

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY,

KUMASI

INSTITUTE OF DISTANCE LEARNING

**VALUE FOR MONEY PROCUREMENT AND PERFORMANCE OF PUBLIC
SECTOR ORGANISATIONS**

BY:

ABIGAIL NAA-AFOLEY TAWIAH

A thesis submitted to the Department of Supply Chain and Information Systems, in partial
fulfilment of the requirements of the award of the degree of

**MASTER OF SCIENCE IN
PROCUREMENT AND SUPPLY CHAIN MANAGEMENT**

September, 2023

University, except where due acknowledgement is made.

WIAH
Signature Date

H
Signature Date

.....
Date

W J SANE NO BAC

DEDICATION

1. I thank God for his care and protection in

Odeji Tawiah, My Siblings and Hon. Jashy

encouragement

encouragement

ACKNOWLEDGEMENTS

I wish to express my profound and deepest gratitude to the Lord Almighty for the strength, grace and mercy, made abundantly to me, that enabled me to complete this work successfully.

I wish to express my profound and deepest gratitude to the Lord Almighty for the strength, grace and mercy, made abundantly to me, that enabled me to complete this work successfully.

ii

Finally, to Mr. Dickson M. Duut and to all those that have provided the information that was used for this work, I say Ayekoo. To all of you, I say may God richly bless you.

KNUST



ABSTRACT

This study was motivated by the need to examine value for money procurement and performance in public health organizations in Ghana. With public procurement accounting for a substantial portion of government expenditure, ensuring value for money is imperative for judicious resource utilization and optimal service delivery. The main objective was to assess the factors and mechanisms that promote value for money (VFM) and their relationship with VFM procurement. The theoretical framework drew on the resource-based view and

institutional theory to hypothesize positive linkages between promoting factors, regulatory mechanisms, and VFM outcomes. A quantitative, survey-based approach was utilized, collecting data from 120 employees in public health organizations. Statistical analysis techniques including regression examined the hypothesized relationships. The key findings revealed that transparency, accountability, competitiveness, and professionalism have a significant positive relationship with VFM procurement, highlighting their role in enhancing value. Additionally, mechanisms like regulatory compliance, equity, efficiency, and process controls displayed a positive association with VFM procurement, underscoring the importance of structural levers in improving value. In conclusion, both intrinsic, normative factors and extrinsic, regulatory mechanisms significantly influence value for money in public sector procurement. The results provide actionable insights for policy makers and public managers to strengthen VFM procurement through multifaceted organizational and procedural interventions. The study makes a meaningful contribution by elucidating significant determinants of VFM procurement in the under-researched context of Ghana's public healthcare system.

TABLE OF CONTENTS

DECLARATION	i
DEDICATION	ii
ACKNOWLEDGEMENTS	iii
ABSTRACT	iv
TABLE OF CONTENTS	v
LIST OF TABLES	viii

LIST OF FIGURES	ix
LIST OF ABBREVIATIONS	x
CHAPTER ONE	1
1.3 Research Objectives	5
1.4 Research Questions	5
1.5 Justification of the Study	6
1.6 Research Methodology	7
1.7 Scope of the Study.....	7
1.8 Limitations of the Study	8
1.9 Organisation of the Study	8
CHAPTER TWO	10
2.1 Introduction	10
2.2 Conceptual Review	11
2.2.1 Concept of Value for Money	11
2.2.3 Value for Money Procurement Practices	13
2.2.6 Public Procurement.....	17
2.3 Theoretical Review	20
2.4 Empirical Review	23
2.5 Conceptual Framework	25
2.5.1 Factors ensuring VFM and Value for Money (VFM) Procurement	26
2.5.2 Mechanisms to achieve VFM and Value for Money (VFM) Procurement	27
CHAPTER THREE	29
3.1 Introduction	29

3.2 Research Design	29
3.3 Population of the Study	30
3.4 Sample size and Sampling Technique	31
3.5 Types and Sources of Data	32
3.6 Data Analysis Method	32
3.7 Reliability and Validity Tests	32
3.8 Ethical Considerations.....	33
CHAPTER FOUR	34
4.1 Introduction	34
4.2 Demographics of the Respondents	34
4.3 Reliability and Validity Test	36
4.4 Descriptive Statistics	40
4.4.1 Factors For VFM	41
4.4.2 Mechanisms for VFM	43
4.4.3 VFM Pprocurement	45
4.5 Model Testing	47
4.5.4 Hypotheses Table	49
4.6 Discussion of Results	50
4.6.1 Factors Ensuring VFM and Value for Money (VFM) Procurement	50
4.6.2 Mechanisms to Achieve VFM and Value for Money (VFM) Procurement	51
CHAPTER FIVE	52
5.1 Introduction	52
5.2 Summary of Findings	52
5.2.1 Factors Ensuring VFM and Value for Money (VFM) Procurement	52

5.2.2 Mechanisms to Achieve VFM and Value for Money (VFM) Procurement	52
5.3 Conclusion	53
5.4 Recommendations	54
5.4.1 Recommendations for Managers	54
5.4.2 Suggestions for Future Research	55
REFERENCES	56
APPENDIX A	61

LIST OF TABLES

Table 4.1: Demographics of Respondents	34
Table 4.2: Reliability Test – Alpha Cronbach	37
Table 4.3: Validity Test - Exploratory Factor Analysis (EFA)	38
Table 4.4: KMO and Bartlett's Test	40
Table 4.5: Descriptive Statistics on Factors For VFM	41
Table 4.6: Descriptive Statistics on Mechanisms for VFM	43
Table 4.7: Descriptive Statistics on VFM procurement	45
Table 4.8: Variance Inflation Results	47
Table 4.9: Regression Analysis Results	48
Table 4.10: Hypotheses table	49

LIST OF FIGURES

Figure 2.1: Research Model	26	LIST
OF ABBREVIATIONS		

VFM - Value for Money

RBV - Resource-Based View

EFA - Exploratory Factor Analysis

SD - Standard Deviation

VIF - Variance Inflation Factor

R² - R-squared

ΔR^2 - Change in R-squared

GHANEPS - Ghana Electronic Procurement Systems

ACCA - Association of Chartered Certified Accountants

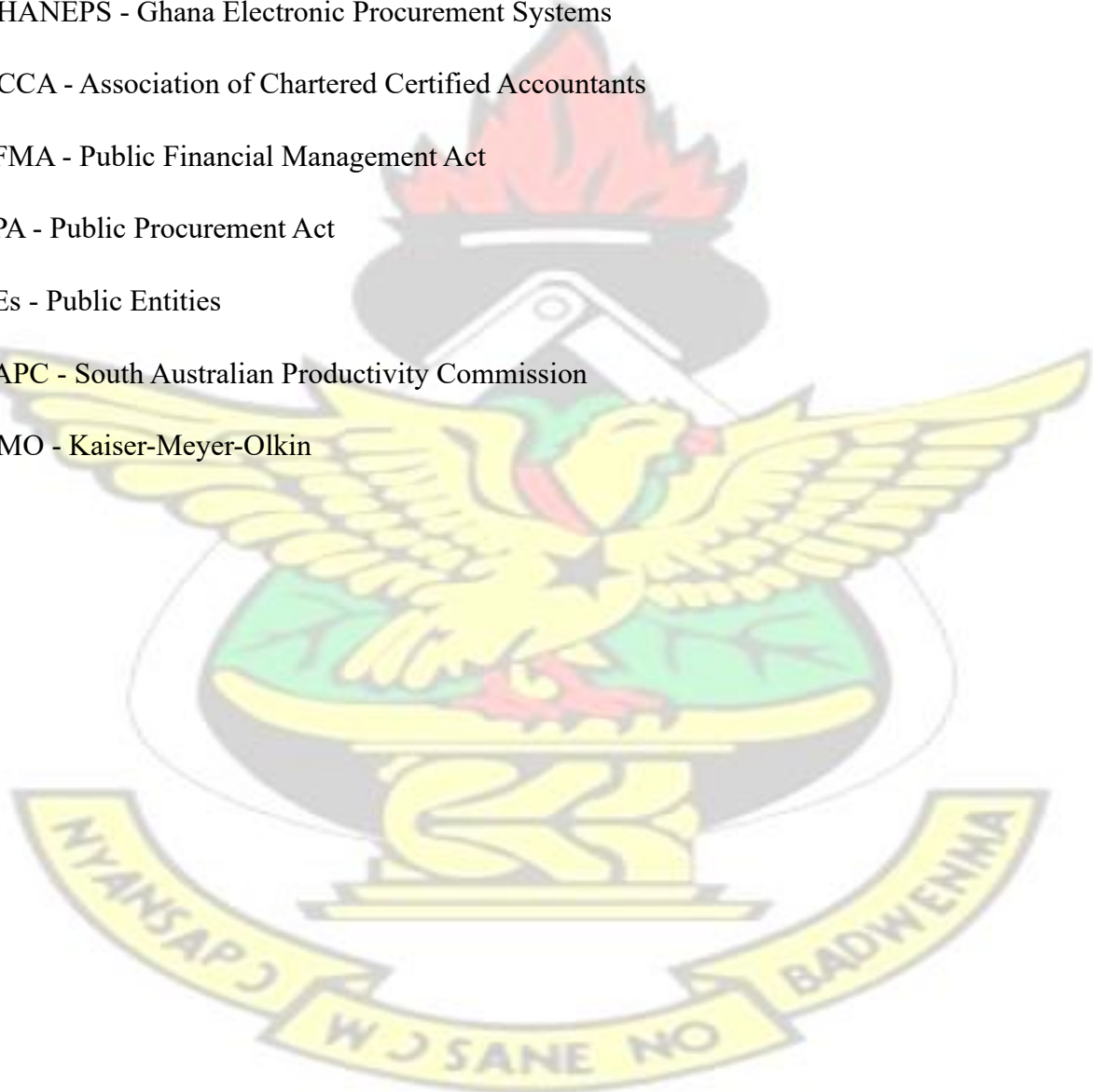
PFMA - Public Financial Management Act

PPA - Public Procurement Act

PEs - Public Entities

SAPC - South Australian Productivity Commission

KMO - Kaiser-Meyer-Olkin



CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Value for money procurement seeks to guarantee the optimal deployment of limited budgetary assets by securing a product or service that is both suited for its intended use and meets the delineated specifications at the lowest life-cycle costs (Changalima, 2016). Nsiah-Asare et al. (2016) contend that this entails securing the finest amalgamation of products and services with minimal resources while focusing on the economy, efficiency, and efficacy of the procurement entity. This approach revolves around general cost analysis and emphasizes procuring goods and services that are both quality and cost-efficient, a philosophy echoed in the pricing of the acquired items (Seyram, 2016). Moreover, it hinges on the efforts of procurement organizations to foster and prioritize policy directives to secure the utmost return and performance for the expenses incurred in the acquisition of goods and services (Nsiah-Asare et al., 2016).

Seyram (2016) defines value for money as the worth derived from a particular cost associated with resource allocation, in alignment with the anticipated output values. This concept encapsulates the foundational principles guiding sound planning, procurement, and management, facilitating the evaluation of expenditure against the results achieved. Nditi (2014) adds that it transcends the initial acquisition cost, encompassing the zenith of efficiency and efficacy in procurement establishments. Realization of value for money in public procurement is attainable through the pursuit of the lowest cumulative life cost, lucid articulation of pertinent benefits, and timely delivery, thus enabling procurement entities to avert waste and enhance competition, transparency, and accountability in the tendering process (Maligwa, 2014).

It is incumbent upon procurement organizations to prioritize value for money in their procurement endeavors to fulfill procurement objectives. This strategy is pivotal, considering procurement represents 20% of the total expenditures of organizations globally, necessitating a prudent, economical, and efficient utilization of national resources at a sensible cost (Civil Service College, 2010). The cardinal reason for initiating procurement is to obtain goods and services that satisfy the requisite quality and quantity in a cost-effective and timely manner (MOF, 2017). Adoma et al. (2019) note that this is facilitated through streamlined procurement processes that ensure the acquisition is from a source that complies financially and technically with the product requisites. It is guided by principles such as value for money, transparency, accountability, and efficiency (Bamfo-Agyei et al., 2015).

Public procurement mandates adherence to value for money evaluations, respecting propriety and regularity amongst other pivotal elements for fruitful procurement exercises (Matambula and Makayi, 2014). The Public sector Procurement Act (Act 663) 2003 and the subsequent amendment in 2016 aim to standardize procurement processes in public sector establishments, ensuring a judicious, economic, and efficient resource use. The acts accentuate that the quintessence of sound procurement is securing the right quality from a reliable supplier at the correct quantity and price, aligning with the lowest total cost principle.

Public sector bodies must channel efforts towards achieving value for money in supplying goods and services, which entails meticulous planning to create a befitting procurement strategy, pinpointing the demands to be met through the contract, and appropriate criteria evaluation and contract administration (Seyram, 2016). Batho Pele Handbook (2007) affirms that value for money is realized when public procurements are executed economically and efficiently, fostering sustainable performance.

The efficacy of public sector entities is crucial in fostering the growth of the public sector, achievable through guaranteeing quality, efficiency, productivity, profitability, and sustainability in procurement practices (Bamfo-Agyei et al., 2015). This is attainable through competent procurement processes that meet all financial and technical prerequisites for the product necessities, thus fostering performance and sustainable growth through procurement functionalities, in accordance with affordability, correct quantity, quality, timing, and utility parameters (Adoma et al., 2019; Nzau & Njeru, 2014).

1.2 Statement of the Problem

Public procurement denotes the governmental function of procuring goods, services, and works essential for its operational requirements. It pertains to the acquisition or rental of goods, property, or facilities on a value-added basis, ensuring the right amount is sourced at the appropriate time and location for effective utilization by organizations (Seyram, 2016). The pivotal aim is to facilitate efficient acquisition through the cost-effective procurement of quality materials and the judicious awarding of contracts (Bamfo-Agyei et al., 2015). Ghana's public sector organizations engage in these procurement activities, guided by the Public Procurement Act of 2016, designed to streamline the processes within the public sector and foster the judicious, economic, and efficient application of the country's resources while maintaining transparency, fairness, and non-discrimination (Public Procurement Act., 2016). Notwithstanding, escalating costs in public procurement pose a significant issue, notably in emerging economies like Ghana, leading to a substantial chunk of the national budget being allotted to procurement.

To address the endemic issues of inefficiency and fraud prevalent in its public procurement landscape, Ghana enacted several legal frameworks, including the National Procurement

Agency Decree in 1976 (SMCD 55), the Procurement Law of 2003, and the most recent, Public Procurement Act of 2016. These laws were instituted to foster sustainable procurement components and synchronize procurement procedures more adeptly and productively (NsiahAsare et al., 2016). Despite these strides, the realization of full efficacy remains elusive, necessitating an emphasis on value for money coupled with transparency, efficiency, and sustainability. Transparency International (2012) advocates for the expansion of organizational frameworks to fulfill societal or economic necessities through efficacious services, works, or utilities, thus assuring value for money. The function of public procurement resides in satisfying the demands of societies through the provision of products, infrastructure, and services at a minimized expense (MOF, 2017). Unfortunately, corruption and the failure to adhere to professional standards and ethics by some procurement agents have escalated the costs of goods and services. Transparency International (2016) ranks Ghana notably high in corruption, both in Africa and globally. Adding to this, a substantial portion of Ghana's budget relates to procurement activities, a situation underlined by a World Bank report in 2014, pointing to persistent budget deficits.

The World Bank (2003) underlined that an extensive fraction of the national budget post personal emoluments is allied to procurement, emphasizing the imperative nature of efficient public procurement systems in securing value for money in governmental spending, a crucial aspect for a nation grappling with significant developmental hurdles. Organizations' procurement divisions must harbor an aspiration to conserve funds through streamlined and harmonized service delivery without impinging on the quality of goods and services acquired (Peprah and Akosah, 2018). This entails fostering sustainable procurement performances by enhancing the ethical standing of suppliers and contractors and safeguarding individuals' health and safety in procurement operations (Peprah et al., 2018). These considerations justify the

selection of this research focus on examining the interrelation between value for money procurement and the functioning of public health organizations in Ghana.

1.3 Research Objectives

The general objective of the study is to determine value for money procurement and performance of public health organisations in Ghana.

Specifically, the study seeks:

- i. To identify factors that promote the achievement of Value for Money in the procurement of goods and services within public health organisations in Ghana.
- ii. To identify mechanisms used to achieve Value for Money in procurement within public health organisations in Ghana.
- iii. To examine the effect of factors that promote value for money on value for money procurement
- iv. To examine the effect of mechanisms used to achieve value for money on value for money procurement

1.4 Research Questions

- i. What are the factors that promote the achievement of Value for Money in the procurement of goods and services within public health organisations in Ghana?
- ii. What are the mechanisms used to achieve Value for Money procurement within public health organisations in Ghana?
- iii. How do the factors that promote value for money relate to value for money procurement
- iv. How do the mechanisms used to achieve value for money relate to value for money procurement

1.5 Justification of the Study

The exploration of value for money in the procurement processes within Ghana's public health organizations holds pivotal significance across various domains including the public sector, academia, and the national economy.

In respect to the public sector, an incisive scrutiny of the mechanisms and factors that foster value for money in procurement holds the potential to bring about streamlined operations characterized by both financial prudence and efficiency. Moreover, understanding the determinants of value for money can aid in crafting policies and strategies that foster transparency and accountability, thereby engendering a culture of integrity and optimal resource allocation in public health organizations. Ultimately, this leads to improved healthcare delivery, as resources are judiciously utilized to acquire goods and services that meet the requisite standards and specifications.

For the academic sphere, the study can stand as a seminal work that pioneers in-depth analyses of procurement processes within public health organizations in Ghana. It fosters a scholarly understanding of the nuances involved in achieving value for money, offering a robust framework that can be referenced in future academic endeavors. Besides, it can stimulate further research into ancillary topics, thereby enriching the academic discourse surrounding public health administration and economic prudence in Ghana. The articulation of the factors and mechanisms that enhance value for money in procurement in this study could serve as a fertile ground for academic inquiries and discourses, fostering a culture of research that marries theory with practice.

Regarding the economy of Ghana, the study is of great importance as it brings to the fore the tenets of economic efficiency in the utilization of public resources. By advocating for value for

money in procurement processes, it essentially propounds the judicious use of resources, which is a cornerstone in economic stewardship. Moreover, optimal procurement processes can have a trickle-down effect on the broader economy, fostering a competitive business environment and encouraging firms to offer quality goods and services at the most reasonable prices. Furthermore, by mitigating wasteful expenditures, it ensures that funds are channelled towards critical sectors of the economy, thereby fostering holistic economic development characterized by stability and growth. It aids in fostering an environment where public funds are directed towards initiatives that offer the highest value, promoting sustainable economic growth and development.

1.6 Research Methodology

The research design for this study was explanatory, examining the relationship between factors, and mechanisms that promote value for money and value for money procurement. The research design for this study was a survey of public health sector firms in Ghana. The research approach adopted was quantitative. Convenient sampling technique was used to draw a sample of one hundred and twenty (120) from the target population. Linear regression was used to test the model for the study.

1.7 Scope of the Study

Geographically, the study centered on public health organizations in Ghana, potentially focusing on specific regions to maintain a manageable scope. Contextually, the research investigated procurement processes within these organizations in Ghana, exploring the regulatory frameworks, policies, and practical implementations that govern these processes.

Conceptually, the investigation revolved around the economic principle of "value for money", assessing the efficiency, effectiveness, and economy in the procurement processes in the public health sector in Ghana

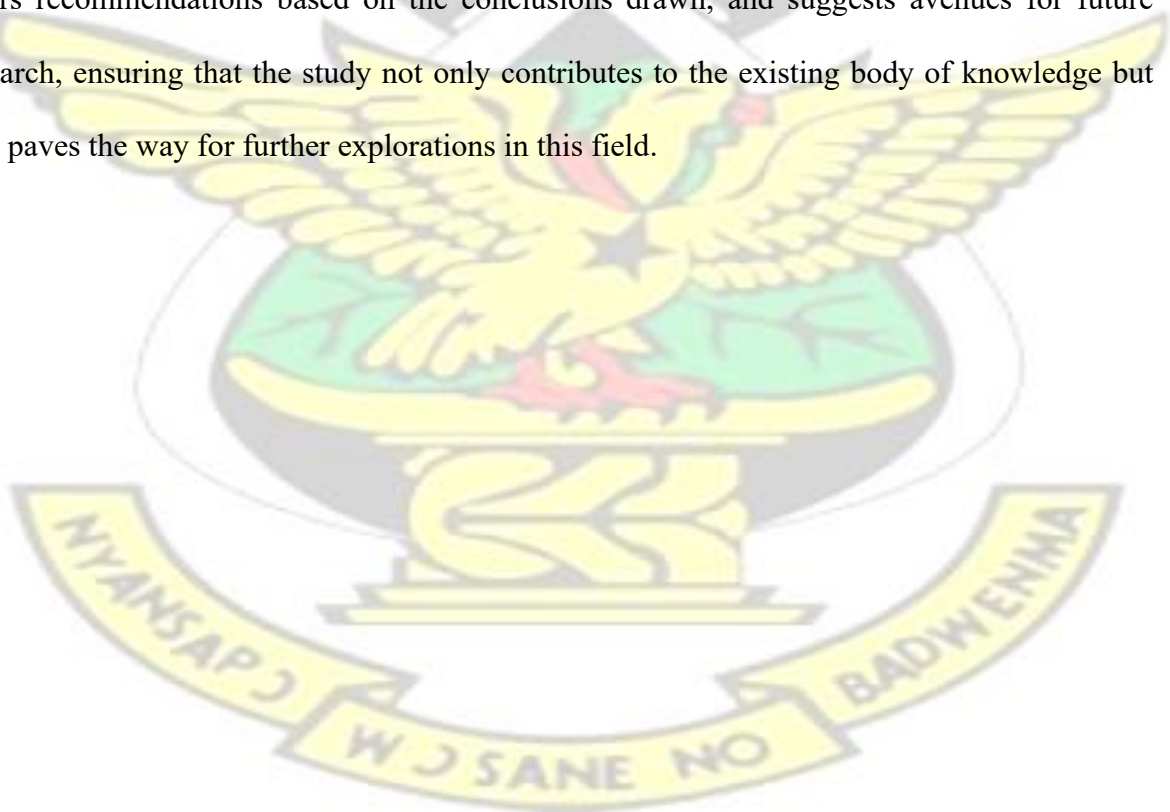
1.8 Limitations of the Study

The study was confined to a segment of public health organizations situated in the Accra Metropolis, from which general conclusions applicable to all public health organizations were drawn. Gathering primary data constituted a substantial part of this research, which entailed distributing questionnaires to a chosen cohort of respondents from selected public sector organizations within the Accra Metropolis. This methodology, albeit fruitful, posed considerable challenges. Among the foreseen impediments were time and financial constraints, primarily induced by the academic timeline allocated for the thesis completion. Despite operating within a restricted frame of time and budget, the scholar conducting the research managed to amass the necessary data to satisfy the study's objectives, thus promising a meaningful contribution to the broader understanding of value for money procurement in public health organizations.

1.9 Organisation of the Study

The thesis is meticulously structured into five comprehensive chapters to provide a detailed exploration of value for money procurement in public health organizations in Ghana. In the inaugural chapter, the foundation of the study is laid, introducing the reader to the essential background, the core objectives, research questions and the significance of the study. It offers an overview of the methodology and delineates the scope and limitations of the research, guiding readers to understand the blueprint of the thesis. Chapter two builds on this foundation by delving into a rigorous literature review, presenting a critical analysis of the existing body of work in this area through conceptual, theoretical, and empirical lenses. It ends with the

elucidation of the conceptual framework that governs the research, setting the stage for a deeper investigation in the subsequent chapters. Following this, chapter three unveils the methodology adopted for the research, providing detailed insights into the research design, the sampling technique, data collection, and analysis methods. It ensures a transparent articulation of the processes involved, showcasing the ethical considerations and reliability tests upheld during the research journey. Chapter four shifts the focus towards a meticulous data analysis segment, discussing the demographics, and engaging in confirmatory factor and descriptive analyses to offer a profound understanding of the data collected. It employs model testing to bring forth the nuances of the research findings, leading to a discussion that presents the results in a comprehensible manner. Finally, the thesis concludes with chapter five which encapsulates the pivotal findings of the study, drawing meaningful conclusions from the data analysed. It further offers recommendations based on the conclusions drawn, and suggests avenues for future research, ensuring that the study not only contributes to the existing body of knowledge but also paves the way for further explorations in this field.



CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In this pivotal second chapter of the study, a critical analysis of existing literature pertinent to value for money procurement and the performance of public health organisations in Ghana is undertaken to scaffold the research in robust theoretical and empirical foundations. The chapter is systematically divided into four integral sections, each serving to build a rich backdrop against which the current research unfolds. The initial segment, the conceptual review, seeks to delineate and scrutinise the key concepts that are central to the study. This section aims to provide clear definitions and establish the context within which these terms are engaged, laying a solid ground for the ensuing discussions in the chapter. Following this, the theoretical review embarks on an exploration of the theories and models that undergird the conceptual framework of the study. By delving deep into the theoretical constructs that are relevant to value for money procurement, this section ensures a grounded approach to the research, providing a lens through which the empirical realities can be viewed and analyzed. The empirical review section forms the third pillar of this chapter, where an examination of previous studies and researches in this domain takes place. The objective here is to draw parallels and note divergences with existing research outcomes, facilitating a nuanced understanding of the research landscape and identifying gaps that the current study seeks to fill. Lastly, the conceptual framework section synthesizes insights derived from the conceptual and theoretical reviews to forge a coherent lens through which the present study is navigated. It serves to tie together the central concepts and theories to create a structured pathway that guides the analytical journey of the study.

2.2 Conceptual Review

Conceptual review describes the concepts that are relevant in this topic which is value for money procurement practices. It considers key factors, variables and concepts which are relevant to the study. The conceptual review of the study is presented below

2.2.1 Concept of Value for Money

Value for Money (VFM) emerges as a cardinal principle in the domains of procurement, management, and the adept stewardship of procurement planning, delineating the efficacy of a procurement initiative by evaluating the expenditure incurred against the results obtained (Seyram, 2016). This imperative notion contends that a judicious appraisal of an undertaking's worth necessitates a meticulous scrutiny of the outlays alongside the yields or attainments secured (Seyram, 2016). This concept, as elucidated by King (2016), encompasses the judicious allocation of resources to attain anticipated output values. Moreover, it denotes an optimal amalgamation of the entire life cost and the quality consonant with the recipient or the ultimate user's requisites pertaining to the good or service procured, a characteristic predominantly manifested in the price tagged to the acquired item (Olusola et al., 2017). Thus, it epitomizes an unequivocal pledge to extracting the utmost possible outcomes from the financial resources deployed (Decorla-souza, 2015).

Engraved as a metric gauging the economy, efficiency, and effectiveness — collectively termed as the "3Es" — the VFM concept serves to guide the transformation of government financial inputs into outputs. It orchestrates the superlative route to optimizing both cost and quality to gratify the demands of the customer or the ultimate user concerning the commodities or services procured, a parameter predominantly mirrored in the purchase price of the chosen item (Decorla-souza, 2015). In this vein, the Association of Chartered Certified Accountants

(ACCA, 1999) perceives VFM as a strategy aimed at acquiring the finest blend of services through minimal resource allocation.

In the precinct of public sector procurement, VFM stands as a doctrinal reference point advocating for a sagacious, economic, and efficient channeling of state assets to secure reasonable costs, thereby nurturing a symbiotic relationship between cost-effectiveness and quality (Nditi, 2014). This expansive interpretation envisages VFM in the light of the economic soundness, efficacy, and efficiency pivoting on a product, service, or procedure (Maligwa, 2014). From a public perspective, it is envisioned as the value (output) derived from a designated cost (input), reaching its zenith when expenditures on goods and services facilitate the acquisition of quality products and services, thereby fostering a milieu where the expenditures vindicate themselves through the quality and service accrued.

2.2.2 Value for Money procurement

Value for money (VfM) procurement stipulates the realization of minimum expense while simultaneously garnering benefits by timely securing goods, works, and services which conform to the stipulated budget, scope, and requisite quality standards, facilitating an optimal environment of efficiency and effectiveness within a procurement transaction (Nsiah-Asare et al., 2016). Seyram (2016) underscores that VfM procurement stands as an indispensable metric by which procuring entities are compelled to validate the outcomes of a procurement process.

In the realm of the public sector, the pursuit of VfM procurement obligates an assiduous contemplation of the contributions poised to foster the advancements of government policies and preferences, thus propelling an optimal return and performance vis-à-vis the financial resources expended (Nzau and Njeru, 2014). It is imperative to highlight that a proficient public

procurement framework acts as the linchpin in realizing VfM, consequently spearheading the rapid progression and elevation of a nation.

This notion of value in procurement is pivotal as a benchmark against which procurement entities should vindicate the results procured. Viewed through the prism of the user or the targeted populace, VfM epitomizes the worth (output) conferred to a delineated expenditure (input), evoking a conscientious balance between cost and value, thereby fostering a scenario where every expenditure is warranted through the procurement of quality goods and services, demonstrating the synergistic integration of efficiency, economy, and effectiveness in procurement endeavors.

2.2.3 Value for Money Procurement Practices

In the realm of value for money procurement practices, a meticulous juxtaposition of the input costs vis-à-vis the value of the outputs is essential, incorporating both qualitative and quantitative analyses of the resource management and utilization involved. It is a practice deeply rooted in fostering transparency and accountability in the allocation of public funds, emphasizing the procurement of maximal benefits from the available resources (Barnett et al., 2010). As Nsiah-Asare (2016) elucidates, value for money transcends the mere selection of goods or services premised on the most economical bid; rather, it encompasses a comprehensive assessment of the whole life costs affiliated with a project or service.

In the context of the public sector, value for money procurement practices necessitate a conscientious consideration of the contribution to be made towards furthering government policies and objectives, thereby facilitating optimal returns and performance from the financial outlays (Bauld & McGuinness, 2006). Such a standpoint engenders a scenario where public procurement entities are not solely tethered to the criterion of the lowest price in awarding

contracts, allowing for a multifaceted assessment grounded in the value for money principle, which stands as the cornerstone of procurement practices.

To champion the optimum utilization of the constrained budgetary resources available to the government, it becomes indispensable to uphold the doctrine of value for money in procurement. It stipulates a strategic approach to purchasing, where the focus gravitates towards products or services manifesting the lowest whole-life costs, in alignment with the stipulated purpose and specifications. In instances where the selected item does not adhere to the lowest whole-life costs criterion, the ensuing necessity is a clear and justified exposition of the additional value-added benefits, thereby emphasizing a holistic approach that goes beyond mere financial considerations, in pursuit of quality and efficacy in procurement endeavors.

2.2.4 Factors Ensuring Value for Money in Public Procurement

In delineating the pivotal factors instrumental in the realization of Value for Money (VFM) in procurement dynamics, Nsiah-Asare et al. (2016) and Fleming (2013) underscore the imperative of professionalism, transparency, competitiveness, and accountability. The ambition to achieve VFM in the public procurement landscape hinges substantially on the persistent quest for the lowest cumulative life cycle cost while maintaining a steadfast commitment to precisely articulated benefits and timeliness in delivery (Isaac & Smith, 2009). It necessitates a proactive stance in averting wastage and cultivating an environment characterized by competition, transparency, and accountability throughout the tendering phase, as noted by King (2016).

In congruence with this, the Public Procurement Act, 2003 (Act 663) encapsulates the quintessential objectives of proficient procurement, articulating the strategic imperative to secure goods, works, or services of the appropriate quality from a trustworthy supplier. The

endeavor extends to validating cost-effectiveness while adhering to the pivotal requisites of the right timing, destination, quantity, and pricing, converging towards the aspiration to minimize the aggregate cost. Thus, this legislative document stipulates a structured pathway geared towards nurturing a procurement ecosystem that is both efficient and effective in serving the associated objectives.

2.2.5 Mechanisms used to Ensure Value for Money

In articulating the essential mechanisms conducive to achieving Value for Money (VFM) in procurement undertakings, the Public Financial Management Act, 2016 (PFMA) Act 921 delineates regulatory bodies, enshrined laws and regulations, and the incorporation of competition, equity, economy, and efficiency as fundamental elements. Regulatory entities such as the Ministry of Finance and the Audit service, coupled with pertinent laws and regulations, stand as bulwarks against the misuse of public funds, hence facilitating the realization of VFM, as stipulated in the aforementioned act.

Further elucidating on the mechanisms, King (2016) accentuates the paramountcy of economy, efficiency, effectiveness, and equity in achieving VFM. The criteria for these mechanisms revolve around meticulous assessments of economic savings, cost per unit of output, and costbenefit analyses among others. Moreover, it entails fostering participation of marginalized groups, thereby establishing a trajectory of equitable procurement practices.

King (2016) as well as Barr and Christie (2014) posit that an efficacious procurement system necessitates a steadfast commitment to the three pillars of VFM: economy, efficiency, and effectiveness, known as the 3Es. This entails nurturing a workforce well-versed in market dynamics and supplier management, equipped with the requisite skills to mitigate risks and augment impact, as noted by Nzau & Njeru (2014). Furthermore, Maligwa (2014) and Batho

(2007) echo the indispensability of these 3Es, urging government departments to foster innovation in procedural conduct to curtail wasteful expenditures and bolster the productive deployment of resources.

Emphasized within the Public Procurement Act, 2003 (Act, 663), are the defining objectives of proficient procurement, encapsulating attributes such as reliability, cost-effectiveness, and apt timing, unified towards achieving the minimum cumulative cost. It mandates adherence to principles of professionalism, transparency, competitiveness, and accountability, alongside an ethical conduct in procurement functions to foster fairness and efficiency.

In seeking to redress the deficiencies prevalent in Ghana's public procurement landscape, the Public Procurement Act (PPA) furnishes a robust legal and institutional framework predicated upon clarity, transparency, and standardized procedures, as elucidated by Anvuur and Kumaraswamy (2006). It champions the cultivation of adept procurement personnel, buttressed by stringent anti-corruption stipulations.

Underpinning procurement endeavors, VFM emerges as the cardinal driver, guiding entities to prioritize products or services that satisfy the criteria of appropriateness to purpose, congruency with specifications, and lower life-cycle costs. To navigate towards the beacon of VFM, organizations are urged to meticulously strategize procurement plans, clearly delineate requirements, judiciously utilize evaluation metrics, and oversee contract management, thereby fostering a procurement ecosystem anchored on principles of Value for Money.

2.2.6 Public Procurement

Public procurement stands as a pivotal process through which governments and institutions within the public sector acquire the necessary inputs to facilitate significant investments in

physical infrastructure and fortify institutional human capacities, thereby laying a substantial groundwork for national development. This practice encapsulates the governmental activity of procuring goods, works, and services essential for its operative functions, as elucidated by Nsiah-Asare et al. (2016). It encompasses a wide range of acquisitions including, but not limited to, goods, construction works, and services acquired through various contractual means utilizing diverse funding sources such as state budgets, domestic and foreign loans, and foreign aid, as described by Odhiambo and Kamau (2003).

It is essential to note that public procurement is underscored by a meticulous flow of activities delineated within predetermined timelines and incumbent cost implications. This process is invariably influenced by judicious time management and the proficiency of the procurement entity's staff who are tasked with overseeing the activities. Arrowsmith (2010) similarly outlines the governmental responsibility in securing the essential goods and services necessary for the execution of its roles, emphasizing the discretionary decision-making that this entails at diverse governmental tiers.

Looking specifically at the context of Ghana, the Public Procurement Authority, in its 2007 Annual Report, delineated the overarching aim of public procurement reforms within the nation. This reform aims to incorporate "good practices" in the procurement of goods, works, and services, thereby fostering an environment conducive to achieving substantial savings and ensuring value for money. The envisaged outcome of this initiative is to cultivate a procurement landscape characterized by efficiency and economic prudence, in alignment with the principles of value-for-money procurement. This aligns with the broader objective of public procurement which, fundamentally, is to achieve a synergistic balance between quality and costeffectiveness, while simultaneously advancing national development through strategic investments in infrastructural and human capital enhancement.

2.2.7 Public Procurement Processes

In Ghana, public procurement governance is orchestrated according to the legislative stipulations embedded in the Public Procurement Act of 2003, recognized as Act 663. This legislation aims to synchronize the procurement processes within the public service, facilitating the judicious, economic, and efficient utilization of state resources in procurement activities. The epitome of the process involves several consecutive stages including procurement planning, confirmation and allocation of budget or resources, solicitation of bids, evaluation of these bids, and finally, contract award and management.

The planning phase of procurement demands meticulous attention to identifying and estimating the needs accurately to forestall any poor planning which historically has posed significant setbacks in public procurement in Ghana. To transcend these hurdles, it is incumbent upon procuring entities to adopt a strategic approach towards procurement, integrating it fully into both short-term and long-term plans with a view to supporting the fulfillment of their strategic objectives and realizing optimal value.

Subsequently, the stage of budget or resource confirmation and allocation warrants that all needs delineated during the planning are aptly quantified and translated into a financial framework through budgeting, with a lucid confirmation of the funding sources. This leads to the solicitation of bids, a phase characterized by substantial costs related to communication and documentation. Recent regulatory guidelines advocate for a reduction in bid advertisement costs through a consolidation of similar tenders into a single advertisement, aligning it to occupy the minimum required space.

The ensuing process is bid evaluation, a phase stretching from the submission deadline to the contract award, witnessing a plethora of meetings spearheaded by tender committees and

evaluation teams. This juncture serves as a precursor to the contract award and management phase, encompassing a spectrum of activities undertaken post the signing of the contract, maintaining a stringent watch over the adherence to the stipulations articulated in the contract in terms of quality, quantity, and timelines.

Echoing the sentiments of the Public Procurement Act of 2003, it is vital to underscore the cornerstone objectives of proficient procurement which are contingent upon securing goods, works, or services of impeccable quality from reliable suppliers, guaranteeing costeffectiveness and punctuality in delivery while maintaining adherence to the stipulated specifications. To fulfill the aspirations of a well-functioning procurement system, it is pivotal to foster professionalism, transparency, value for money, competitiveness, and accountability, thereby weaving these essential elements into the very fabric of the procurement processes. This approach ensures the realization of a procurement system that stands tall on the pillars of efficiency and economic prudence.

2.3 Theoretical Review

Theoretical review contains the review of theories that relate to the area of study and how such theories are relevant to the study. It provides theories that support a particular study. The institutional theory, principal-agent theory and the E-technology perspective theory are used in this study.

2.3.1 Resource based view theory

In organizations, the meticulous management and efficient utilization of resources stand central to fostering benefits that stretch beyond immediate gains, leaning towards long-term prosperity (Bales & Fearon, 2006). One indispensable asset in this organizational matrix is the human resource, which essentially steers the helm of operational successes or failures. This resource orchestrates the synchronization of various other constituents such as machinery and raw materials through a well-structured process curated at the pinnacle of organizational hierarchy, underlining the ultimate objectives of the organization.

In the present era, the procurement landscape has undergone a paradigm shift with the integration of e-procurement solutions, a move that promises to streamline operations yielding higher efficiency and profitability (Pressutti, 2003). The cornerstone of this modernized approach rests firmly on the availability of requisite resources coupled with a skilled human force adept in steering the e-procurement platforms to fulfill organizational mandates effectively and efficiently.

Drawing parallels in the realm of Ghana's public health organizations, the Resource-Based View (RBV) theory emerges as a pivotal guide in dissecting the nuances of internal dynamics and capacities at play. This theoretical framework enables a profound understanding of how these entities can wield their tangible and intangible assets judiciously to carve out a procurement pathway characterized by value and efficiency.

Delving deeper through the prism of RBV, the exploration seeks to illuminate strategies and mechanisms that harbor the potential to enhance procurement processes exponentially, envisioning an ecosystem where resources are utilized to their optimum potential to yield maximum value. This vision transcends the precincts of financial robustness, venturing into

realms of operational prowess, laying the foundations for an infrastructure that embodies efficiency and streamlined operations at its core. This strategic move, anchored in meticulous resource management, holds the promise of not only enhancing the economic landscape but also significantly uplifting the operational efficacy of these organizations, etching a trajectory of sustainable growth and development in the Ghanaian health sector.

2.3.2 The Institutional Theory

In the domain of public procurement, the institutional theory serves as a foundational approach to scrutinizing the multifaceted elements that constitute this field, encompassing the regulatory, normative, and cultural-cognitive pillars that dictate the operational nuances (Gibbens, 2010; Kamau, 2004).

The regulatory facet underscores the paramount role of rules, laws, and sanctions which function as enforcement apparatus, leaning on expedience as a cornerstone for adherence. This is vividly manifested in Ghana's legislative framework through the PPA Act 663 of 2006 and its subsequent amendment, Act 914 of 2016, spearheaded by the Public Procurement Authority, delineating a set of stringent regulations and guidelines for private entities and providers to abide by meticulously.

Juxtaposed with the regulatory dimension is the normative pillar, which navigates the terrain of norms, delineating the quintessential pathways of operations and foregrounding desirable values, with social obligation functioning as the bedrock of compliance. This pillar functions in harmony with the cultural-cognitive stratum, which is constructed upon a tapestry of shared understandings encompassing common beliefs and symbolic representations, framing the organizational ethos.

The conceptual edifice of the institutional theory accentuates an organization's endeavor to secure heightened legitimacy in the eyes of prominent external stakeholders, an endeavor potentially surpassing the ambition to fine-tune organizational performance (DiMaggio and Powell, 1983; Deephouse and Suchman, 2008). This landscape, characterized by similar environmental pressures and shared stakeholders, fosters a convergence in organizational designs and behaviors, evidencing a mimicry in the adoption perspectives pertaining to various technologies, a phenomenon documented in scholarly narratives (Teo et al., 2003; SoaresAguiar and Palma-dos-Reis, 2008).

Employing the institutional theory as a lens to examine Ghana's public health organizations facilitates a deep-seated understanding of the external vectors that govern these entities. This theoretical prism allows for an exploration of the intricate navigations through regulatory frameworks and societal expectations, enabling an incisive analysis of their bearing on procurement strategies with a focal point on deriving value for money. Furthermore, it instigates a potent dialogue on the ripple effects of stringent adherence to institutional norms and regulations, envisaging a procurement landscape characterized by transparency, accountability, and efficiency, elements integral to cultivating public trust and enhancing organizational performance, thus weaving a narrative of a resilient, accountable, and transparent procurement ecosystem.

2.4 Empirical Review

In 2019, the South Australian Productivity Commission (SAPC) highlighted concerns pertaining to the procurement processes employed in the government of South Australia, notably the reduced use of public competitive processes compared to the European Union's standards. A mere 24% of goods and services procurement were undertaken through these channels, coupled with poor oversight of single supplier tenders (SAPC, 2019). Businesses

have raised issues regarding the direct or limited processes, bringing to light the urgent need to assess whether the state has managed to optimize the value for the funds spent.

In the context of achieving value for money in projects, Olusola et al. (2017) pinpoint a number of strategic steps including a comprehensive risk analysis and allocation, fostering faster project completion, mitigating project cost escalation, and promoting innovation in project development. Moreover, crafting detailed specifications stands as an essential instrument that assists stakeholders in making substantiated decisions, optimizing value for money (Olusola et al., 2017).

Changalima (2016) carried out a meticulous assessment focused on identifying the determinants influencing value for money in the public sector procurement process in Tanzania, as part of the master's degree dissertation submitted to Mzumbe University. The research brought out a notable correlation between procurement planning and ICT usage with the procurement process's VfM, although it could not establish any significant relationship between record management and VfM in the procurement process (Changalima, 2016).

In a study aimed at scrutinizing the accomplishment of value for money in the public procurement sector in Tanzania, Mchopa et al. (2014) employed a quantitative analysis approach, utilizing data harvested from selected public sector organizations. The study unequivocally highlighted that the cornerstone for achieving value for money is rooted in the cultivation of procurement processes that are not only efficient but also transparent and held accountable, thereby ensuring optimal utility of resources (Mchopa et al., 2014).

In the same vein, Barsemoi and associates in 2014 came to the consensus that there exists a notable gap in the awareness and comprehension of procurement regulations among individuals possessing the necessary acumen in e-procurement and the nuances of value for money. This

lack of sensitization acts as a significant bottleneck, hindering the realization of the optimal value for money in procurement undertakings (Barsemoi et al., 2014).

In a 2013 study conducted in Tanzania, Suleiman investigated the uptake of e-procurement and its value addition in Tanzanian public institutions. Gathering data from various regions including Dar es Salaam and Zanzibar, Suleiman found a predominant agreement among respondents that e-procurement practices foster the achievement of Value for Money (VfM) in the acquisition of goods, works, and services.

Simultaneously, in Uganda, a study spearheaded by Kiage (2013) focused on deciphering the elements that influence procurement performance, taking the Ministry of Energy as a case study. The research emphasized the necessity of having adept personnel for meticulous planning to ensure timely acquisition of goods and services. The study suggested that wellinformed procurement professionals, aware of specifications, play a pivotal role in bridging users and suppliers, thus attaining VfM.

Adding to this narrative, Kakwezi and Nyeko (2010) argued that securing VfM in procurement necessitates continuous enhancements in organizational processes and systems, facilitating Public Entities (PEs) to sustain better structures and dodge unnecessary costs, leading to a decrement in expenses.

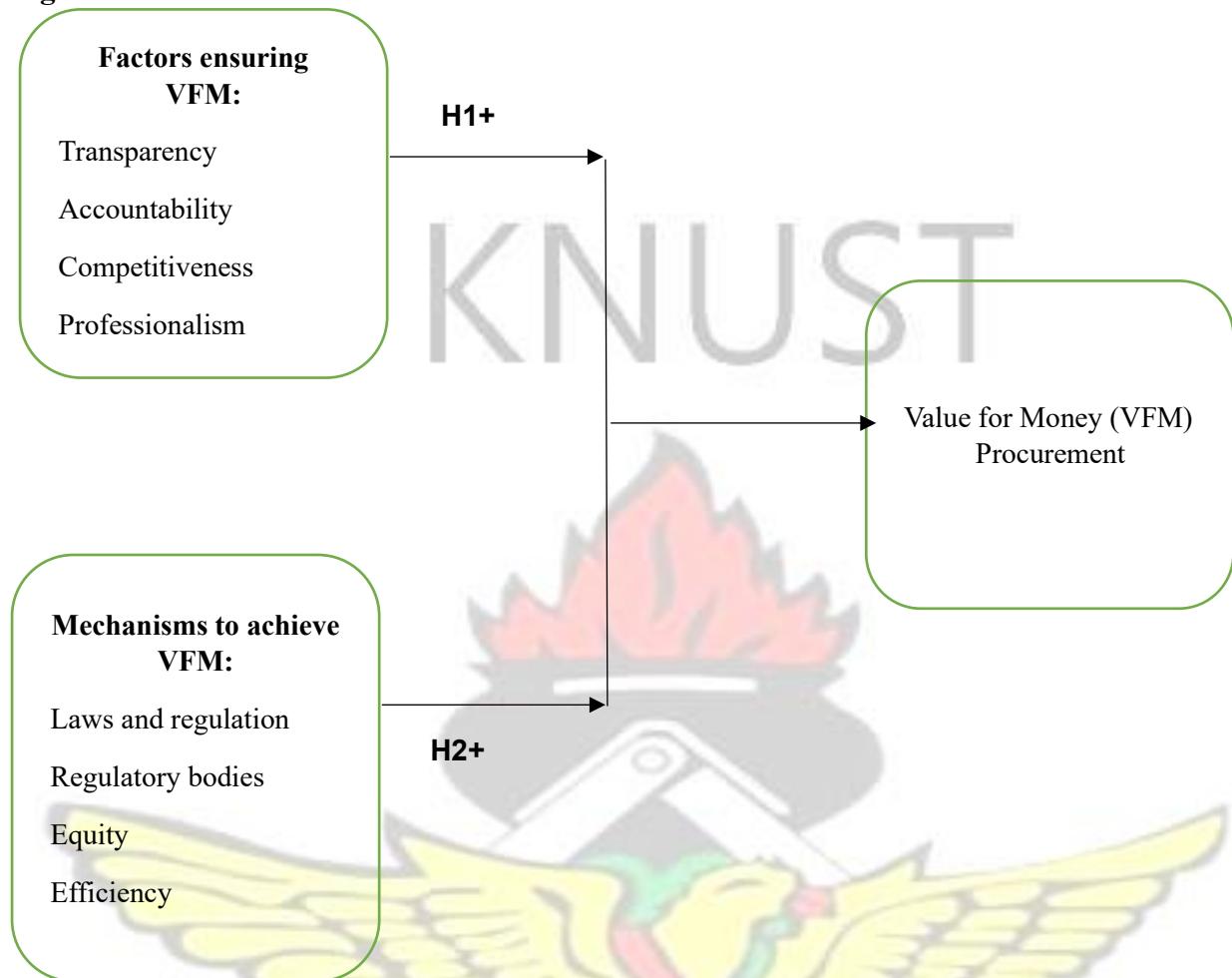
Later, in 2016, Nsiah-Asare and team embarked on a study to carve out strategies to guarantee VfM in public procurement, centering on selected polytechnics in Ghana. Utilizing structured questionnaires and employing a strategic sampling method, the study unveiled that the prominent hindrances in public procurement were the scarcity of proficient personnel and insufficient frameworks for monitoring and scrutinizing procurement policies to ensure VfM.

An Electronic Bulletin released in 2012 outlined numerous factors that prevent the realization of VfM in public sector procurement. Among them are the fragile contract terms, unfavorable implementation strategies, and inadequate post-contract support. Additionally, it pointed out the complications stemming from lump-sum price packages, unclear contract scopes, and substandard functional specifications. The Bulletin highlighted the challenges in contract implementation, even when optimized for VfM at the inception, with hurdles such as capacity restrictions in administration, supervision, and cost control coming into play. Further, it touched upon irregular payment schedules in civil works contracts and the prevalence of supplier credit financing, often resulting in contracts favoring the sellers over the buyers. This extensive delineation elucidates the multi-faceted challenges encountered in attaining VfM in public procurement processes.

2.5 Conceptual Framework

The study will be conceptualised to show the dependent and independent variables. The main dependent variable in the study is Value for Money. The independent variables include factors ensuring VFM and measures that promote VFM. These variables are relevant in ensuring VFM procurement in the selected organisations.

Figure 2.1 Research Model



Source: Researcher's construct (2022)

2.5.1 Factors ensuring VFM and Value for Money (VFM) Procurement

The resource-based view (RBV) suggests that organizations can gain competitive advantage and create value by leveraging unique internal resources and capabilities (Barney, 1991). In public procurement, transparency, accountability, competitiveness, and professionalism of the procurement process may act as valuable intangible resources that are difficult for competitors to imitate, and thus contribute to superior value for money (VFM) outcomes (Walker & Brammer, 2012). Institutional theory posits that organizations gain legitimacy and stability by conforming to social norms, rules, and expectations (Scott, 1995). Public procurement agencies

face institutional pressures to demonstrate transparency, accountability, competitiveness, and professionalism in their practices (Schapper et al., 2006). The researcher hypothesize that transparency, accountability, competitiveness, and professionalism in public procurement are positively and significantly related to VFM procurement. The rationale is that transparency and accountability minimize corruption risks and information asymmetries, enhancing efficiency (Bandiera et al., 2009). Competitiveness in bidding ensures the best market price is obtained (Adusei & Awunyo-Vitor, 2018). Professionalism improves decision quality (Matthews, 2005). Critics argue excessive transparency raises transaction costs (Bovis, 2012), and compulsory competitive bidding reduces flexibility (Gelderman et al., 2006). However, I argue that overall, conforming to norms of transparency, accountability, competitiveness, and professionalism will improve efficiency, minimize waste, optimize quality, and thus enhance VFM as the RBV and institutional theory predict. This hypothesis can be tested through structural equation modeling of survey data from procurement officials.

H₁: Factors ensuring VFM are positively and significantly related to Value for Money (VFM)

Procurement

2.5.2 Mechanisms to achieve VFM and Value for Money (VFM) Procurement

The resource-based view (RBV) suggests that organizational processes and routines can generate competitive advantage (Barney, 1991). Institutional theory argues that organizations gain legitimacy by adhering to external rules and norms (Scott, 1995). The researcher hypothesizes that laws, regulations, regulatory bodies, equity, and efficiency in public procurement are positively related to value for money (VFM). The rationale is that codified rules and oversight mechanisms represent valuable intangible resources that can enhance transparency, accountability, and control of corruption risks (Schapper et al., 2006). Complying with regulations also provides legitimacy and builds public trust (Meyer & Rowan, 1977).

However, critics contend excessive regulations inhibit innovation and flexibility (Loader, 2019). The researcher argues that overall, regulatory mechanisms that balance equity and efficiency will mitigate fraud risks, reduce biases, optimize quality control, and minimize costs. Regulatory adherence signals probity and accountability to stakeholders. Oversight enhances detection of mismanagement. Formal procedures improve consistency and minimize favoritism. equity ensures impartiality. Efficiency reduces waste. Together this will lead to superior VFM outcomes, as predicted by RBV and institutional theory. Recent evidence shows procurement technology innovations that improve regulatory compliance also enhance VFM (Makasi et al., 2021). This hypothesis can be tested via structural equation modeling of survey data from procurement officials on regulatory adherence and VFM achievement.

H₂: Mechanisms to achieve VFM are positively and significantly related to Value for Money (VFM) Procurement



CHAPTER THREE

RESEARCH METHODOLOGY AND PROFILE OF STUDY AREA

3.1 Introduction

This chapter presents the research methodology used in this study to examine the effect of factors and mechanisms of VFM on VFM procurement. The research design, study population, sampling technique, data collection methods, data analysis procedures, issues of validity and reliability, ethical considerations, and profile of the study area are discussed in this chapter.

3.2 Research Design

The research design refers to the overall strategy chosen to integrate the different components of the study in a coherent and logical manner, thereby ensuring the research problem is effectively addressed (Creswell, 2014). This study adopts an explanatory research design.

Research designs are broadly classified into exploratory, descriptive, and explanatory designs (Saunders, Lewis & Thornhill, 2019). Exploratory designs aim to gain insights and understanding of a phenomenon (Reiter, 2017). Descriptive designs focus on accurately describing the characteristics of variables (Grimes and Schulz, 2002). Explanatory or causal designs examine the effect of one or more independent variables on a dependent variable (Creswell and Creswell, 2017). This study utilizes an explanatory research design. The objective is to explain the relationship between factors and mechanisms that promote VFM and VFM procurement.

The research strategy refers to the general plan of how the research objectives will be achieved (Saunders et al., 2019). Key research strategies include experiments, surveys, case studies, grounded theory, ethnography, action research, and archival research (Creswell and Creswell, 2017). This study utilizes a survey strategy. A survey strategy involves collecting data from a

sample of a population using questionnaires or interviews to describe and explain relationships between variables (Pinsonneault and Kraemer, 1993). Surveys are suitable for descriptive and explanatory studies aimed at determining prevalence, distributions, and interrelationships of variables (Kelley et al., 2003)..

The research approach refers to the methodology used to collect and analyze data to address the research problem (Creswell, 2014). The main approaches are quantitative, qualitative, and mixed methods. This study adopts a quantitative approach. Quantitative research involves numerical data collection and analysis using statistical, mathematical, or computational techniques (Williams, 2007). It provides quantified results expressed in numbers, statistics, percentages, etc. (Atieno, 2009). Quantitative methods aim to classify features, count them, and construct statistical models to explain observations (McCusker and Gunaydin, 2015). A quantitative approach is justified for this study because it enables collecting measurable data on the study variables. Statistical analysis techniques can then be applied to examine relationships between institutional pressures, reverse logistics adoption, and firm performance. The quantitative approach will allow for hypothesis testing and drawing conclusions on the correlations and effects between the variables of interest.

3.3 Population of the Study

The population refers to the entire group of individuals, objects, or items of interest that the researcher aims to investigate (Dudovski, 2016). It is the group that the study results will be generalized to (Etikan et al., 2016). This study's target population comprise public sector health organizations in Ghana. The selection of public health organizations in Ghana as the focal population for this study is grounded in a variety of crucial considerations that aim to amplify

the research's depth and relevance in the contemporary socio-economic landscape. Firstly, public health organizations hold a cardinal position in the governance and societal wellbeing apparatus of Ghana, being entrusted with the monumental task of safeguarding the health and wellbeing of the populace. By focusing on these organizations, the study positions itself at the nexus of public service delivery and policy implementation, aiming to scrutinize the procurement processes in places where they potentially have profound impacts on societal wellbeing and national development.

3.4 Sample size and Sampling Technique

A sample refers to a subset of the target population that is selected to participate in the study (Lavrakas, 2008). Sampling is the process of selecting the individuals that will comprise the sample from the population (Taherdoost, 2016). Key sampling techniques include probability and non-probability sampling. Probability sampling allows equal chances of selection for all population members. Simple random sampling is a probability sampling approach.

This study utilized convenient sampling to select a sample of 120 employees from the target population. Primarily, convenient sampling, offers a level of convenience and feasibility that is unmatched. It allows for the swift collection of data without the stringent requisites of probabilistic sampling methods, such as random sampling. Given the time-sensitive nature of academic research, employing a convenient sampling strategy facilitates a timely collection of data, helping in adhering to the stipulated timelines without compromising the integrity of the research.

3.5 Types and Sources of Data

Data collection denotes the systematic gathering and measurement of information on specific variables, facilitating the answering of research questions, testing of hypotheses, and evaluation

of results (Dudovskiy, 2018). In this study, primary data serves as the primary source of information, gathered directly from the unit of analysis under investigation. Primary data consists of firsthand information collected by the researcher, as opposed to data acquired from previously published sources. The choice of questionnaires as the data collection instrument for this study arises from their efficacy in collecting data from a substantial sample in an efficient manner.

3.6 Data Analysis Method

Data analysis refers to the application of logical and statistical techniques to describe, illustrate, and evaluate data (Yin, 2011). It transforms raw data into meaningful information to address research objectives. This study utilizes IBM SPSS version 26 for analysis. Descriptive statistics such as means, standard deviations, kurtosis and skewness are used to describe the distribution, central tendency and spread of data (Trochim, 2020). Inferential statistics help make inferences from the sample data to the population. Cronbach's alpha, and aexploratory factor analysis make up the inferential analysis. Linear regression is used to test the conceptual model and hypothesized relationships between the variables.

3.7 Reliability and Validity Tests

Ensuring validity and reliability is crucial in research to guarantee the accuracy, credibility and repeatability of findings (Heale and Twycross, 2015). Validity refers to how well a test measures what it aims to measure, while reliability indicates the consistency of measurement (Tavakol & Dennick, 2011). Reliability encompasses internal consistency, which evaluates the consistency among test items. This study assessed validity using exploratory factor analysis.

Internal consistency reliability was checked using Cronbach's alpha.

3.8 Ethical Considerations

Upholding ethical principles is vital while conducting research to avoid potential harm to participants (Orb et al., 2000). Ethics refers to moral guidelines and responsibilities that protect rights and welfare of research participants. Key ethical issues include privacy, confidentiality, informed consent, and avoiding harm. This study upheld key ethical principles. Confidentiality was maintained by storing data securely and not disclosing individual responses. Anonymity was ensured by collecting and presenting data in aggregate form without linking to specific companies or respondents. Questionnaires did not capture identifiable information of participants. Respondents were informed of their voluntary participation and freedom to withdraw from the study. Informed consent was obtained prior to collecting data. The research objectives were clearly communicated and no deception involved



CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION OF RESULTS

4.1 Introduction

This chapter presents the analysis, presentation and interpretation of findings derived from the collected data. It begins with analysis of the demographic profile of respondents and descriptive statistics of both the independent and dependent variables. A test of reliability of scale items or variables used to measure VFM procurement and the performance of public health organizations. Lastly, a regression is carried out to determine the relationship between the variables for value for money procurement and organizational performance in the public sector.

4.2 Demographics of the Respondents

In this section, the analysis begins with a close look at the basic demographic details of the respondents involved in the study. Key traits including gender, age, position, educational level, staff strength, availability of procurement department are considered to offer a clearer picture of the perspectives represented in the responses gathered. By understanding who the respondents are in terms of these attributes, it becomes possible to interpret the findings in a more grounded manner. It is important to comprehend the background of the respondents to better appreciate the depth and nuances of the responses they have provided.

Table 4.1 Demographics of Respondents

Variables	Definition/Measurement	Frequency (N=120)	Percent
Gender	Male	76	63.3
	Female	44	36.7
Age	16-25	4	3.3
	26-35	50	41.7
	36-45	59	49.2
	46 & above	7	5.8

Position	Director/Head of procurement	3	2.5
	Asst Head of Procurement	8	6.7
	Procurement Manager	13	10.8
	Chief/Prin. procurement Asst	28	23.3
	Others pls specify	68	56.7
Highest academic qualification	HND/Equivalent Holder	3	2.5
	First degree	52	43.3
	Master's degree	64	53.3
	Other specify	1	0.8
Response on Characteristics of the organization			
Availability of Procurement department	Yes	119	99.2
	No	1	0.8
Staff Strength	1-10	29	24.2
	11-20	31	25.8
	21-30	55	45.8
	More than 30	5	4.2

Source: Field Data (2023)

The demographic data from the study's participants revealed that the majority of the respondents were male, constituting 63.3% (76 individuals) of the sample, while females made up 36.7% with 44 individuals participating. Looking at the age distribution of the respondents, it was observed that a small portion, 3.3% (4 individuals), were between 16 and 25 years old. A substantial part, 41.7% (50 individuals), belonged to the 26-35 age bracket, while the majority, 49.2% (59 individuals), were within the 36-45 age range. Those aged above 46 years represented the smallest group, with 5.8% (7 individuals). The study also profiled the participants based on their positions in the organizations. Chief and principal

procurement assistants accounted for 23.3% with 28 individuals. The procurement managers were 10.8% of the sample, amounting to 13 respondents, and assistant heads of procurement constituted 6.7%, represented by 8 individuals. The largest group fell under "other positions," which included a range of job roles such as principal procurement assistants, financial analysts, and customer service managers, among others. When considering the educational qualifications of the respondents, it was revealed that the majority, 53.3% (64 individuals), held master's degrees, and a significant portion, 43.3% (52 individuals), were bachelor's degree holders. In terms of organizational infrastructure, a near-unanimous 99.2% confirmed the presence of well-functioning procurement departments in their respective organizations. Delving into the employee composition of these departments, it was noted that 45.8% of the organizations had a staff strength ranging between 21 and 30 individuals working in procurement departments. This gives a detailed account of the demographic attributes of the individuals who participated in the study.

4.3 Reliability and Validity Test

In empirical research, the concepts of reliability and validity are pivotal in determining the accuracy and generalizability of the findings. Ensuring that the measurements employed are both consistent and genuinely reflective of the variables under examination is paramount for the credibility of the results. In the context of this study, reliability is assessed using the Cronbach Alpha test, a widely accepted measure of internal consistency. This statistical coefficient provides an estimate of the extent to which a set of variables measures a single, unidimensional latent construct. A higher Cronbach Alpha value typically signifies a more reliable scale, affirming that the questions used in the survey are cohesively gauging the same underlying attribute. Validity, on the other hand, pertains to the degree to which a test accurately measures what it intends to measure. To ensure validity in this research, an exploratory factor

analysis has been utilized. This statistical technique aims to identify the underlying relationships between measured variables and latent constructs. By exploring the factor structure and ascertaining that the observed variables are indeed indicative of the theoretical concepts, exploratory factor analysis offers critical insights into the construct validity of the measurements.

Table 4.2 Reliability Test – Alpha Cronbach

Construct	Number of items	Alpha Value
Factors promoting VFM	15	.952
Mechanisms promoting VFM	9	.897
VFM Procurement	6	.912

Source: Field study (2023)

The data presented in Table 4.2 illustrates the results of the reliability test conducted using Cronbach's Alpha, which was employed to assess the internal consistency of the constructs utilized in this study. The alpha values derived from this test provide insights into the reliability of the scales used to measure various constructs related to value for money (VFM) procurement in public health organizations in Ghana. Examining the construct that focuses on factors promoting VFM, which comprises 15 items, it is observed to have a Cronbach's alpha value of 0.952. This value is considerably high, indicating an excellent level of internal consistency and showcasing that the items within this construct correlate well with each other. Therefore, it can be posited with confidence that this construct is reliable for examining the factors promoting value for money in procurement processes. Moving on to the construct analyzing mechanisms promoting VFM, comprised of 9 items, it manifests a Cronbach's alpha value of 0.897. While slightly lesser than the first construct, this value is still deemed to be high, falling well above the generally accepted threshold of 0.7, which denotes acceptable reliability. This suggests that the items within this construct maintain a good level of cohesion, thereby affirming that this

construct is a reliable tool for understanding the mechanisms that foster value for money in procurement.

Finally, focusing on the construct of VFM procurement, which includes 6 items, it reveals a Cronbach's alpha score of 0.912. This value is indicative of a high level of internal consistency, illustrating that the items in this construct are closely interrelated and provide a reliable measure of VFM procurement. Consequently, this construct proves to be a robust tool for scrutinizing the nuances of value for money procurement in the targeted public health organizations.

Table 4.3 Validity Test - Exploratory Factor Analysis (EFA)

Items	Variables		
	factors	mechanism	VFM
FACTORS			
Our firm has established a group of procurement professionals who undertake procurement practices.	0.788		
Our firm ensures fair and open procurement practices with its vendor community	0.724		
Our firm has established quality standards that reflect the implementation of good practice	0.702		
Our firm places values on professional procurement practices	0.661		
There are principles that guide procurement practices in our firm.	0.687		
Our firm maintains operating code that guides its procurement practices.	0.786		
Our firm has a system in place with strong institutions to guide its procurement practices	0.742		
Our firm maintains accurate and up-to-date information about all aspects of purchasing processes.	0.738		
Our firm uses Digital technology to transform transparency in procurement practices.	0.686		
Our firm ensures that procurement package for prospective bidders is clear	0.676		
Procurement practices of my firm can be accessed, assessed and analysed.	0.81		
My organisation follow strictly the Ghana Electronic Procurement Systems (GHANEPS) platform	0.84		
Our firm ensures prevention of waste and fostering of competition.	0.828		

Our firm maintain accountability during its tendering processes to achieve value for money.	0.771		
Our firm procure the right quality of goods, works or services from a reliable supplier.	0.568		
MECHANISMS			
Our firm adhere to regulatory requirements to undertake procurement.		0.714	
Our firm procure goods and services that are required by its regulatory body.		0.788	
There are prescriptions that prevent misuse of funds meant for goods and services in our firm.		0.756	
There are checks and procedures to ensure value for value for money procurement in our firm.		0.698	
Our firm has a simple, comprehensive system to create and review goods and services procured.		0.737	
Our firm ensures efficiency through cost control and time of purchasing.		0.715	
Our firm maintain effective process of acquiring goods and services from external sources.		0.609	
Our firm builds and maintains good supplier relationships to streamline its procurement process.		0.713	
Our firm ensures that invoices are up-to-date and properly documented.		0.725	
VFM PROCUREMENT			
I am satisfied with the overall quality of work done regarding procurement processes in my organization			0.686
There is value for money in my organisation partly due to the fact that the procurement processes are fairly and transparently conducted			0.774
I am satisfied with the professional competence of my organisation in respect of procurement of goods and services			0.799
I am comfortable about the relationship with my organisation management and our contractors or service provider			0.845
My organisation goals/objectives for Value for money in procurement processes are set and included in the strategic plan			0.755
The organisation employees are sympathetic and reassuring if something is wrong in order to make sure there is value for money			0.655

Source: Field study (2023)

Table 4.3 presents the outcomes of the exploratory factor analysis, displaying that each of the thirty (30) items used to assess factors, mechanisms and VFM achieved a loading greater than 0.50. This result signifies that every item accurately represented the variables it was designed to measure, thereby confirming their validity

Table 4.4 KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.928
Bartlett's Test of Sphericity	Approx. Chi-Square	4734.905
	Df	435
	Sig.	.000

Source: Field study (2023)

The KMO index assesses the suitability of the data for factor analysis. It ranges from 0 to 1, with values closer to 1 indicating that the patterns of correlations are relatively compact and hence provide a reliable basis for factor analysis. A KMO value of .928, as shown in Table 4.4, is considered superb, indicating that the sample is highly adequate for conducting exploratory factor analysis.

4.4 Descriptive Statistics

The descriptive statistics are employed to illustrate the scores for the individual variables that make up the study's three primary constructs. These variables are assessed using a Likert scale that ranges from 1 to 7, intended to quantify the degree of consensus among respondents. The scale is arranged in the following manner: 1 stands for "Strongly Disagree," 2 for "Disagree," 3 for "Somewhat Disagree," 4 for "Neutral," 5 for "Somewhat Agree," 6 for "Agree," and 7 for

"Strongly Agree." For the interpretation of these descriptive outcomes, scores from 1.00 to 2.99 indicate an extremely low or infrequent manifestation of the phenomenon in question. Scores between 3.00 and 4.99 signify a low or infrequent manifestation, scores from 5.00 to 5.99 suggest a moderate manifestation, and scores between 6.00 and 7.00 point to a frequent manifestation of the phenomenon. Each of the constructs and their corresponding scores will be elaborated upon in subsequent sections.

4.4.1 Factors For VFM

The variable, Factors for VFM was measured using 15 items. Table 4.5 presents the descriptive statistics for the Factors for VFM variable. This includes the mean, standard deviation, minimum and maximum values.

Table 4.5 Descriptive Statistics on Factors For VFM

Items	Min	Max	Mean	Std. Dev
Our firm has established a group of procurement professionals who undertake procurement practices.	1	7	5.74	1.785
Our firm ensures fair and open procurement practices with its vendor community	1	7	5.63	1.734
Our firm has established quality standards that reflect the implementation of good practice	1	7	5.65	1.685
Our firm places values on professional procurement practices	1	7	5.42	1.647
There are principles that guide procurement practices in our firm.	1	7	5.85	1.567
Our firm maintains operating code that guides its procurement practices.	1	7	5.83	1.626
Our firm has a system in place with strong institutions to guide its procurement practices	1	7	5.9	1.537
Our firm maintains accurate and up-to-date information about all aspects of purchasing processes.	1	7	5.21	1.874
Our firm uses Digital technology to transform transparency in procurement practices.	1	7	5.92	1.609
Our firm ensures that procurement package for prospective bidders is clear	1	7	5.65	1.565

Procurement practices of my firm can be accessed, assessed and analysed.	1	7	5.62	1.711
My organisation follow strictly the Ghana Electronic Procurement Systems (GHANEPS) platform	1	7	5.64	1.723
Our firm ensures prevention of waste and fostering of competition.	1	7	5.5	1.782
Our form maintain accountability during its tendering processes to achieve value for money.	1	7	5.53	1.742
Our firm procure the right quality of goods, works or services from a reliable supplier.	1	7	5.48	1.705
Overall	1	7	5.638	1.30387

Source: Field Study (2023)

In Table 4.5, the descriptive statistics delineated include the minimum and maximum scores, the mean, and the standard deviation (SD) concerning various factors of procurement practices aimed at achieving Value for Money (VFM) in firms. Looking at the ‘overall’ row, it is observed that the mean value stands at approximately 5.638 on a scale from 1 to 7. This high mean value indicates that, on average, the respondents have a favorable perception of the procurement practices in their respective firms, signifying a general agreement with the positive statements regarding VFM in their organizations. Examining the individual items, the highest mean score is observed for the statement “Our firm has a system in place with strong institutions to guide its procurement practices” with a mean of 5.9. This suggests that most respondents perceive their organizations to have robust systems and institutions steering their procurement processes, which is a significant element in ensuring VFM. Conversely, the lowest mean score is recorded for the statement “Our firm maintains accurate and up-to-date information about all aspects of purchasing processes.” with a mean value of 5.21. Although this is the lowest score, it is still relatively high, indicating that there is a substantial level of agreement with this statement, albeit slightly lower compared to others. The standard deviation for the ‘overall’ row stands at 1.30387, showcasing that there is a moderate variation in the responses. This suggests that while there is a general consensus, diverse opinions and experiences are reflected in the procurement practices of different firms. Furthermore, the minimum and maximum values

remain constant across all individual items and the ‘overall’ row, stretching from 1 to 7, displaying the full range of possible scores being utilized by the respondents. This portrays a wide variation in the perceptions and experiences of the respondents, showcasing the diverse landscape of procurement practices in various firms. Drawing a conclusion from the results, it is evident that the firms maintain a high standard in terms of adhering to principles and practices that foster VFM in procurement processes

4.4.2 Mechanisms for VFM

The variable, Mechanisms for VFM was measured using 9 items. Table 4.6 presents the descriptive statistics for the Mechanisms for VFM variable. This includes the mean, standard deviation, minimum and maximum values.

Table 4.6 Descriptive Statistics on Mechanisms for VFM

Items	Min	Max	Mean	Std. Dev
Our firm adhere to regulatory requirements to undertake procurement.	1	7	5.45	1.932
Our firm procure goods and serves that are required by its regulatory body.	1	7	5.68	1.65
There are prescriptions that prevent misuse of funds meant for goods and services in our firm.	1	7	5.65	1.631
There are checks and procedures to ensure value for value for money procurement in our firm.	1	7	4.85	1.872
Our firm has a simple, comprehensive system to create and review goods and services procured.	1	7	5.19	1.694
Our firm ensures efficiency through cost control and time of purchasing.	1	7	5	1.926
Our firm maintain effective process of acquiring goods and services from external sources.	1	7	4.67	1.947
Our firm builds and maintains good supplier relationships to streamline its procurement process.	1	7	4.48	2.022

Our firm ensures that invoices are up-to-date and properly documented.	1	7	4.73	1.991
Overall	1	7	5.0775	1.37445

Source: Field Study (2023)

Table 4.6 illustrates the descriptive statistics on the mechanisms for achieving Value for Money (VFM) in procurement practices within firms, encompassing aspects such as adherence to regulatory mandates, efficiency through cost control, and fostering supplier relationships, among others. Delving into the ‘overall’ metrics, it is apparent that the mean score is 5.0775 on a scale from 1 to 7. This portrays that, on an aggregate level, respondents are generally in agreement with the various statements stipulating positive VFM procurement mechanisms in their firms, albeit with a slightly lower agreement compared to the factors for VFM discussed previously. Upon reviewing individual items, the highest mean score manifests for the item stating, "Our firm procure goods and services that are required by its regulatory body," with a mean value of 5.68, emphasizing a strong compliance with the regulatory body's requirements in procurement processes. This suggests a considerable level of adherence to the stipulations set by the regulatory bodies in the procurement of goods and services. On the contrary, the item “Our firm builds and maintains good supplier relationships to streamline its procurement process” received the lowest mean score of 4.48. While this score indicates a positive inclination, it is relatively lower compared to other items, signifying a potential area for firms to focus on enhancing supplier relationships to streamline the procurement process further. The standard deviation in the ‘overall’ row stands at approximately 1.37445, depicting a moderate dispersion in the responses, hence indicating a moderate diversity in the respondent's views and experiences with their firm’s procurement practices. Examining the minimum and maximum values, which remain steadfast at 1 and 7 respectively for all items, illustrates that the respondents utilized the full spectrum of the scale

to express their perceptions, portraying a considerable diversity in experiences and opinions regarding the mechanisms for VFM in their respective firms. Conclusively, the overall results reflect a generally favorable landscape where firms have instituted mechanisms that foster VFM in procurement

KNUST

4.4.3 VFM Pprocurement

The variable, VFM procurement, was measured using 6 items. Table 4.7 presents the descriptive statistics for the VFM procurement variable. This includes the mean, standard deviation, minimum and maximum values.

Table 4.7 Descriptive Statistics on VFM procurement

Items	Min	Max	Mean	Std. Dev
I am satisfied with the overall quality of work done regarding procurement processes in my organization	1	7	5.44	1.944
There is value for money in my organisation partly due to the fact that the procurement processes are fairly and transparently conducted	1	7	5.53	1.725
I am satisfied with the professional competence of my organisation in respect of procurement of goods and services	1	7	5.69	1.58
I am comfortable about the relationship with my organisation management and our contractors or service provider	1	7	5.67	1.625
My organisation goals/objectives for Value for money in procurement processes are set and included in the strategic plan	1	7	5.71	1.562
The organisation employees are sympathetic and reassuring if something is wrong in order to make sure there is value for money	1	7	5.69	1.515

Overall	1	7	5.624	1.38782
----------------	----------	----------	--------------	----------------

Source: Field Study (2023)

Table 4.7 delineates the descriptive statistics on Value for Money (VFM) procurement, revealing respondent satisfaction and perception regarding various aspects of the procurement processes in their respective organizations. Analyzing the 'overall' metrics, it is discerned that the average sentiment towards the procurement processes in the respective firms is considerably high, with a mean score of 5.624 on a scale of 1 to 7. This high mean score signifies a general satisfaction and approval of the existing procurement processes and their alignment with the objectives of achieving value for money in the respective firms. Delving deeper into individual items, it is observed that the item with the highest mean score is, "My organization goals/objectives for Value for Money in procurement processes are set and included in the strategic plan," scoring 5.71. This suggests a strategic alignment in the organizations where VFM objectives are not only clearly delineated but are also integrally included in the strategic planning, which is instrumental in steering the organization in the right direction with regard to procurement. In contrast, the item with the lowest mean score is, "I am satisfied with the overall quality of work done regarding procurement processes in my organization," with a mean score of 5.44. While this is the lowest score, it still represents a strong satisfaction level with the quality of work in the procurement processes, showcasing that employees generally regard their organization's efforts in maintaining quality work as substantial. Looking at the standard deviation, which stands at approximately 1.38782 in the 'overall' category, it mirrors a moderate variation in the responses. It reflects a considerable yet not extreme diversity in the perceptions of the respondents, maintaining a general consensus on the satisfaction and positivity towards the procurement processes in their organizations. Taking note of the minimum and maximum scores, steadfast at 1 and 7 across all the items, it

can be concluded that respondents leveraged the full range of the scale to articulate their views, thereby exhibiting a rich diversity in individual experiences and perspectives.

KNUST

4.5 Model Testing

The model for the study is tested in this section using Ordinary least regression

4.5.1 Multicollinearity Tests

Multicollinearity arises when there is a high correlation between two or more explanatory variables in a multiple regression model, which poses challenges in delineating the distinct influence of each predictor on the dependent variable. In the subsequent segment, the focus will be on scrutinizing the multicollinearity tests executed in the current study. Undertaking such assessments is crucial as it assures the independence of the predictor variables in the model, thereby facilitating precise interpretation of the findings and fostering the formulation of sound statistical deductions

Table 4.8 Variance Inflation Results

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.729	.280		2.606	.010		
	Mechanism	.185	.073	.183	2.551	.012	.393	2.542
	Factors	.702	.077	.659	9.166	.000	.393	2.542

The VIF scores for both the mechanisms and factors stand at 2.542. It is widely acknowledged that a VIF score exceeding 5 signals a high degree of multicollinearity, thereby potentially undermining the reliability of the regression analysis outcomes. However, in this instance, the VIF scores are substantially below the designated cut-off, thereby alluding to the negligible presence of multicollinearity in this specific model. This assertion is further substantiated by the tolerance statistics, which are the inverse of the VIF scores, and comfortably exceed the widely accepted minimum benchmark of 0.1. Consequently, this leads to the inference that there is no substantial correlation between the variables - mechanisms and factors, making it feasible to separately scrutinize their individual impacts on the dependent variable, which is VFM procurement. The t-values and the corresponding p-values underscore the significant role these predictors play in the model, reinforcing their inclusion based on statistical validity.

4.5.2 Regression Analysis

This section focuses on testing the study's hypotheses using linear regression

Table 4.9 Regression Analysis Results

Independent variables	Dependent variable: VFM Procurement	
	Unstandardized coefficients	
	Model 1	Model 2
Constant	.812	2.052
Main effect:		
Factors promoting VFM	0.854 (17.503)**	
Mechanisms for VFM		.704 (12.665)**
R ²	.643	.485

ΔR^2	.641	.482
(Δ) F statistics	306.339	160.406
Degree of freedom	171	171

Source: Field study (2023) Notes: * $p < .05$, ** $p < .01$

In Model 1, with the independent variable being 'Factors promoting VFM', it is apparent that there is a substantial influence on VFM Procurement, having an unstandardized coefficient of 0.854. The statistical significance of this relationship is underscored by a very high t-value of 17.503 and is further validated being significant at a 0.01 level ($p < 0.01$). Furthermore, the R^2 value of 0.643 indicates that approximately 64.3% of the variation in VFM Procurement can be accounted for by the 'Factors promoting VFM'. The ΔR^2 , almost similar to the R^2 , substantiates that this model robustly explains the variance in the dependent variable, and the high F statistics of 306.339 (significant at $p < 0.01$) further validates the model's predictability and the substantial impact of the independent variable on the dependent variable.

Model 2, on the other hand, integrates 'Mechanisms for VFM' as the independent variable, depicting an unstandardized coefficient of 0.704. This coefficient, accompanied by a significant t-value of 12.665 ($p < 0.01$), delineates a statistically significant positive relationship between the 'Mechanisms for VFM' and 'VFM Procurement'. The R^2 value of 0.485 in this model suggests that close to 48.5% of the variability in 'VFM Procurement' is elucidated by 'Mechanisms for VFM'. The ΔR^2 value being nearly equal to the R^2 portrays the strong explanatory power of the model, and an F statistics value of 160.406 at a significance level of $p < 0.01$ accentuates the predictive viability of this model.

4.5.4 Hypotheses Table

This segment elucidates the outcomes derived from the application of regression analyses utilized to corroborate the hypotheses of the research.

Table 4.9 Hypotheses table

Hypothesis	Path Analysis	Expected effect	Results	Conclusion
H1	Factors ➔ VFM Procurement	Positive	.854 ($p < 0.01$)	Supported
H2	Mechanisms ➔ VFM Procurement	Positive	.704 ($p < 0.01$)	Supported

Source: Field Study (2023)

4.6 Discussion of Results

In this segment, the discoveries from the research undertaken are meticulously examined and situated within the boundaries delineated by both the literary review carried out beforehand and the theoretical underpinnings anchoring the study. The ensuing discourse thoroughly unpacks these outcomes, following the blueprint set by the objectives that were outlined at the outset of the study.

4.6.1 Factors Ensuring VFM and Value for Money (VFM) Procurement

The first hypothesis postulated a positive and significant relationship between factors ensuring value for money (VFM) and VFM procurement. The empirical data from the field study in 2023, as delineated in the hypothesis table, validates this proposition, illustrating a positive pathway with a coefficient of .854 at a significance level less than 0.01, therefore supporting the hypothesis.

This result corroborates the underpinnings of the resource-based view (RBV), which predicates that organizations harbor the potential to secure competitive advantage through the cultivation of intrinsic resources and capabilities, as asserted by Barney (1991). In this case, the intrinsic resources encompass transparency, accountability, competitiveness, and professionalism in public procurement endeavors, assets deemed valuable and elusive to emulation by competitors, thus fostering superlative VFM outcomes (Walker & Brammer, 2012). Furthermore, aligning with the

institutional theory framed by Scott (1995), organizations strive for legitimacy and stability, adhering to established norms, rules, and societal expectations. Consequently, instilling transparency and accountability diminishes corruption prospects and alleviates information disparities, fostering augmented efficiency (Bandiera et al., 2009). Moreover, nurturing competitiveness in bidding processes assures optimal market prices are procured, a standpoint substantiated by Adusei & Awunyo-Vitor (2018), while professionalism elevates the quality of decisions, a notion upheld by Matthews (2005). Despite the counterarguments regarding potential elevations in transaction costs due to enhanced transparency (Bovis, 2012), and diminished flexibility owing to mandatory competitive bidding (Gelderman et al., 2006), it is articulated that adherence to these norms engenders efficiency, reduces wastage, and optimizes quality, thereby enhancing VFM as forecasted by the RBV and institutional theory frameworks.

4.6.2 Mechanisms to Achieve VFM and Value for Money (VFM) Procurement

The second hypothesis anticipated a positive and substantial connection between mechanisms established to achieve VFM and VFM procurement. The data derived from the 2023 field study advocates for this hypothesis, displaying a positive trajectory with a coefficient of .704 at a significance level less than 0.01, thus sustaining the hypothesis. In alignment with the RBV as delineated by Barney (1991), this finding underscores the instrumental role organizational processes and regimes play in fostering a competitive advantage. Similarly, the institutional theory posited by Scott (1995) advocates for organizational conformity to external directives and norms as a means to accrue legitimacy. The existing literature affirmatively associates codified rules and supervisory mechanisms, seen as precious intangible assets, with the enhancement of transparency, accountability, and control of corruption potentials, a narrative echoed by Schapper et al. (2006). Furthermore, regulatory compliance engenders legitimacy and nurtures public trust, a perception rooted in the works of Meyer & Rowan (1977). In spite of the critique that extensive regulations might curtail innovation and agility (Loader, 2019), it is asserted that regulatory apparatuses that harmonize equity and efficiency will curb fraudulence, minimize biases, optimize quality management, and trim down costs, thereby leading to superior VFM outcomes, congruent with the prognostications of the RBV and

institutional theories. Moreover, recent advancements underscore the transformative role of technological innovations in procurement, augmenting regulatory adherence and thereby enhancing VFM, a viewpoint substantiated by Makasi et al. (2021). Consequently, it is argued that regulatory mechanisms, imbued with equity and efficiency, hold the promise to enhance VFM procurement, a theory that is verifiable through structural equation modeling of survey responses from procurement personnel on regulatory conformity and VFM accomplishments

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Introduction

This concluding chapter synthesizes the critical outcomes of the research, guiding towards a unified conclusion. It elucidates the complex interrelations among institutional pressures, reverse logistics, and organizational performance. Additionally, the chapter seeks to suggest implementable strategies, based on the research findings, and forwards potential pathways for ensuing academic investigations.

5.2 Summary of Findings

The study's key findings are summarised in this section.

5.2.1 Factors Ensuring VFM and Value for Money (VFM) Procurement

The first hypothesis sought to examine the impact of certain factors such as transparency, accountability, competitiveness, and professionalism on Value for Money (VFM) procurement. The data from the study clearly validates this hypothesis, demonstrating a positive and significant relationship between these factors and VFM procurement. The strong support for

this hypothesis suggests that adherence to these factors can enhance the value for money derived from procurement processes.

5.2.2 Mechanisms to Achieve VFM and Value for Money (VFM) Procurement

Similarly, the second hypothesis looked at the role of different mechanisms such as adherence to laws, regulations, and norms, and their relation to value for money in procurement. The data lends substantial support to this hypothesis as well, indicating that employing these mechanisms can positively influence VFM procurement. This implies that organizations focusing on these mechanisms can expect to see improved value for money in their procurement processes. This finding aligns with the broader literature, suggesting that a structured, regulatory approach to procurement can facilitate better value outcomes.

5.3 Conclusion

This study was motivated by the need to examine value for money procurement and performance in public health organizations in Ghana. With public procurement accounting for a substantial portion of government expenditure, ensuring value for money is imperative for judicious resource utilization and optimal service delivery. The objectives were to assess the factors and mechanisms that promote value for money (VFM) and their relationship with VFM procurement. A quantitative, survey-based approach was utilized, collecting data from 120 employees in public health organizations. The findings revealed that factors like transparency, accountability, competitiveness, and professionalism have a significant positive relationship with VFM procurement. This highlights that ingraining such factors into the organizational culture and processes can enhance value for money outcomes. Additionally, mechanisms like regulatory compliance, equity, efficiency, and process controls displayed a positive association with VFM procurement. This underscores the importance of structural mechanisms in

improving value for money. In conclusion, both intrinsic, normative factors and extrinsic, regulatory mechanisms significantly influence value for money in public sector procurement. Organizations should focus on fostering transparency, accountability, competitiveness, professionalism, compliance, equity and efficiency to attain optimal value. The results provide actionable insights for policy makers and public managers to strengthen VFM procurement through multifaceted organizational and procedural interventions. Further research could investigate moderating factors and employ longitudinal designs. Overall, this study makes a meaningful contribution by elucidating significant determinants of VFM procurement in the under-researched context of Ghana's public healthcare system.

5.4 Recommendations

The researcher, based on the findings of the study, makes the following recommendations

5.4.1 Recommendations for Managers

For the first finding that factors like transparency, accountability, competitiveness and professionalism have a significant positive impact on value for money procurement, the study recommends that managers focus on ingraining these factors into their organizational culture and processes. Promoting transparency in procurement through digital tools and accurate documentation can enhance oversight and minimize corruption risks. Maintaining accountability via performance tracking and audits will ensure procurement objectives are met. Enhancing competitiveness by fostering a diverse supplier base will help secure optimal pricing. Professionalizing procurement through training and clear role definitions will improve decision quality. Implementing such measures will institutionalize norms that both improve legitimacy and contribute to procuring higher quality goods/services more efficiently, thereby enhancing value for money.

Regarding the second finding that regulatory mechanisms positively influence value for money procurement, the study suggest that managers prioritize strengthening structural and procedural controls around procurement. Adhering closely to codified laws and regulations will signal integrity and build public trust. Embedding oversight bodies and quality control processes will improve compliance and minimize fraud risks. Formalizing procedures will enhance consistency. Balancing equity and efficiency considerations will curb biases and waste.

Leveraging procurement technologies can facilitate transparency and data-driven analysis.

Investing to optimize these governance mechanisms and systems will foster superior monitoring, accountability and performance management, thereby boosting value for money outcomes.

5.4.2 Suggestions for Future Research

The study was confined to a small segment of public sector organizations situated in the Accra Metropolis, from which general conclusions applicable to all public sector organizations were drawn. To address the limitation of generalizing from a narrow sample, future studies could expand the scope by collecting data from a larger and more diverse sample of public sector organizations across different regions of Ghana. Adopting a more comprehensive national sample would allow for results that are more representative and reflective of procurement processes in the broader public sector landscape of Ghana.

The cross-sectional nature of the study design captures participant perspectives at a single point in time. A longitudinal study that collects data at multiple intervals over an extended timeframe would enable tracking changes in value for money procurement practices over time. This will provide richer insights into how public sector institutions evolve in fostering value for money amidst shifting priorities, technological changes, regulations, and societal expectations.

KNUST

REFERENCES

- Adusei, C. and Awunyo-Vitor, D. (2018) 'Determinants of public procurement corruption in Ghana: the role of Trumpian logic', *International Journal of Public Sector Management*.
- Bandiera, O., Prat, A. and Valletti, T. (2009) 'Active and passive waste in government spending: evidence from a policy experiment', *American Economic Review*, 99(4), pp. 1278-1308.
- Barney, J. (1991) 'Firm resources and sustained competitive advantage', *Journal of Management*, 17(1), pp. 99-120.
- Bovis, C.H. (2012) 'Public procurement in the EU: Jurisprudence and conceptual directions', *Common Market Law Review*, 49(1), pp. 247-282.
- Gelderman, C.J., Ghijsen, P.W. and Brugman, M.J. (2006) 'Public procurement and EU tendering directives—explaining non-compliance', *International Journal of Public Sector Management*.
- Loader, K. (2019) 'Does local government procurement in the UK operate on a level playing field? An SME perspective', *Journal of Purchasing and Supply Management*, 25(3), p. 100555.

Makasi, A., Govender, K. and Munapo, E. (2021) 'The impact of procurement technology innovations on compliance with supply chain management prescripts in the South African public sector', *Journal of Transport and Supply Chain Management*, 15(1), pp. 1-13.

Matthews, D. (2005) 'Strategic procurement in the public sector: a mask for financial and administrative policy', *Journal of Public Procurement*, 5(3), p. 388.

Meyer, J.W. and Rowan, B. (1977) 'Institutionalized organizations: Formal structure as myth and ceremony', *American Journal of Sociology*, 83(2), pp. 340-363.

Schapper, P.R., Veiga Malta, J.N. and Gilbert, D.L. (2006) 'An analytical framework for the management and reform of public procurement', *Journal of Public Procurement*, 6(1/2), p. 1.

Scott, W.R. (1995) *Institutions and Organizations. Foundations for Organizational Science*. London: A Sage Publication Series.

Walker, H. and Brammer, S. (2012) 'The relationship between sustainable procurement and eprocurement in the public sector', *International Journal of Production Economics*, 140(1), pp. 256-268.

Antoine, D. du Lou. (2012). Value for Money evaluation in PPPs: Difficulties and developments. KTH Architecture and the Built Environment. Retrieved from <http://kth.divaportal.org/smash/get/diva2:527412/FULLTEXT01.pdf>

Awodele (Dr.) 3 Achieving Value for Money (VFM) in Construction Projects. A Presentation at the Procurement and Supplies Professionals' Annual Conference (pp. 1-32). Arusha: PSPTB.

Badaso, C. J. (2014). Challenges of Implementing Procurement Policies in State Corporations in Kenya. *European Journal of Business and Management*, 6 (4): 56-61.

Bamfo-Agyei, E. Hackman, J. and Nani, G. (2015). Assessment of the public procurement ACT 2003 (ACT663) on Project time performance of construction projects in Ghana. *African Journal of Applied Research*, 1 (1): 533-548.

Barr, J, and Christie, A. (2014). Better Value for Money. An organising framework for management and measurement of VFM indicators. ITAD. Retrieved August 2018 from <http://www.itad.com/wp-content/uploads/2014/11/Itad-VFM-paper-v21.pdf>

BOND (2012). Value for Money. What it means for UK NGOs. Background Paper.

Chikwere D, Chikazhe L., & Tukuta M., (2023) Value formoney in public procurement: Experience from Zimbabwe’s rural district councils, Cogent Social Sciences, 9:2, 2244746, DOI: 10.1080/23311886.2023.224474

Civil Service College (2010). Value for Money in Singapore’s Government Procurement Creswell, J. W. 2012, ‘Qualitative Inquiry and Research Design’, London: Sage Publications.

Creswell, J. W., & Creswell, J. D. (2017). Research design: Qualitative, quantitative, and mixed methods approaches. Sage publications.

Decorla-souza, P. (2015). Value for Money Analysis: A Tool for Evaluation of Public-Private Partnerships.

Diriwächter, R. & Valsiner, J. (January 2006) Qualitative Developmental Research Methods in Their Historical and Epistemological Contexts. FQS. Vol 7, No. 1, Art. 8

Goertzen, Melissa J. (2017). "Introduction to Quantitative Research and Data". Library Technology Reports. 53 (4): 12–18. ISSN 0024-2586.

Hill, C. E. (2012). Consensual qualitative research: A practical resource for investigating social science phenomena. Washington, DC: American Psychological Association. H62.C58497 2012.

Isaac Smith (2009), “The Value for Money Approach to Public Sector Procurement” (on line) Available at www.smartprocurement.co.za

Johnson, R. B. Meeker, K. Loomis, E. & Onwuegbuzie, A. J. (2004, April). Development of the Philosophical and Methodological Beliefs Inventory. Paper presented at the annual meeting of the American Educational Research Association, San Diego, CA.

Kasim, R. Alexander, K. and Hudson, J. (2010). A choice of research strategy for identifying community-based action skill requirements in the process of delivering housing market renewal. Research Institute for the Built and Human Environment, University of Salford, UK.

Kothari, C.R. (2009), Research Methodology, New Age International Publisher, Delhi.

King, J. (2016). Value for Investment. A practical evaluation theory.

Matambula, F. G. and Makayi, N. K. (2014). Assessment of The Value For Money Procurement Process In Local Government Authorities At Morogoro Municipal Council. Research Journal of Economics and Business Studies, 3 (8): 22-28.

Maligwa, B. M. (2014). Creating Value for Money in the Public Sector: Legal Perspectives.

Mchopa, A. Njau, E. Ruoja, C. Huka, H. and Panga, F. (2014). The Achievement of Value for Money in Tanzania Public Procurement: A Non-Monetary Assessment Approach. International Journal of Management Sciences, 3 (6): 524-533.

Mesly, O. (2015). Creating Models in Psychological Research. United States: Springer Psychology: 126 pages. ISBN 978-3-319-15752-8

Murthy, S. N. & Bhojanna, U. (2010), Business Research Methodology, 3rd Edition, Excel Books, New Delhi.

Nditi, C. (2014). Challenges Enhancing Value For Money Procurement and Supply in Tanzania.

Nsiah-Asare, Prempeh, E. Boateng, K. (2016). Measures of Ensuring Value for Money in Public Procurement: A Case of Selected Polytechnics in Ghana.

Njeru, A. and Kibera A. (2014). Factors affecting procurement performance of public universities in Nairobi County. International Journal of Social Sciences and Project Planning Management, 1 (3).

Public Procurement Act. (2003). The public procurement (amendment) act, 2016. Accra, Ghana: Minister of the Environment. Regime. Singapore, Wellern International Pte Ltd.

Seyram, H. K. (2016). The concept of value for money as applied in public procurement in Ghana. The Case of Ho Municipal Assembly. Kwame Nkrumah University of Science and Technology: Kumasi, Ghana.

Samuel Olusola, Olatunji (Mr.) 1 Timothy Oluwatosin, Olawumi (Mr.) 2 Oluwaseyi Alabi,
Sanders, L.D. (2010). *Discovering research methods in psychology: A student's guide*. Malden,
MA: British Psychological Society/Blackwell. BF76.5. S245 2010.

Saunders, M., Lewis, P. and Thornhill, A. (2007) *Research Methods for Business Students* 4th
ed. Prentice Hall.

Williams, C. (2007). *Research Methods*. *Journal of Business & Economic Research*, 5(3), 65–
71.



APPENDIX A

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

RESEARCH QUESTIONNAIRES

This questionnaire is designed to collect information as part of a research project in partial fulfilment of the requirements for the award of a Master of Science degree at the Kwame Nkrumah University of Science and Technology. The topic of the study **“Value for money Procurement and Performance of Public Sector Organisations: A Case of Health Sector Organisations”**. This study is strictly for academic purposes and as such, all information collected through this medium shall be treated as confidential and solely for the purpose for which it has been collected.

Please circle the most appropriate option.

SECTION A: DEMOGRAPHICS OF RESPONDENT

1. Gender/Sex

- a) Female
- b) Male

2. Age

- a) 20 – 30 years
- b) 31 – 40 years
- c) 41 – 50 years
- d) 51 and above

3. Highest Qualification

- a) HND/Equivalents
- b) First Degree
- c) Master's Degree
- d) Other, please specify.....

4. Department in the Organization

- a) Finance and Accounting
- b) Procurement and Supply Chain
- c) Marketing and customer service
- d) Human Resource Management
- e) Research and development
- f) Management Information System
- g) Other, please specify

5. Position in the organization.

- a) Director/Head of Procurement
- b) Assistant Director/Head of Procurement
- c) Procurement Manager
- d) Chief Procurement Assistant
- e) Principal Procurement Assistant
- f) Other, please specify

6. Staff Strength?

- a) 1-10
- b) 11-20
- c) 21-30
- d) 30 and above

7. How long have you worked for the organization?

- a) Less than 1 year
- b) 1 – 3 years
- c) 4 – 6 years
- d) 7 – 9 years
- e) 10 years and above

SECTION B:

TO IDENTIFY GUIDING FACTORS THAT PROMOTE THE ACHIEVEMENT OF VALUE FOR MONEY IN THE PROCUREMENT OF GOODS AND SERVICES WITHIN PUBLIC HEALTH ORGANISATIONS IN GHANA

Please using a scale of **1=strongly disagree; to 7=strongly agree**, how would you rate the guiding factors that promote the achievement of value for money in the procurement of goods and services within shown in the table below:

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7
<i>Please tick [✓] the extent to which you agree with the following as practiced in your firm:</i>						
PART 1: PROFESSIONALISM						
8. Our firm has established a group of procurement professionals who undertake procurement practices.						
9. Our firm ensures fair and open procurement practices with its vendor community						
10 Our firm has established quality standards that reflect the implementation of good practice						
11. Our firm places values on professional procurement practices						
12. There are principles that guide procurement practices in our firm.						
13. Our firm maintains operating code that guides its procurement practices.						
14. Our firm has a system in place with strong institutions to guide its procurement practices						
15. Our firm conduct and participate in tasks related to procurement.						
PART 2: TRANSPARENCY						
16. Our firm maintains accurate and up-to-date information about all aspects of purchasing processes.						
17. Our firm uses Digital technology to transform transparency in procurement practices.						
18. Our firm ensures that procurement package for prospective bidders is clear						

19. Procurement practices of my firm can be accessed, assessed and analysed.							
20. My organisation follow strictly the Ghana Electronic Procurement Systems (GHANEPS) platform							
21. My organisation conduct procurement processes on the GHANEPS platform							
22. Our Organization ensures that there are details included in descriptions of goods or services offered.							
23. Our firm sets out details of its end-to-end tender processes.							
PART 3: COMPETITIVENESS AND ACCOUNTABILITY							
22. Our firm ensures prevention of waste and fostering of competition.							
23. Our form maintain accountability during its tendering processes to achieve value for money.							
24. Our firm procure the right quality of goods, works or services from a reliable supplier.							
25. Our firm procure right quantity of goods and services.							
26. Our firm ensures that goods and services are delivered at the right time and to the right place.							
27. Our firm ensure that the right quantity of goods and services are delivered at the right price.							

SECTION C

TO IDENTIFY THE MECHANISMS USED IN PRACTICE TO INTRODUCE VALUE FOR MONEY INTO PROCUREMENT PROCESSES WITHIN PUBLIC HEALTH ORGANISATIONS IN GHANA

Using a scale of 1=strongly disagree; to 7=strongly agree, indicate the measures used in practice to introduce value for money into procurement processes in this organisation using the indicators given below:

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7
<i>Please tick [✓] the extent to which you agree with the following as practiced in your firm:</i>						
PART 1: LAWS, REGULATIONS AND REGULATORY BODIES						
28. Our firm adhere to regulatory requirements to undertake procurement.						
29. Our firm procure goods and serves that are required by its regulatory body.						
30. There are prescriptions that prevent misuse of funds meant for goods and services in our firm.						

31. There are checks and procedures to ensure value for value for money procurement in our firm.							
32. Our firm has a simple, comprehensive system to create and review goods and services procured.							
PART 2: ECONOMY, EFFICIENCY & EFFECTIVENESS							
33. Our firm ensures efficiency through cost control and time of purchasing.							
34. Our firm maintain effective process of acquiring goods and services from external sources.							
35. Our firm builds and maintains good supplier relationships to streamline its procurement process.							
36. Our firm ensures that invoices are up-to-date and properly documented.							
37. Our firm builds an effective communication system to speeds up processes							

SECTION D:

ENSURING VALUE FOR MONEY PROCUREMENT IN SELECTED PUBLIC HEALTH ORGANISATIONS IN GHANA

Using a scale of 1 to 7 [where 1=strongly disagree; 7=strongly agree], indicate ways of ensuring value for money procurement

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7
Please tick [✓] the extent to which you agree with the following as practiced in your firm:						
ENSURING VALUE FOR MONEY						
45.I am satisfied with the overall quality of work done regarding procurement processes in my organization						
46. There is value for money in my organisation partly due to the fact that the procurement processes are fairly and transparently conducted						
47. I am satisfied with the professional competence of my organisation in respect of procurement of goods and services						
48. I am comfortable about the relationship with my organisation management and our contractors or service provider						
49. My organisation goals/objectives for Value for money in procurement processes are set and included in the strategic plan						

50. The organisation employees are sympathetic and reassuring if something is wrong in order to make sure there is value for money							
--	--	--	--	--	--	--	--

Thank for your participation in the survey.

KNUST

