on the "Objectives of Accounting and Financial Reporting for Government Units" stated that an effective financial reporting should achieve the objectives that information is useful for decision making in determining and predicting short-term financial resources; economic conditions; legal contractual and fiduciary requirements; budgetary and planning; and finally for organization and managerial performance.

Furthermore, it is noted that through performance monitoring, an organization can accomplish certain activities. The management's first responsibility is to ensure that those activities are achieved and toward this end, it is essential that management track the performance of the organization against its stated goals. This will require the management to describe the goals in measurable terms (client served, units of output delivered, etc.) and to establish a reliable and timely reporting system to keep itself informed of the implementation progress against the stated goals. In addition, effective communication is also crucial in managing risks. For instance, in the modern organizations, managers recognize that subordinates and front-line workers perform better if they have a clear understanding of the mission and goals of the organization and the purpose being served by the activities they are asked to perform. In such an organization, the channels of communication are an integral part of the management control system.

The importance of the various categories of an effective management control in mitigating risks is also supported by a study by The Treasury Board of Canada Secretariat (1999) on Best Practices in Risk Management; Private and Public Sector Internationally. The study, involves

228 examples throughout the world. The conclusion showed that the approaches suggested the application of the risk-cycle concept and emphasized the role of two-way communication, and staff training as a way of enhancing awareness of risks which occurs in organizations. Further, it was noted that organization members should strengthen the internal control system effectively.

In another study, risk management researchers suggested ways of mitigating risks according to different scenarios as stated in the Annex A and B by the DFID (2002, p.13-17) on managing fiduciary risk when providing budget support. In identifying potential risks, the Risk Management Standard by COSO, ALARM and IRM (2002) indicated the external and internal environment as distinct risk areas. The standard also introduced a guideline that included a risk estimation (assessment) technique using 3 x 3 matrix for risk consequences and their potential of occurrences or likelihood.

The emphasis on financial management as a tool in managing risks is also stated in a study by Hallak and Poisson (2006) on financing education which is relevant to this case study. Hallak and Poisson (2006) make 12 recommendations for policymakers and educational managers to create and to maintain transparent regulatory systems, to strengthen management skills for greater accountability and to increase ownership of the management process. Among them are: Norms and regulations must be clear, procedures must be transparent and an explicit policy framework is needed to stop corruption. The framework must specify the distribution of responsibilities among those allocating, distributing and using educational resources.

2.4 PROCUREMENT PRACTICES IN THE HEALTH SECTOR

The Sector Wide Approach (SWAp), until recently, formed the basis of donor financing in the Ghanaian health sector. This pooled-funding arrangement, known as the Health Fund in Ghana, was formally launched with the signing of a Memorandum of Understanding (MOU) between the MOH and Development Partners (DPs) in 1998. One of the primary objectives of moving to the Health Fund arrangement was to increase the government's control over resources and to ensure a more integrated approach to planning, budgeting, and monitoring and evaluation (M&E). In 2008, development partners that were contributing into the Health Fund decided to shift to Sector Budget Support, which gave the government even more allocative freedom. As an independent review team of Ghana's Health Sector observed, in a "post-SWAp" world, with sector budget support, the burden of ownership falls more heavily on the government (Ghanaian MOH 2009).

The Ghana public health sector operates a three tier system for the management of health medicines and health supplies. The Central Medical Stores (CMS), the Regional Medical Stores (RMS) and Service Delivery Points (SDP) together with the transportation network constitute the pipeline for the supply chain. The CMS, a unit of the procurement and supply directorate of the MoH, is responsible for the receipt, storage, and distribution of all commodities procured by the MoH. Lower levels get supplies from the CMS through the "pull" or "demand" system.

The MoH currently has in place a number of vertical public sector supply chains based on the type of medicines and health supplies. While integration is currently taking place to look at a

more rational way to combine the essential medicines, contraceptives and non-drug consumables supply chains, policy changes necessary to support this have not yet evolved.

Currently, drugs are purchased by the central medical stores through international competitive bidding and from local private supplies and manufacturers. The RMS and teaching hospitals are expected to procure drugs through the CMS and from the local private sector. All SDP are in turn expected to procure from the RMS in their respective regions. While it is MoH policy that facilities procurement through the public system, except in cases of unavailability, studies have shown significant private sector purchases at all levels. Although integration is taking place, there are still a number of district medical stores which procure from both the RMS and the local private sector. The teaching and regional hospitals and the over 900 SDP are supplied by an RMS, DMS and in many instances procure drugs through the local private sector. The transportation system for distribution of essential drugs is currently undergoing policy review within the MoH.

The Ghana Supply Company Limited (GSCL) was the agency in charge of all public goods purchases since January 2000. However, unqualified personnel, absence of proper planning for the necessities, lack of a proper database, and delays in the acquisition of government subventions led to extended delivery times. Because of these problems, other ministries decided to implement their own procurement structure to be followed. Further reading proved that the solutions enacted by the ministries were not successful; each ministry dealing with buying goods and services for the good of all does not help the country. The government is obliged to serve the Ministries. Thus each ministry having its own procurement process meant the government had to

provide each ministry with its needs separately, thereby creating inefficiencies in the system. From 1999, the Ministry of Finance took the development of a national procurement procedure importantly, in an effort to mend the situation.

The Ministry of Health was the first ministry to remedy its procurement practices. Decentralization was their main strategy as they understood shifting responsibilities from the national level down to the sub-district level, would help ease the burden of procurement activities. The research suggested that it was a good idea because it meant that more responsibility was given to the people that were in charge of the health sector and not to those who knew little about the health sector. This may have allowed and given more opportunity for quality planning and execution. However, shortcomings were still identified in this procedure. Few of them were unqualified personnel, lack of procurement procedures and organizations and inadequate policy strategy.

However, important shortcomings in the Ministry of Health's procurement practices were not addressed. They were identified by an external consultancy (International Procurement Agency, 1998) and were confirmed in the baseline survey of the Ghana National Drug Programme (Ghana National Drug Programme, 1999). There are shortcomings in the health sector in areas such as (1) Unclear Statutory Basis and the absence of a Procurement Code; (2) Inadequate procurement policy, strategy, planning and management capability; (3) Lack of qualified procurement staff; (4)Poor procurement organization and procedures; and (5) Poor stock management.

To combat these problems, the Ministry of Health collaborated with the World Bank to set up a Procurement Unit in 1997. They developed a set of rules, actions and standard documents to be followed. Interestingly the procurement guidelines and procedures that were laid out were not just a replication of the ones the World Bank issued (World Bank, 2004) but addressed problems faced in Ghana as and when there was the need for procurement.

2.4.1 Procurement Risk Management in the Health Sector

In Ghana's health system, two government institutions define the public sector (1) the MOH (policy making) and (2) the Ghana Health Service (GHS) (service delivery). The MOH is responsible for sector-wide policy formulation and monitoring and evaluation of progress in achieving sector targets. The GHS was created in 2001 to facilitate planning and management decentralization and to give more authority to the Regional and District Health Services. The push for this division of responsibility came as early as the 1980s when health sector performance had noticeably deteriorated after the country's economic decline in the late 1970s. However not until the development of the national strategy, "Ghana Vision 2020," in the early 1990s was there a renewed call for a new organization of the health system to be delivered on stated health development objectives.

To date, the two agencies have worked well together in the strategic and operational management of the health sector. The Sector Wide Approach (SWAp), until recently, formed the basis of donor financing in the Ghanaian health sector. This pooled-funding arrangement, known as the Health Fund in Ghana, was formally launched with the signing of a Memorandum of Understanding (MOU) between the MOH and Development Partners (DPs) in 1998. One of the

primary objectives of moving to the Health Fund arrangement was to increase the government's control over resources and to ensure a more integrated approach to planning, budgeting, and monitoring and evaluation (M&E). In 2008, development partners that were contributing into the Health Fund decided to shift to Sector Budget Support, which gave the government even more allocative freedom. As an independent review team of Ghana's Health Sector observed, in a "post-SWAp" world, with sector budget support, the burden of ownership falls more heavily on the government (Ghanaian MOH, 2009).

A report by the World Bank called "Quiet Corruption" has revealed that 95 percent of resources allocated to the health sector in Ghana were diverted into the pockets of individuals. Ghana is second to Chad in terms of the most corrupt when it comes to managing resources in the health sector in Africa (Ghanaian MOH, 2009).. "Quiet Corruption" is an annual Africa Development Indicators report that revealed that the problem of corruption goes beyond bribes and graft and affects health, education, and agriculture sectors on the continent. The 2010 report painted a gloomy picture of Ghana's health sector alleging that officials are failing to deliver government goods and services to the ordinary people they are aimed at (Gardener, 2012). This provides evidence of enormous corruption risk in the Ghanaian Health Sector.

Omane (2011) indicates that auditors at Korle-Bu, the nation's premier teaching hospital, have uncovered corruption in the hospital's procurement process that may be a cue to massive embezzlement that may have gone undetected for some time, specifically in the Supplies Department (Central Stores) of the hospital. After months of investigations it has emerged that the director of the department, abused the due process of procurement and purchased items that

would last 17 years. A case in point is what is called 'Post-Operative Charts' that are used to monitor patients' progress. The quantity ordered is estimated to last till 2019. Worse still, that type of charts had been officially banned by the authorities of the hospital and worldwide since 1989.The procurement officials flouted the order and accommodated those obsolete items for the hospital in 1999 and 2000. This revelation by the auditors has raised eye-brows and concern about the management of the resources of the hospital, which had gone 'HIPC' for years now (Omane, 2011). The auditors, therefore, recommended that both head of procurement and the assistant storekeeper in charge of the Child Health Sub-BMC store, be held accountable (Omane, 2011).

2.5 PROCUREMENT MANAGEMENT STRATEGIES

Risk affects the revenues and the profitability of all firms including those in manufacturing, service and hospitality. Most companies employ some form of risk management strategies in order to maximize their profits and protect themselves from adverse market movements. Some strategies are simple and follow the policy of taking equal and opposite positions in futures markets.

According to Baker and Gloy (1999), risk management involves the identification, evaluation, and implementation of strategies to reduce uncertainty in the revenue flow. Implementing risk-reducing strategies comes at a cost, and these costs have to be weighed against potential benefits. Spahr and Sawaya (1981) point out that, while hedging generally results in reduced risk, it also often significantly reduces profits, which reflects a tradeoff between risk and return.

Futures contracts are popular risk-management instruments, widely used by hedgers in numerous industries. Seidel and Ginsberg (1983) attribute their popularity to liquidity and small margin requirements. Hedging with options reduces the risk of loss from rising input prices, and may also be used as a way to insure availability of raw material supplies (Seidel and Ginsberg, 1983). Economic agents interested in reducing their risk can engage in risk transference to speculators via futures or options markets (Rolfo, 1980). Instruments such as futures and options differ in their characteristics, and the costs and benefits they offer. An advantage of forward contracting is that firms know the exact price they will pay and/or receive when the transaction is completed. In essence, when using forward contracts to offset an open cash position and holding the forward position until maturity, the firm eliminates basic risk but also foregoes any potential gains from favorable price movements. Hedging as a means of reducing risk could be a long term or short term strategy.

A short hedge is the combination of long cash and short futures, or long cash and short forward positions. Grain buyers and/or processors have a risk exposure after buying or processing their products, and will want to reduce price risk (Rolfo, 1980). A long hedge is composed of short cash and long futures positions (Rolfo, 1980). Processors and buyers with the short cash input position may use this strategy to reduce their risk exposure to adverse price movements. Both of the above strategies can involve basis risk, the risk that futures and cash prices will change by different amounts and/or in opposite directions. The traditional view of hedging assumed that the optimal strategy is to hold a position in the futures market which is equal and opposite of the position in the underlying commodity (Rolfo, 1980).

In accordance with the study of Wagner (2001), there is also risk-management strategies that combine put or call options with a position in the underlying commodity result in payoff functions similar in shape to simple payoffs of option contracts. Buyers and producers with long cash positions can either buy put options, or sell call options, depending on their attitude toward risk and their expectations of future price movements. Short cash positions can be hedged by buying call options or writing (selling) put options.

To reduce risk, literature further suggests several strategies among collaborative procurement risk management strategies such as setting upon uncertainty and complexity. For a systematization of strategies that appertain to the whole of the procurement process, it is useful to remember that collaboration in the process generally reduces uncertainties (Stadtler, 2009). With regard to the sources of the uncertainties and the ways to reduce them, there is the need to set out from demand-side and supply-side strategies: The first type of uncertainty reduction strategies aims at reducing the demand uncertainties, such as avoiding the bullwhip effect, by using, among others, collaborative replenishments. Supply uncertainty reduction strategies aim at reducing or even avoiding uncertainties concerning the continuous upstream. Examples of such strategies are the exchange of information (starting with product development and continuing with the mature and end-of-life phases of the product life cycle) and the use of supplier hubs (in order, e.g., to reduce the risk of break-downs in manufacturing lines). We can match this perspective with two other viewpoints (Lee, 2002). One is the character of the goods channeled through the supply chain: they can either have long life-cycles or satisfy needs that do not change much over time ("functional products"); these products will be fast movers and produce low inventory and stock-out cost and low profit margins. Or they can have short life-cycles and an

unpredictable demand ("innovative products"); these produce high inventory and stock-out cost and (possibly) high profit margins. The second viewpoint is that of supply process stability which distinguish between a stable process and an evolving process. The first one is based on a mature technology and on mature manufacturing techniques. Demand uncertainty strategies are aim at minimizing non-value- added activities, deploying scale economics and optimization techniques, and establishing information linkages for demand, inventory, and capacity exchange. The demand uncertainty strategies include risk hedging, responsive, and agile supply chain strategy (Paulitsch, 2003).

Risk-Hedging strategy in procurement utilizes strategies that hedge the risks in the procurement process. These are strategies aimed at pooling and sharing resources in a supply chain so that the risks in supply disruption can also be shared. Responsive procurement risk management utilizes strategies aimed at being responsive and flexible to the changing and diverse needs of the customers, such as mass-customization (with order accuracy) and build-to-order techniques. Agile Supply chain strategy utilize strategies aimed at being responsive and flexible to customer needs, while the risk of supply shortages or disruptions are hedged by pooling inventory or capacity resources. The strategies that are used here range from the risk-hedging to the responsive supply chains.

Due to the differences in the goals and strategies of the four models, the value and competitiveness of the procurement process cycle must be determined by a diverse set of measures. Generally speaking, for efficient and risk-hedging supply chains, measures such as plant capacity utilization and inventory turns of the whole process may be adequate. For

responsive and agile supply chains, a measure, such as the product availability, may be more appropriate (Paulitsch 2003).

Moreover, the procurement processes are complex systems that require the appropriate strategies to make them less complex. Their complexity is expressed in volatility, uncertainty, numerousness, variety and a dynamic environment. These complexity parameters determine the structural configuration and the relationship between the elements of the procurement, and the effects resulting from the system's complexity are reflected in the indicators used to monitor network performance. There are five basic strategies for dealing with the effects of complexity: Accepting, managing, reducing, preventing and transferring. Two examples of complexity management have been discussed by Kersten (2010). One relates to effects on direct cost, the other one to effects on overhead cost. Kersten (2010) further classifies five different strategies as a means of reducing procurement complexities: (1) The "Accepting Complexity" strategy reactively adapts the organization to what is predetermined through external requirements. The complexity effects on the company are compensated by going back to traditional, less sophisticated supply chain management; (2) The "Reducing Complexity" strategy objective is to simplify and optimize structures, products or processes, diminishing the numerousness of elements and their connectivity; (3) The "Managing/Controlling Complexity strategy" proactively handles the existing structure of business processes in the most effective way to ensure their reliability. For this, the variety of process outputs and the predictability of process results are reconsidered; (4) the "Preventing/Avoiding Complexity" strategy anticipates future complexity within existing structures or processes by improving awareness of how complexity is generated; and (5)The "Transferring/Exporting Complexity" strategy sidesteps complexity by

transferring them to other players in the market. Other forms of risk management strategies also include accepting, managing, reducing, preventing and transferring also indicates the range in which risk is handled. Also, Karen Six and Kowalski (2009) identified five steps in dealing with risk in procurement. The five steps included formal risk assessment of volunteer programs; reference checks of prospective volunteers; criminal record checks of prospective volunteers; implementation of volunteer supervision guidelines; and volunteer orientation and training; and the use of volunteer waiver and consent forms (www.kdc-cdc.ca).

According to Barnnes (2009) good rules, transparency and monitoring are the three elements that help to prevent some elements of procurement risk in the health sector. Barnnes (2009) explained that in the case of absent rules or rules which can be manipulated to one's advantage, donors should assist governments in elaborating and enforcing procurement laws and procedural guidelines which comply with international standards. These procurement rules should at least minimise confidentiality, state open bidding from pre-qualified suppliers as a principle, guarantee access to information, and make sure bidding documents, procedures, evaluations and awards are publicly and timely available. Access to information can be provided through documentation and communication systems, including online systems, where information can be shared with auditors, complainants and the general public. Tools for improving electronic procurement systems are supported by the World Bank and other donors. Furthermore, Barnnes iterated that efficient management is one of the most effective preventive mechanisms of procurement risk. It promotes transparency and accountability, facilitates oversight and citizen participation, and brings legitimacy to governmental decisions. Rules that follow these principles also provide a good basis to prevent corruption. Written procurement procedures should outline

the whole process, using explicit criteria to award contracts. Rules are not enough, however, and law enforcement mechanisms are often weak. Monitoring by local experts and independent oversight agencies can help make existing norms effective. Civil society also has an important role to play in monitoring. Donors can also promote integrity in the private sector, e.g. through information campaigns for small and medium sized businesses. It is the latter who lose out in corrupt procurement deals as larger firms can more easily afford to position themselves vis-à-vis decision-makers. (Barnnes, 2009)

2.6 PUBLIC PROCUREMENT RISK MANAGEMENT CHALLENGES

It is important to note that SCM is an integral part of procurement in the public sector. Therefore, it is used as a tool for the management of public procurement practices. However, despite the employment of SCM as a strategic tool, public procurement still faces enormous predicaments. According to Ambe and Badenhorst-Weiss (2012), these include, among others: lack of proper knowledge; skills and capacity; non-compliance with SCM policy and regulations; inadequate planning and the linking of demand to the budget; accountability, fraud and corruption; inadequate monitoring and evaluation of SCM; unethical behaviour; and too much decentralisation of the procurement system.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter presents the research philosophy, design and methods used to address the research problem as outlined in Chapter 1. It has been shown that within the terms as defined by Hussey and Hussey (1997), this research project sought to analyse and explain (the purpose of the research), through mainly qualitative methods (the process of the research) using deductive logic based on existing theories, the role descriptive statistical tools and the outcome is one of applied research (applying the research to a particular organisation). This is in line with the overall research problem as identified in Chapter 1.

3.2 RESEARCH PHILOSOPHY

For this study, selecting an overall research philosophy is the choice between two primary alternatives: between a positivist or a phenomenological philosophy. A number of authors (Easterby-Smith et al., 1991; Hussey and Hussey, 1997; Saunders. *et al*., 2000) have highlighted the main elements of this choice involving research philosophy. In particular, Easterby-Smith *et al.* (1991) offer these key features of the two philosophical paradigm alternatives. This study principally depended on Phenomenological paradigm on the basis of the fact that the world is socially constructed and subjective. Moreover, this study of science is driven by human interests. The study focused on meanings, tried to understand what is happening by adopting an exploratory approach to study. The study looked at the totality of each situation of procurement risk management in the health sector, and developed ideas through induction from the collated data from the sampled persons in the health sector. It also employed multiple of methods to

establish different views of phenomena, and relied on small sample. The study primarily relied on naturalist philosophical research tools such as the qualitative tools of observation, questioning, and description approach to provide answers to objectives 1 and 2 in Chapter one of the study. The study relied on Qualitative researcher's argument that positivists' search for generalizable rules and their focus on quantification ignored matters that are important but not easily counted and denied the complexity and the conditional nature of reality.

Given the research problem as outlined in Chapter 1, the best fit was to follow the phenomenological paradigm. This was done recognising the following parameters identified by Hussey and Hussey (1997) for this phenomenological paradigm: (1) It tends to produce qualitative data: this would fit well with the case study approach which is explained in this chapter of the study; (2) Data is rich and subjective: the qualitative data would be rich by nature, and the gathering process would be subjective due to the level of involvement of the researcher; (3) The location is natural: the setting for this research was in a commercial organisation (rather than a laboratory setting); (4) Reliability is low: the possibility of lower reliability data would be countered by the use of triangulation; and (5) Validity is high: this would be seen as a result of the empirical data gathering exercise.

3.3 RESEARCH DESIGN

A study design, according to Opoku (2000) is a structural perspective that guides a researcher in data collection and analysis. The research design adopted for this study is the descriptive research. Descriptive research involves gathering data that describe events and then organizes, tabulates, depicts, and describes the data collection (Hyde, 2000). It often uses visual aids such

as graphs and charts to aid the reader in understanding the data distribution. Because the human mind cannot extract the full import of a large mass of raw data, descriptive statistics are very important in reducing the data to manageable form (Myers, 2008). When in-depth, narrative descriptions of small numbers of cases are involved, the research uses description as a tool to organize data into patterns that emerge during analysis. Those patterns aid the mind in comprehending a qualitative study and its implications.

The study also employed a case study approach. A case study is 'an empirical enquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident' and it 'relies on multiples sources of evidence' (Yin, 1994). Case study research investigates predefined phenomena but does not involve explicit control or manipulation of variables: the focus is on in-depth understanding of a phenomenon and its context (Miles &Huberman, 1994). Case studies typically combine data collection techniques such as interviews, observations, questionnaires, and document and text analysis. Both qualitative data collection and analysis methods (which are concerned with words and meanings) and quantitative methods (concerned with numbers and measurement) may be used (Yin, 1994). Eisenhardt (1989) posit that Case study strategy focuses on understanding the dynamics present within a single settings. The case study is commonly applied in a field-based research to describe and develop knowledge based on data from the real world conditions, aiming to bridge the gap between management theory and practice (Flynn *et al.*, 1990; McCutcheon & Meredith, 1993).

3.4 POPULATION OF THE STUDY

A population is a group of individuals, persons, objects, or items from which samples are taken for measurement (Saunders *et al*., 2009). Target population is the entire group of individuals about whom you want to gather information. To design a useful research project, there is the need to be specific about the size and location of your target population. Based on this, the target population of the study will principally be all public health institutions in the Ashanti region of Ghana. There are twenty seven (27) administrative districts in the Ashanti Region including the Kumasi metropolis. For effective administration, the Kumasi Metropolitan Assembly (KMA) has been sub-divided into four sub-metros, namely Asokwa, Subin, Bantama and Manhyia. The following four additional districts have been created, to bring the total number in the region to twenty-two (22). There is a hospital each in nineteen (19) out of the twenty seven (27) administrative districts, except for the Kumasi Metropolis that has seven government hospitals. There are eighteen (18) district and seven (7) metropolitan hospitals that make up the twenty-five (25) government hospitals in the Ashanti Region part of Ghana.

3.5 SAMPLE AND SAMPLING TECHNIQUE

Kumar (2008) explains that a sample is a sub-group of the population which is an ideal representative of the entire population. Researchers usually cannot make direct observations of every individual in the population they are studying. Instead, they collect data from a subset of individuals (a sample) and use those observations to make inferences about the entire population (Zickmund, 2003). A multi-stage sampling procedure was adopted in the selection of the desired sample. The first stage involved the selection of five government hospitals in the Ashanti Region through a simple random sampling by balloting procedure (3 district hospitals and 2 metropolitan

hospitals). The second stage also involved the usage of purposive sampling procedure to select a total sample size of twenty (20) experts in public procurement in the selected government hospitals in the Ashanti Region. The sample include 5 top officials of 5 the five hospitals, heads of procurement departments, heads of IT departments, and heads of finance. These respondents were chosen because of the level of their involvement in the procurement process. The proposed samples are more involved in procurement practices and are adequately knowledgeable in the area.

3.6 SOURCE OF DATA

Both quantitative and qualitative form of primary data was collected from the selected public hospitals in the Ashanti region involved in procurement management. The study principally depended on both primary and secondary data. Primary data were collected from the field survey in the form of questionnaire whilst secondary data comprised of works that had already been done in the field of procurement and risk procurement management. Therefore, journals, internet sources, published and unpublished dissertations as well as empirical literature formed the secondary data used for the study.

3.7 DATA COLLECTION INSTRUMENTS

The data collection tools that were employed in the research included the use of questionnaire and a pocket notebook. These tools aided in the collection of both quantitative and qualitative data for the study.

There are various methods used for collecting empirical data for case study such as interviews, archives, questionnaires, and observations (Eisenhardt, 1989; Yin, 1994). For this research, questionnaire was principally employed as the main data collection tools, as they are claimed to be the most effective technique that helps gather valid and relevant data (Easterby-Smith *et al.*, 2002). According to Voss *et al.* (2002), an underlying principle of data collection in case research is triangulation; meaning the use of different methods to study the same phenomenon. It was noted that the combination of methods and sources in collecting data can enhance the reliability and validity of evidence (Jick, 1979; Voss *et al.*, 2002). Thus, this section describes various methods and techniques used during the data collection process.

3.7.1 Questionnaires Development

Questionnaires were used as data collective tools in this research due to the number of respondents involved. Therefore, the questionnaire was designed to address the study concerns. It was important to first establish the information to be gathered so that relevant questions are solicited (Nachimias and Nachimias, 1996). Once the survey questionnaire was drafted, they were pre-tested by trying it out on a small number of respondents having characteristics similar to those of the target group of respondents. This helped to re-design the questionnaires, making it more consistent focusing it on strategic issues.

3.7.2 Content and Administration of Questionnaires

Having identified the respondents for the questionnaires and their characteristics, the next step was focused on the design of the actual questions that were asked to solicit the requisite information for the study. The way in which survey questions are presented would affect the

quality of the responses and therefore it was important to ensure that the right questions were asked, well understood and asked in the right way (Wahab, 1996). The questionnaires consisted of several questions mainly; closed-ended and scaled-response type. For the purpose of the study, the questions were grouped under five categories. The first series of questions related to the respondent's profile: this was intended to find out the background and experience of respondents. The second group of questions sought to identify the various procurement risks in the procurement process of the selected hospitals in the Ashanti Region. The third section, sought to assess the various procurement risk management practices in the selected health institutions in the Ashanti Region. The fourth section sought to identify the numerous procurement risk management strategies employed by the selected hospitals. The fifth and the final section also sought to identify the various procurement risk management challenges in the health sector in the Ashanti Region.

In designing the questionnaires, the researcher utilized some of the questions in the works previously reviewed, more especially by Thai (2001); Miller and Lessard (2008); and Keizer, Halman and Song (2002). The questionnaire was particularly employed in the sense of capturing all the objectives of the study. The questionnaire was self-administered on a face-to-face basis.

3.8 METHOD OF DATA ANALYSIS

Most of the questionnaires were pre-coded before administration to facilitate easy tabulation and analysis. Open ended questionnaire were coded after the data collection exercise. Responses were cross-checked on the field as a quality check on the data. Zickmund (2003: 73) suggests that data processing begins with the editing and coding of the data. Coded data on responses

were fed into the computer based programme, statistical package for social sciences (SPSS), version 17 for display and analysis. One of the strong points of SPSS is that it can perform almost any statistical analysis, thus making this package extremely suitable for the analysis of the survey result (Kirk & Miller, 1986).

The programme generated figures, frequencies, percentages and tables to show results of the data analysis. Descriptive analysis conducted involved the use of tabular analysis (percentages and frequencies), mean for discussing the key variables involved in the study. The techniques used during the data analysis included non-parametric tool like Kendall's rank test. The questionnaire was basically designed using the 'Likert Scaling type'.

3.9 ETHICAL ISSUES

In any research there is need for the researcher to consider ethical issues paramount so that there is no infringement on respondents' rights and privacy. This research was therefore minded by the fact that firms, especially those in the same competitive industry are concerned about confidentiality of information, hence; information that workers gave in relation to the research were kept confidential. The information required in this direction might include the organisation records of revenue and workers information as regards salary.

Meanwhile the consent of workers to administer questionnaire was sought. This ensured that those respondents were free and willing to respond to questions fairly. Where respondents expressed lack of desire to respond to questionnaire the researcher respected such views.

3.10 QUALITY OF THE RESEARCH DESIGN

The quality of the research design that can be checked by considering the validity of the study, reliability of the data and instruments of data collection as well as the generalization ability of the study are described below.

3.10.1 Validity of the Study

Research design is often divided into three broad categories, according to "the amount of control the research maintains over the conduct of the research study". These three broad categories namely: "Experimental, field and observational research. They vary on two important characteristics: Internal and External validity. The External research concerns the overall validity of the research study (Watt and Van Den Berg, 1995). In an Experimental research, the researcher controls the setting in which the research is been conducted and may influence the variable(s), while observing the changes or no change in the variables. Thus, due to the ability to control and eliminate certain variables and conditions that may have a profound effect on the outcomes of the research, would likely improve the validity of the research.

In a field research, the researcher retains control over the independent variable(s), but conducts the research in a natural setting without any control over environmental influences. On the other hand, in an observational research, the researcher can neither control the variable(s), or the research setting. This kind of research usually takes place sometime after the actual process being researched (Watt and Van Den Berg, 1995) Internal Validity describes or accounts for all factors, including those, which are not directly specified in the theory being tested, but might affect the outcome of the study. In other words, it usually concerns the soundness of the research

being carried out. External validity conclusions cover the specific environment in which the research study is conducted to similar real world situations (Watt and Den Berg.1995). In this case a research which has a generalised conclusion could be more valuable than one whose conclusions cannot be applied outside the research environment.

The current study is as a field research as it is carried out among firms that happen to constitute the corporate body holding of the Ashanti region, and whose responses cannot be influenced in any significant manner. Furthermore, to ensure both internal and external validity, the researcher believes to have used the most accurate and up-to-date literature. The right and relevant questions asked in the survey, the most feasible data collection method used, and the tools used to analyse the data are also considered to be accurate and produced valid results; the overall validity of this thesis is considered to be high. Though the researcher concludes that the internal validity of this study is relatively high, the same cannot be said of its external validity. The reason for this position is therefore discussed under the reliable headings.

3.10.2 Reliability of the Study

The aim of any research is to use a given procedure and reach a conclusion that will be applicable in any given environment (Lehmann, 2009). The primary objective should be that if a later investigation followed exactly the same procedures as described by an earlier investigator and conducted the same study all over again; this later investigator should be able to arrive at the same results and conclusions. Thus the study is considered to be highly reliable. However, due to the very nature of human beings 100% reliability cannot be considered for this study, as individual perceptions are central in this study. In other words because we are different as

individuals and that our individual wants and preferences are different, future investigations may not produce exactly the same results as reported in this thesis. Nonetheless, I believe that the results of this study could be regarded as highly reliable.

3.10.3 Degree of Generalisation

For a research to be able to generalise the results obtained from the sample surveyed to the total population depends on how well the sample represents the total population and how accurately data was collected and analysed. This generalized conclusion would possibly make the research work more valuable and appreciated.

Furthermore, the larger the number of observations, the more trustworthy the generalised the conclusion might be. In this study, the target population was all firms or corporate organisations in the Ashanti Region engaged in procurement management of which 50 were sampled for the study. This sample is evidently not large enough to be applying the results to the total population or generalise the result. However, the results of this study could be used as a starting.

CHAPTER FOUR

DISCUSSION AND ANALYSES

4.0 INTRODUCTION

This chapter of the study discusses and analyses the data collected to answer the various objectives the study set to achieve. This chapter elaborates on the socio-demographic characteristics of respondents, the procurement risk in the procurement process of the hospitals, the most managed procurement risk in the hospitals, the procurement risk management practices in the hospitals, and the procurement risk management challenges of the hospitals. The study further identified the procurement risk management strategies and the reasons behind the strategies in the hospitals. The variables in this section of the study were tested with the aid of one tailed t-test at a significance level of 1% (test value of 2.25). Test value of 2.25 (confidence level of 99%) is the most preferred significance level with a minimal level of statistical error (Maddala, 2001).

4.1 SOCIO DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

This section of the study discusses the various socio demographic characteristics of the various respondents interviewed in the selected hospitals in the Ashanti Region of Ghana for the study. The major socio demographic variables discussed included gender, age, educational level, duration of current employment, the respondents' level of management and their participation in the procurement processes. The result is presented in Table 4.1.

Table 4.1: Socio Demographic Information of Respondents

Socio Demography		Frequency(n=20)	Percent (%)	Mean
Gender				
	Male	16	80.0	
	Female	4	20.0	
Age				38.43
Highest level of education				
	Diploma/HND	6	30.0	
	Degree	12	60.0	
	Higher degree	2	10.0	
Duration of current employment				
	Less a year	1	5.0	
	1-2 years	4	20.0	
	Over 2 years	15	75.0	
Level of management				
	Lower level	2	10.0	
	Middle level	12	60.0	
	Senior level	8	30.0	
Participation in procurement				
	Yes	18	90.0	
	No	2	10.0	
Items procured				
	Office supplies	6	30.0	
	Capital expenditure	12	60.0	
	Services	2	10.0	

Source: Field Survey, 2013

From Table 4.1, out of the total respondents (n=20), the majority (80.0%) were males. The average age of the respondents was about 38.43 years. The majority (60.0%) of the respondents also hold degree in various academic fields of study. however, a significant percentage (30.0%) of the respondents also have diploma or HND in numerous academic areas. The level of working experience of the majority (75.0%) of the interviewed respondents in their current position was over two years. Most of the interviewed respondents (60.0%) were in the middle level of management position in the selected hospitals. The greater percentage (90.0%) of the interviewed respondents participates in procurement processes of the selected hospitals in the

Ashanti Region. Capital expenditures are the most frequently procured in the hospitals in the Ashanti region as indicated by 60.0% of the interviewed respondents.

4.2 PROCUREMENT RISK IN THE PROCUREMENT PROCESS OF THE HOSPITALS

Respondents were presented with a list of 8 forms of procurement risks usually reported in the literature as hindering efficiency and often managed to reduce cost. The task of each respondent was to rank the numerous procurement risks from most to least considered as a constraint to production. The Table 4.2 displays the mean ranks and by extension, the ranks of the numerous procurement risks as adjudged by the 20 respondents in the selected hospitals. To further evaluate the results, one sample t-test was conducted.

Table 4.2: Frequently Occurring Procurement Risks in the Hospitals

Procurement Risk	Mean	t-test	Rank
Market risks	3.12	3.334*	1
Supply risks	3.09	3.109*	2
Fraud risks	3.04	2.339*	3
Compliance	3.09	2.349*	4
Process risks	2.96	2.456*	5
Foreign currency risks	2.55	0.345	6
Organizational risks	2.46	-0.182	7
Geopolitical risks	2.04	-0.120	8

* Significant at 0.001 level
Source: Field Survey, 2013

The t-test conducted showed that five factors listed in Table 4.2 were significant. From the table, the respondents ranked market risks as the most frequently occurring procurement risk in the hospitals in the Ashanti Region. This is consistent with Edler's (2009) study that revealed marketing risk as one of the major risks in procurement. Other frequently occurring procurement risks ranked 2nd, 3rd, and 4th respectively were supply risks, fraud risks, compliance risk and

procurement process risk. The finding of fraud as one of the major procurement risks in the health sector is not surprising since the studies of Gardner (2012) and Omane (2011) supports this finding. Moreover, Ghana is second to Chad in terms of the most corrupt in the management of resources in the health sector in Africa (Gardner, 2012). The least ranked three occurring risks in the selected hospitals in the Ashanti Region were foreign currency risks, organizational risks and geopolitical risks.

4.2.1 Most Managed Procurement Risk in the Hospitals

This section of the study identifies and ranks the various procurement risks most often focused on by the management of the various hospitals in the Ashanti Region. The respondents were asked to choose from strongly disagree to strongly agree with respect to the procurement risk that the management of the hospital often focuses on as a means of reducing procurement cost. The responses were analyzed with the aid of t-test. This was done to identify the considered variables that were significant and otherwise. The result of the judges or respondents is presented in Table 4.3.

Table 4.3: Procurement Risk Focused On By Management

Procurement Risk	Mean	t-test	Rank
Fraud risks	3.59	12.243*	1
Compliance	3.57	9.879*	2
Supply risks	3.30	5.564*	3
Market risks	3.23	4.098*	4
Process risks	3.03	-0.398	5
Organizational risks	2.67	-1.293	6
Foreign currency risks	2.34	-1.899	7
Geopolitical risks	1.78	-3.243	8

* Significant at 0.001 level
Source: Field Survey, 2013

The one-sample t-test conducted showed that four factors listed in Table 4.2 were significant. The respondents therefore ranked fraud risks as the most focused and managed procurement risk in the hospitals in the Ashanti Region. The existing literature supports the prevalence of corruption in the health sector in Ghana (Omane, 2011; Gardner, 2012). Ghana is second to Chad in terms of the most corrupt when it comes to managing resources in the health sector in Africa. Therefore, the focus of the sector in the reduction of fraud risk is not surprising. Other focused and more managed procurement risks in the hospitals ranked 2nd, 3rd, and 4th were compliance risks, supply risks, market risk and procurement process risk respectively. The least ranked three managed and focused risks in the selected hospitals in the Ashanti Region were organizational risks, foreign currency risks and geopolitical risks.

4.3 PROCUREMENT RISK MANAGEMENT PRACTICES

This section of the study seeks to investigate the presence of procurement management practices at the various government hospitals in the Ashanti Region of Ghana. The section further investigates the various forms of procurement management practices of the hospitals in the Ashanti Region. The results are explicitly displayed in Table 4.4.

Table 4.4: Procurement Risk Management Practices of the Hospitals

Procurement management practices	Mean Agreement	t-test
Identify Issues, setting the context	4.33	42.54*
Asses Key Risk Areas	4.56	18.15*
Measure likelihood and impact	3.01	18.43*
Rank risks	4.37	21.87*
Set desired results	4.82	21.12*
Develop options	4.31	11.48*
Select a strategy	4.66	15.48*
Implement the strategy	4.07	42.54*
Monitor and evaluate and adjust	4.87	23.54*

Rank: [SStrongly Agree-5, Agree-4, Uncertain-3, Disagree-2, Strongly Disagree-1]
* Significant at 0.001 level
Source: Field Survey, 2013

From Table 4.4, the conducted t-test indicated that all the variables considered for the section were significant at 1%. The mean agreement value of 4.33 indicates that the respondents agreed that the hospitals identify issues, and set context with respect to procurement risk. The hospitals assess key risk areas as also by the respondents mean agreement value of 4.56. This is consistent with existing literature that indicates that it is essential to provide a risk management system that enables identification of those risks and a comprehensive analysis of its triggers (Flangan*et al*., 2007). Furthermore, the greater percentage of the respondents also agreed that rank risk in the procurement processes of the hospital. The hospitals also set desired results, develop options, select an appropriate strategy to deal with procurement risk, implement the strategy and monitor, evaluate and adjust the strategies. However, the hospitals do not measure likelihood and impact of the various forms of risks in the procurement as indicated by mean agreement of 3.01. The findings of the study according to European Commission Expert Group (2010), enterprises need to assess risks and rewards for all partners involved at the various stages of the procurement process, including the nature of risks; provide a risk management system that enables identification of those risks and a comprehensive analysis of the risk; and ensure a more integrated approach to planning, budgeting, and monitoring and evaluation.

4.4 PROCUREMENT RISK MANAGEMENT CHALLENGES OF THE HOSPITALS

Respondents were presented with a list of 16 risk management challenges usually reported in the literature as hindering efficient and effective procurement process of the hospitals. The task of each respondent was to rank the problems from most to least considered as a constraint to procurement risk management. The Table 4.5 displays the mean ranks and by extension, the ranks of the problems as adjudged by the 20 respondents. This was obtained following the one

sample t-test statistic in SPSS 17. The mean results and by extension the ranks of the variables considered are presented in Table 4.5.

Table 4.5: Procurement Risk Management Challenges

Procurement risk management challenges	Mean	t-test	Rank
Limited funds	3.48	10.915*	1
Lack of buffer stocks and restocking levels	3.33	9.5037*	2
Need for a professional team/lack of technical personnel	3.30	7.8902*	3
Absence of effective monitoring	3.16	6.9087*	4
Unstable market prices make planning difficult	3.09	4.9867*	5
Limited storage space for procured items	3.02	4.6876*	6
High bureaucracies in authorization levels	3.00	4.5067*	7
Limited follow up on records	2.89	3.0979*	8
Partial Independence of procurement committee	2.78	3.0089*	9
Lack of commitment by top managers	1.65	0.0089	10
Some products & services are scarce in the market	1.56	0.0028	11
Procurement is handled as a non-core activity	1.33	0.0021	12
Lack of continuity of suppliers	1.09	-0.534	13
The procurement cycle is very prolonged	1.05	-0.476	14
The procurement process is too manual	1.04	-0.437	15
Procurement not based on budget	0.92	-0.398	16

* Significant at 0.001 level
Source: Field Survey, 2013

From the study, the t-test conducted showed that 9 variables in Table 4.5 were significant at 1%. The first five ranked challenges of procurement risk management at the various hospitals in the Ashanti region are limited funds, lack of buffer stocks and restocking level, lack of technical personnel, absence of effective monitoring and unstable market prices that makes planning difficult. However, the least ranked five barriers to procurement risk management were procurement not based on budget, the procurement process is too manual, the procurement cycle is very prolonged, lack of continuity of suppliers, and procurement is handled as a non-core activity. The findings of the current study is consistent with Ambe and Badenhorst-Weiss (2012), who indicates that the major procurement risk management challenges include lack of proper

knowledge; skills and capacity; non-compliance procurement policy and regulations; inadequate planning and the linking of demand to the budget; accountability, fraud and corruption; and inadequate monitoring and evaluation.

4.5 PROCUREMENT RISK MANAGEMENT STRATEGIES OF THE HOSPITALS

This section of the study assesses the presence of procurement risk management strategies at the numerous government hospitals in the Ashanti Region of Ghana. The section further assesses the forms of procurement strategies instituted by the hospitals as a means of controlling or militating against procurement risk. The results are presented by Figure 4.1 and Table 4.6.

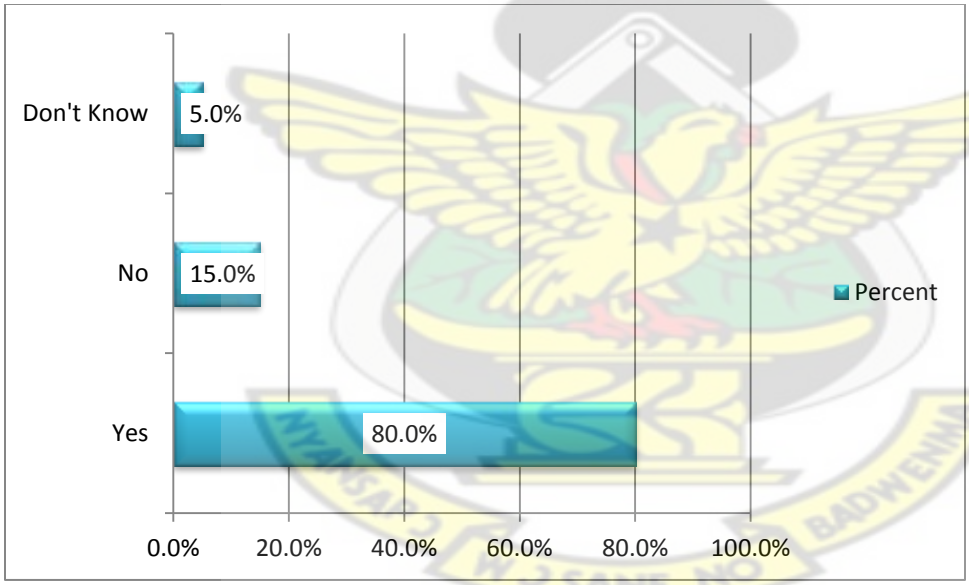

Figure 4.1: Presence of Risk Management Strategies at the Hospitals
Source: Field Survey, 2013

From Figure 4.1, out of the total respondents (n=20), the majority (80.0%) believe the hospitals have strategies in their quest of militating against procurement risk of varying forms or types. However, the minority (15.0%) believed there were no procurement management strategies at

the hospitals. Flanagan *et al*. (2007) claim that it is important for most organisations to implement an effective risk management system that enables minimum loss from occurred risks.

Table 4.6: Procurement Risks Management Strategies of the Hospitals

Strategies	Mean Agreement	t-test
Collaboration with suppliers	4.65	8.12*
Increased supplier performance/increased collaboration	4.89	10.89*
Performance contracts with suppliers	4.77	9.63*
Supplier audit	4.34	6.44*
Performance and risk controlling	3.99	9.29*
Supplier rating	4.52	4.29*
Insurance	4.66	19.36*
Collaboration with customers	4.92	9.70*
Currency hedging	3.02	10.14*
Commodity hedging by using derivate	4.33	12.36*
Vertical integration	4.82	14.01*
Hand-on caused costs to the customer	3.10	5.98*

Rank: [Strongly Agree-5, Agree-4, Uncertain-3, Disagree-2, Strongly Disagree-1]
* Significant at 0.001 level
Source: Field Survey, 2013

From Table 4.6, the conducted t-test indicated that all the variables considered for the section were significant at 1%. To reduce or militate against procurement risk, the respondents strongly agreed that the hospitals collaborate with their respective suppliers so as to reduce the likelihood of shortages. The respondents also strongly agreed that hospitals have also ensured increased supplier performance by increasing the level of collaboration with suppliers as shown by the agreement mean value of 4.89. To reduce risk, literature suggests several strategies among collaborative procurement risk management strategies such as setting upon uncertainty and complexity (Stadtler, 2009). For a systematization of strategies that appertain to the whole of the procurement process, it is useful to remember that collaboration in the process generally reduces uncertainties (Stadtler, 2009). The mean agreement value of 4.77 indicates that the respondents

also strongly agreed that the hospitals have performance contracts with their numerous suppliers to ensure provision of quality and required supplies. Moreover, supply uncertainty reduction strategies aim at reducing or even avoiding uncertainties concerning the continuous upstream (Lee, 2002). From Table 4.6, it is also evident that the hospitals often audit suppliers, undertake performance and risk controlling exercises at the hospitals, insure procurement, undertake commodity hedging by using derivate, and ensure vertical integration within the procurement chain or process. Spahr and Sawaya (1981) point out that, while hedging generally results in reduced risk, it also often significantly reduces profits, which reflects a tradeoff between risk and return. Hedging with options reduces the risk of loss from rising input prices, and may also be used as a way to insure availability of raw material supplies (Seidel and Ginsberg, 1983). All these strategies are attempt to ensure effectiveness and efficiency in the procurement process of the hospitals and thereby optimize profit.

4.5.1 Aims of the Hospitals Risk Management Strategies

Implementing risk-reducing strategies comes at a cost, and these costs have to be weighed against potential benefits. This section of the study therefore identifies the various reasons for the desire of the hospitals in the Ashanti Region to put in place procurement risk management strategies. The result is displayed in Table 4.7.

Table 4.7: Aim of the Hospitals Risk Management Strategy

Aims Of Risk Management	Mean Agreement	t-test
Minimizing budget deviations	4.87	15.30*
Minimizing the risk related costs	4.76	5.88*
Reducing the probability of the company going bankrupt	4.03	8.92*
Securing that the company accepts the risks according to the strategy	3.33	4.32*
Securing stability in income	4.96	10.35*
Increasing the probability of the company reaching its strategic goals	4.93	9.98*
Creating overview of risk exposure	4.76	8.67*

Rank: [very high-5, high-4, a low degree-3, Not at all-2, Don't know-1]
* Significant at 0.001 level
Source: Field Survey, 2013

From Table 4.7, the t-test conducted indicates that all the considered variable in identifying the aims of the hospitals in implementing procurement risk management strategies were significant at 1%. From the table, the response agreement value of 4.87 indicates that the aim of the procurement risk management strategies of the hospitals in terms of minimizing budget deviations is very high. The respondents also strongly agreed to the minimization of risk related costs as a major reason for the hospitals risk management strategies as shown by the mean agreement value of 4.76. Procurement risk management is seen as a powerful competitive weapon for improving profitability and strengthening competitive advantage (Spekman, Kamauff&Salmond 1994; Carr & Pearson 2002). Furthermore, other reasons very high for the hospitals in the Ashanti Region procurement risk management strategies include securing stability in income, increasing the probability of the company reaching its strategic goals, and creating overview of risk exposure. Reduction of the probability of the hospitals going bankrupt was also seen as a high reason behind the hospitals procurement risk management strategies. However, securing that the hospitals accept the risks according to the strategy instituted is seen as a very low reason or aim behind the hospitals risk management strategies in the Ashanti Region.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

5.1 INTRODUCTION

The aim of the study is to bring to fore the right procurement risk management strategies for the health sector procurement lifecycle in Ghana. To achieve this, two objectives guided by the set research questions were revisited to ensure the extent to which the aim of the study has been achieved. The chapter also makes the necessary conclusions, and based on the findings make numerous feasible policy recommendations.

5.2 RESEARCH QUESTIONS

From the onset, the study aimed to provide answers to two proposed questions:

- What are the various forms of risks and procurement risk management practices in the health sector?
- What are the appropriate procurement risk management strategies for the health sector procurement lifecycle?

5.3 REVIEW OF THE RESEARCH OBJECTIVES

The aim of the study was to develop procurement risk management strategies for the health sector procurement lifecycle. This is aimed to reduce the various elements of risk associated with procurement of health materials and services so as to maximize performance of the sector. The fulfillment of the two objectives is explicitly spelt out in the following sections.

5.3.1 Review of First Objective

The first objective focused on the Identification of the various forms of risk and procurement risk management practices in the health sector. The objective has been achieved through the analysis in the chapter four of the study. The findings were achieved by assessing the responses of the selected respondents (spelt out in chapter three) through the likert type of questioning. Four major procurement risks in the procurement process of the public hospitals in the Ashanti Region part of Ghana were identified namely market risk, fraud risk, compliance risk and supply risk. The major procurement management practices of the hospitals were also identified.

5.3.2 Review of the Second Objective

The second objective of the study focused on proposing appropriate procurement risk management strategies for the health sector procurement lifecycle based on the lapses in the existing strategies. The objective has been achieved through the analysis in the chapter four of the study and the recommendations made in this chapter. The findings were achieved by assessing the responses of the selected respondents (spelt out in chapter three) through the likert type of questioning. Six procurement risk management practices have also been recommended in an attempt to achieve this objective.

5.4 LIMITATIONS OF THE STUDY

The current study was limited to only hospitals in the public sectors and also to small sample size of 20 experts in the procurement process.

5.5 CONCLUSION OF FINDINGS

The most occurring risks in the procurement process such as market risk, supply risk, fraud risk and compliance risk are also the most managed forms of risks in the procurement process. On the basis of the presence of these forms of risk in the procurement process of the public hospitals in the Ashanti Region, the risk management practices of the public hospitals included assessment of major risk area in the procurement process, ranking of the risks, setting of desired result, developing strategies to arrest the risks in the procurement process, implementing the strategies and monitoring and evaluating the strategies. Irrespective, the management techniques and process of public hospitals in the Ashanti Region an attempt to reduce the risk elements in the procurement process was without challenges. These challenges included limited funds lack of buffer stocks and restocking levels, need for a professional team/lack of technical personnel, absence of effective monitoring, unstable market prices make planning difficult, limited storage space for procured items, high bureaucracies in authorization levels and limited follow up on records. However, the hospitals have strategies in place to reduce the impact of these challenges. The procurement risk management strategies adopted by the public hospitals include collaboration with customers and suppliers, supplier auditing, hedging, and supplier rating. The reasons behind the hospitals risk management strategies of the public hospitals included minimizing budget deviations, minimizing the risk related costs, reducing the probability of the company going bankrupt, securing stability in income, increasing the probability of the company reaching its strategic goals, and creating overview of risk exposure.

5.6 RECOMMENDATIONS FOR THE HEALTH SECTOR

Based on the various findings and conclusions of the study, several feasible recommendations have been made below.

- The various studied hospitals need to ensure risk analysis, risk identification and risk assessment. The appropriateness of this would require the hiring of the services of the right personnel to execute these functions. There is also the need for category risk management integration in the various hospitals in the Ashanti Region.
- Moreover, a change of attitude and organisational culture to establish clear awareness and principles as to the three functions of risk management can be the starting point of all efforts: identification, reduction of likelihood of risks to occur and mitigation. Once a conscience process of risk management along those three basic functions is designed and implemented, risk in public procurement can be demystified; all actors involved can reduce their risk aversion and thus increase the inclination of procuring goods and services.
- As a strategy, policy makers in the public hospitals can create a structure, which will help the administration identify on time its future needs and the likelihood to cover them. Two potential kinds of supporting structures can be distinguished. One would be to support long term planning and exchange information about maturing technologies. This needs to be done in close interaction between the administration and companies using technology foresights and other forward looking studies or instruments. Attempts in this direction are tested in the UK innovation platforms, which also include public administrations and representatives of society. Procurement platforms, obviously, are no panacea and entail

potential drawbacks such as technological lock-in. To avoid the drawbacks procurement platforms need to be designed in a way to offer alternative solutions and not reduce variety but reduce procurement risks through information, transparency and lowering resistance.

- This strategy often helps procurers think in terms of functionality rather than product or service procurement. Adopting the utilisation of "Performance-Based Procurement" contracts is one way to do so. This is a process that can be applied to standard as well as risk management in procurement. Using sectoral associations, highly experienced in specific procurement areas, to draw functional requirements and mediate in procurement in the specific sectors is another. Additionally it can be done through coaching and training by a specialisedorganisation, which can work with the procurers on specific cases and/or can organise dedicated training for different procurers or parts of the public administration that are expressing their needs, even if not preparing the tender documents themselves.
- The identification of supply risk and market as major challenges in the procurement process therefore demands the appropriate implementation and strengthening of hedging in the various public hospitals in the Ashanti Region.
- Market risks on the demand side and the supply side are loaded with more uncertainty. Therefore, it is better for them to be treated with a dialogue process with selected groups in the supply chain and potential users of new applications. It is important to gain knowledge about potential bottlenecks or incompetence in the supply chain early on. By the same token procurers have to identify lead users or representatives of potential users

and find out whether they will be willing to buy/use the product/service, when available and under which conditions.

- Market risks coming from insufficient private demand can be reduced, if the public procurer joins forces at national or international level to help attract new clients to the new market (thereby enlarging the public market and increasing the likelihood of the private market to follow). Alternatively it is possible to help the supplier (through research or other grants) to benefit from technological spillovers. This is then not catalytic procurement but a simple effort to offer more prospective rewards to the supplier, who would in turn be willing to accept more risks.

5.9 RECOMMENDATION FOR FUTURE RESEARCH

To increase the validity, reliability and the generalization ability of the study, there is the need for further researchers to expand the thematic base and the sample size. Moreover, since the current study adopted the naturalist philosophy, any further study could adopt a more positivist approach so as to make comparison viable.

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APPENDIX

RESEARCH QUESTIONNAIRE

This questionnaire is being administered to collect data for a Masters Dissertation on the assessment of procurement risk management strategies of the health sector. I would appreciate your voluntary co-operation in completing the questionnaire or allow me to interview you. Neither your name nor will your responses be disclosed to any person. I do appreciate the least effort you make at enabling me complete my programme successfully. Please tick the appropriate option and kindly supply your own answer where necessary.

(A) BACKGROUND INFORMATION

1. Gender of respondent

a) Male [ ] b) female [ ]

2. Age of respondent ……..

3. Highest level of education

a) SHS [ ] b) Diploma/HND [ ] c) Degree [ ] d) higher Degree [ ]

4. Duration in current employment

a) 0-1 Years [ ] b) 1-2 Years [ ] c) Over 2 Years [ ]

5. What level of management are you in the organisation?

a) Lower level management [ ] b) Middle level management [ ] c) Senior level management [ ]

6. Do you participate in the procurement process of the hospital?

a) Yes [ ] b) No [ ]

7. What items do you procure?

a) Office supplies (e.g. stationery) [ ] b) Capital expenditures (e.g. property, plant & equipment) [ ] c) Services (e.g. cleaning services, repairs etc) [ ]

d) Others (Please specify)…….

(B) PROCUREMENT RISKS IN THE PROCUREMENT PROCESS OF THE HOSPITAL

Which of these procurement risks do you think are (very) likely to occur in your hospital?

a) Market risks [ ]

b) Geopolitical risks [ ]

c) Fraud risks [ ]

d) Foreign currency risks [ ]

e) Organizational risks [ ]

d) Compliance [ ]
e) Process risks [ ]
f) Supply risks [ ]

Which of these procurement risks do you think have a (very) high damage potential?

a) Market risks [ ]
b) Geopolitical risks [ ]
c) Fraud risks [ ]
d) Foreign currency risks [ ]
e) Organizational risks [ ]
d) Compliance [ ]
e) Process risks [ ]
f) Supply risks [ ]

What procurement risks does your risk management focus on?

a) Market risks [ ]
b) Geopolitical risks [ ]
c) Fraud risks [ ]
d) Foreign currency risks [ ]
e) Organizational risks [ ]
d) Compliance [ ]
e) Process risks [ ]
f) Supply risks [ ]

Does your organisation have risk management strategies in place

a) Yes [ ] b) No [ ] c) Don't know [ ]

(C) PROCUREMENT RISK MANAGEMENT PRACTICES

Please indicate by ranking each option from 1-Strongly Disagree, 2-Disagree, 3-Neutral Agree, 4-agree, and 5-Strongly Agree as to the Risk management practices of the hospital

	1	2	3	4	5
Identify Issues, setting the context					
Asses Key Risk Areas					
Measure likelihood and impact					
Rank risks					
Set desired results					
Develop options					
Select a strategy					
Implement the strategy					
Monitor and evaluate and adjust					

(D) PROCUREMENT RISK MANAGEMENT STRATEGIES

Who or which body manages the risk in your company?

a) The finance department [ ]
b) The top management [ ]
c) Cross-orgisational risk committee [ ]
d) The accounting department [ ]
e) The risk management department [ ]

Please indicate the procurement risks management strategies of the hospital by ranking each option from 1-Strongly Disagree, 2-Disagree, 3-Neutral Agree, 4-agree, and 5-Strongly Agree

Key Success Strategies For Procurement risk management	1	2	3	4	5
Collaboration with suppliers					
Increased supplier performance/increased collaboration					
Performance contracts with suppliers					
Supplier audit					
Performance and risk controlling					
Supplier rating					
Insurance					
Collaboration with customers					
Currency hedging					
Commodity hedging by using derivates					
Vertical integration					
Hand-on caused costs to the customer					

To which degree do the following statements reflect the aim of the hospital's risk management strategy?very high-5, high-4, a low degree-3, Not at all-2, Don't know-1

Aims of risk management	1	2	3	4	5
Minimizing budget deviations					
Eliminating risks					
Minimizing the risk related costs					
Reducing the probability of the company going bankrupt					
Securing that the company accepts the risks according to the strategy					
Securing stability in income					
Increasing the probability of the company reaching its strategic goals					
Creating overview of risk exposure					

(E) PROCUREMENT RISK MANAGEMENT CHALLENGES

Please indicate the procurement risks management challenges of the hospital by ranking each option from 1-Strongly Disagree, 2-Disagree, 3-Neutral Agree, 4-agree, and 5-Strongly Agree

Procurement risk management challenges	1	2	3	4	5
Need for a professional team/lack of technical personnel					
Lack of buffer stocks and restocking levels					
Limited follow up on records					
Limited funds					
Partial Independence of procurement committee					
Lack of commitment by top managers					
Procurement not based on budget					
Absence of effective monitoring					
Some products & services are scarce in the market					
Procurement is handled as a non-core activity					
Lack of continuity of suppliers					
The procurement cycle is very prolonged					
Unstable market prices make planning difficult					
Limited storage space for procured items					
High bureaucracies in authorisation levels					
The procurement process is too manual					