PROCUREMENT PRACTICES AND PROJECT PERFORMANCE

(A CASE OF NGALI MINING, 2015 – 2018)

Thesis Submitted to School of Business, College of Business and Economics in partial fulfilment of the requirements for the award of the Degree of Masters of Business Administration Project Management Option.

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SEPTEMBER 2019
DECLARATION
I declare that this thesis is my original work and has not been presented in any other university”.

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Signature                      Date

This thesis has been submitted for examination with our approval as university supervisor.

Dr Jonas BARAYANDEMA

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Signature                      Date
This thesis entitled **Procurement Practices and Project Performance (A Case Of Ngali Mining, 2015 – 2018)** written and submitted by **UWERA Nadine** in partial fulfillment of the requirements for the degree of **Master of Business Administration, Project Management Option** is hereby accepted and approved.

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Member of the Jury  
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Date  
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Coordinator of Postgraduate Studies  
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Date
DEDICATION

To almighty God for granting me this special course.
ACKNOWLEDGEMENT

First of all, I want to thank the almighty God for having been on my side throughout my education and most especially during the writing of this proposal.

Special thanks go to my supervisor Dr Jonas BARAYANDEMA for having sacrificed his time and other commitments to guide me. May God reward him abundantly.

In addition to that, I thank all the lecturers who pray a significant role so that I can be at this best level.

To my husband Dr Samuel MUHUMUZA, and my children Tony Kasasira., Thierry Kayinamura., Daniel Mugisha N. and Deborah Uwase M.

I also thank my classmate for a good teamwork spirit during my everyday class. I cannot forget to thank the entire staff of Ngali Mining ltd for the co-operation they showed to me during the process of carrying out the research, may God reward them accordingly. Furthermore, I want to acknowledge the financial, moral and social support received from my husband Dr. Samuel MUHUMUZA.

Last but not least, I thank my parents, sisters and brothers for all encouragement and comfort offered to me. I can’t forget to thank my friends for standing with me.
ABSTRACT

Over the past decades’ procurement planning has been attracting great attention from practitioners, academicians and researchers. Literature suggests that Procurement Planning is one of the primary functions of procurement with a potential to contribute to the success of operations and improved performance. This study therefore, sought to examine the relationship between procurement planning practices and procurement performance in state corporations. This study mainly depended on the Stakeholder theory, Grey system theory, Agency Theory and McNeil Rational theory. The target population of this study was 40 respondents. Census approach was used to carry out the study. To attain this objective, the study adopted a survey research design and data was collected using questionnaires with a modified Likert scale. The data-collecting instruments were subjected to pre-testing through pilot study using 20 respondents from Wolfram limited district as they did not form part of the study sample during the main study. To ensure validity, member validation exercise was done where the respondent was given back a copy of the observations to provide a feedback. Content analysis was used in the analysis of qualitative data, while Statistical Package for Social Sciences (SPSS) Version 21 for windows was used as to analyze quantitative data. As this study is very sensitive, care was taken to seek authority and consent from relevant institutions and respondents respectively, when administering research tools. Data analysis show that procurement performance is explained by the independent variables (Cost Estimation, Quality Specification, Needs Assessment and Risk Management) at 59.2% of coefficient of determination. there were strong positive and significant effects between budget estimation and performance (β = .444; t = 1.815; p < 0.05). and Needs assessment (β = 1.075; t = 1.815; p < 0.05). There were positive effects of between risk management and performance (β = .230; t = .850; p > 0.05). However, there was weak but significant effects between quality specification and performance (β = 1.231; t = 3.616; p < 0.05.). It is recommended that Ngali Mining group should improve the channel of information sharing and payment model. From the study there is a positive significant effect between procurement practices and performance that the model is a good fit for the data. Hence the study concludes that all the four (Ho1, Ho2, Ho3 and Ho4) null hypothesis are rejected hence accepting the alternative hypothesis. Through this study the researcher has gained a deeper insight on how organizations can achieve successful procurement planning and the benefits in doing so, but there are some areas in which the researcher believes more research is needed to fully understand the nature of procurement planning. The results of analysis show the effect on procurement planning and institutional performance. It is recommended that Ngali Mining group may improve the channel of information sharing and payment model. Public institutions may establish mechanisms by which the bidders may raise concerns about the way procurement is progressing which would significantly increase supplier confidence. The future research should also be carried out to explore variables affecting perceived service quality, ethics, transparency, procurement performance, and value for money in public institution procurement planning process.

Key words: Procurement practices, project performance, Ngali Mining
Word count: 515
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### ABBREVIATIONS AND ACRONYMS

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<tbody>
<tr>
<td>ANOVA</td>
<td>Analysis of Variance</td>
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<tr>
<td>CCM</td>
<td>Country Coordinating Mechanism</td>
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<td>MINECOFIN</td>
<td>Ministry of Commerce and Finance</td>
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<td>PMBOK</td>
<td>Project Management Body of Knowledge</td>
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<td>RDB</td>
<td>Rwanda Development Board</td>
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<td>RDT</td>
<td>Resource dependence theory</td>
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<td>REG</td>
<td>Rwanda Energy Group</td>
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<td>RPPA</td>
<td>Rwanda Public Procurement Authority</td>
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<td>SCI</td>
<td>Supply Chain Integration</td>
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<td>SPM</td>
<td>Supplier performance management</td>
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<tr>
<td>SPSS</td>
<td>Statistical Package for Social Sciences</td>
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<td>TCE</td>
<td>Transaction Cost Economic</td>
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<td>UR</td>
<td>University of Rwanda</td>
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CHAPTER ONE: INTRODUCTION

Procurement is considered as the process of acquiring goods and services as well as hiring contractors and consultants to carry out works and services (Gul, 2010). In this regard, it is a core activity that has implications on the operations of an organization together with being an activity which cuts across all the departments in the organization. Therefore, it is becoming an issue of public attention and debate, and continues to be subjected to reforms, restructuring, rules and regulations. Procurement is an important and expensive business activity for organizations. This is because organizations usually spend a large portion (even up to 70%) of their revenue and operational budget on purchasing goods and services (United Nation Report, 2018). Considering the role of procurement in any organization, carrying out a study on this concept and its practices is of paramount importance.

The study is comprised of five chapters: Chapter one includes a general introductory showing the background of the study, statement of the problem, research objectives, research questions, conceptual framework, significance of the study and the scope of the study. Chapter two covers the literature review related to the study which includes procurement practices, supplier satisfaction, challenges in the implementation of procurement practices and supplier suggestion on how to improve the implementation of procurement practices. Chapter three includes research methodology; it discusses the methods and techniques used by the researcher for data collection and analysis. Chapter four covers the presentation of data, data analyzing and discussion of research findings. Chapter five contains the summary of the research findings, conclusion of the study and recommendations.
1.1 Background to the Study

Throughout the 1980s and early 1990s many countries were performing poorly in meeting their general public service objectives. The general public procurement systems were not working properly. It was therefore held that effective public procurement systems could be created through reforms (Agaba & Shipman, 2016). Generally, public procurement has continued to evolve both conceptually and organizationally. That evolution sped up during the late 1990s as governments at all levels came under increasing challenges to do more with less. Indeed, most governmental entities of abundant and poor countries are struggling in the face of unrelenting budget restrictions, government downsizing, public demand for increased transparency in public procurement; and increased concerns about efficiency, justness, and equity.

Constant improvement of procurement practices is one of the best competences of organizations performances. A considerable interest in growth of procurement practices is motivated by need of greater organization performance. For many years, the nature of competition has changed to the extent that organizations now compete against other companies based on the best service delivery and quality, a complete deviation from traditional practice exercised in the 80s (Jensen, 2017).

Brown and Hyer (2010) argues that the attention to the management of projects undoubtedly is growing because organizations, whether private, non-profit making or public, have raised their project portfolios and consequently spend large sums of money on projects.

Project implementation has been given different meaning in literature. For instance, Cox and Ireland, (2016) defined it as the system that represents the organizational structure adopted by clients for the implementation of project processes and eventual operations of the project. In
any given project performance is highly influenced by the type of project procurement method used to deliver the project. Consequently, project clients often seek to select the best method that can help to achieve better project results. Different forms of project performance ways exist from which clients can choose from. There are terms of allocation of activities sequencing, process and procedure and organization approach in project performance.

There are external and internal factors that have to be checked in a project. Economics, political, legal, nature disasters and technology are external factors while project characteristics, client’s characteristics and client’s requirements belong to the internal environment. Alzahrani and Emsley (2013) compared success criteria as measured by contractors and clients and found out that clients put more emphasize on satisfying the needs of other stakeholders, while contractors’ emphasis on minimizing project cost and duration. In addition, they found that all project stakeholders put products satisfying owner’s needs as the first criteria. Thus, project success can be measured differently from the perspective of the different parties and there is need for deep understanding of project implementation.

Organizational performance is the actual output or outcomes of an institution and its intended outputs or goals and objectives (Upadhaya, Munir & Blount, 2014). Organizational performance can be measured through reduction in cost, quality of goods/services delivered, productivity, lead time (Richard, Devinney, Yip & Johnson, 2009). Xiao and Qi (2008), states that the most critical factor for effective management is Performance Measurement (PM) and that identifying and measuring the influence of Supply Chain Management (SCM) on it enhances the organizational performance. However, the subject of performance does not receive sufficient motivation in supply chain management research. The indicators of performance of an organization can be financial targets attained and satisfaction of labour
force. On the same note, Muhammad, Young and Sonia (2012) observed that organization performance could also be estimated based on institutions effectiveness and efficiency. Therefore, in essence, the procurement practice environment includes those who consider the capability required of the armed forces (specifications), those involved in converting the specifications, or requirement into tangible equipment, goods, supplies and services (procurement), and those involved in ensuring that such equipment is supported with supplies, goods, services and maintenance.

In Rwanda, Ngali Mining delivers a range of consultancy services to help you explore, mine and trade the mineral resources with the very effective ways to maintain your company’s market competitiveness. These includes; mineral exploration services (geological, geophysical and geochemical mapping); mineral Laboratory services and mining advisory services. The use of the Public Procurement act has been adapted in order to improve a national public procurement system with respects to international standards at Ngali Mining. This is the case for the government of Rwanda whose public procurement was recently decentralized to local governments in order to meet the above-mentioned requirements. New ambitious undertaken by Ngali Mining to speed up the process of fulfilling the government Public Procurement act. It is against this background that the Ngali Mining procurement process had to undergo radical reforms in order to comply with these principles so as to make a profitable use of donor funds in a more effective and transparent manner. Therefore, in essence, the procurement practice environment includes those who consider the capability required of the armed forces (specifications), those involved in converting the specifications, or requirement into tangible equipment, goods, supplies and services
(procurement), and those involved in ensuring that such equipment is supported with supplies, goods, services and maintenance. Hence the need for the study at Ngali mining in Rwanda.

1.2 Statement of the Problem

Procurement practice is one of those things that organizations and teams acknowledge is important up to the point of actually bringing the best practice. The rationale for not implementing procurement practice is that it costs too much or takes too long. However, many failed procurement outcomes have root cause in avoiding key elements in the process. The risk of not performing the process is assessed when deviations occur. Yet many organizations owe their successful outcomes to procurement management best practice. Procurements should be a project and managed as such, even for small efforts.

For instance, in Rwanda the University of Rwanda has been in the lame right since had failed to comply with public tendering procedures in the past years. The university is accused of issuing tenders that are above its budget. The university had a budget of Rwf13 billion last year, it issued 53 tenders worth Rwf48 billion – far more than the university’s overall budget in the year 2018/19 (Auditor general report, 2019).

Procurement practices touch many core aspects of a company’s operations and, hence, their successful deployment and use are critical to performance and survival Alsudiri, et al, 2013). The industry’s procurement practices are fragile and predisposed to regular discontinuities. They are fraught with recurrent delays and occasional inability to deliver the produce to the destination markets (WB, 2010). Wamae (2014) indicates that the vulnerabilities in the private sector evidenced in the erratic shedding and re-employment of staff when faced with downstream and upstream linkage discontinuities thereby affecting organizational performance.
Procurement practice of very expensive equipment ensures that, long term continued availability of parts and components is very critical. Procurement practices are also critical in the continued and non-disruption of critical parts and components in the process. The study was conducted, and the main objective was to explore the requirements for long term procurement practices. Tahirir et al., (2008) proposed that procurement personnel and practices must have appropriate information and data of their prime suppliers of critical components, subassemblies and parts. The current research and literature search indicate that there is very little publication and research investigating supplier intelligence and satisfaction in the context of the suppliers' financial health, corporate governance, operating environment, capability, capacity and basic long-term survival.

In spite of having various studies undertaken on procurement practices and supplier satisfaction by various researchers, none of the studies have particularly studied the effect of procurement practices on project performance in Rwanda. This has created a significant knowledge gap and therefore forms the basis for this study. With Ngali Mining spending 38% of its budget on procurement for various goods and services and with an estimated number of 120 potential suppliers.

Regardless of the effort by the private industries in Rwanda to improve performance of the procurement function, procurement is still marred by shoddy works, poor quality goods and services (Bag, 2012). This perennial problem has precipitated a decline of procurement/supply performance of enormous private companies (Sanjay, 2010). Failure to implement or delayed implementation of recommended procurement practices has resulted in unnecessarily high operation costs, poor inventory control, unacceptable supplier appraisals standards, uncoordinated business activities, and failure to attract and retain experienced and skilled
personnel in the procurement positions, thus affecting the function’s performance (Noor, 2011).

The need to understand the project performance cannot be overemphasized. Thus, there is need for systematic study to be done to analyse how the application of procurement practices in Ngali Mining affect project performance.

1.3 Objectives of the Study

1.3.1 General Objective

The general objective of the study was to analyse the effect of procurement practices on project performances in Ngali mining limited Rwanda.

1.3.2 Specific Objectives

The specific objectives of the study were:

1. To determine the effect of procurement practices on cost of project in Ngali Mining.
2. To evaluate the effect of procurement practices on completion time of Ngali Mining project.
3. To investigate the effect of procurement practices on quality of a project in Ngali Mining.
4. To find out the procurement practices affecting project performance at Ngali Mining.

1.4 Research Questions

The following research questions guided the study:

1. Is there any significant effect of procurement practices on cost of project in Ngali Mining?
2. What is the effect of procurement practices on completion time of Ngali Mining project?
3. What is the effect of procurement practices on quality of a project in Ngali Mining?
4. To which extent procurement practices affect project performance at Ngali Mining.

1.5 Hypothesis of the Study

The following hypothesis guided the study:

1. Ho1: There is no significance joint effect of procurement practices on cost of project in Ngali Mining.

2. Ho2: There is no significance effect of procurement practices on completion time of Ngali Mining project.

3. Ho3: There is no significance effect of procurement practices on quality of a project in Ngali Mining.

4. Ho4: There is no significance effect of procurement practices on scope of a project in Ngali Mining.

1.7 Significance of the Study

The study would be of importance to procurement personnel in the public sector as it would help them to develop benchmarks of best practices in the sector. While the Rwandan government has put in place reforms under the RPPA and PPDA, more needs to be done and this research would offer new viewpoints and suggest solutions for improving supplier selection, evaluation, and procurement performance for government ministries and these findings would be important for the Government in enhancing efficiency and transparency in state corporations that have so often been plagued by problems or wastage, corruption, and poor value for money in their procurement processes.

The study is important because its primary objective is to contribute to the body of existing procurement information by filling reviewed gaps in the empirical research on procurement planning practices and service delivery by the State. The findings and recommendations of
the study would serve as a guide to assist decision-makers and experts in the field to make
sound purchasing choices to optimize resources and improve service delivery. The results can
also render valuable reference information for policy makers and stakeholders in the State
Corporations in Rwanda and academic institutions to develop a work plan to address
performance. The findings would be particularly resourceful in contributing additional
information to current and prospective institutions on procurement arrangement and service
delivery in State Corporation in Rwanda to facilitate maintenance of their competing edge.
The research would benefit state corporations given their awareness level on strategic
planning procedures that they mainly use would be increased. The research would be useful
in identifying other research areas constructed from the results of this study. The findings
would act as research reference for prospective researchers interested in the subjects’ matter
and would guide academician interested in conducting studies on an equivalent subject.

1.8 Scope of the Study

The study was carried out at Ngali mining limited headquarters in Kigali city. It focused on
the effect of procurement practices on project performance in Ngali mining limited. The study
covered a period of four years from 2015 to 2018 because of availability of data and company
management changes which are frequent in this industry where companies most of the time
buy or contract with Ngali mining limited. Primary data was used in the study. The scope was
chosen because Ngali mining limited operate continuously in their production processes thus
an assumption that procurement practices are more pronounced to support their continuous
running.

Ngali mining limited was chosen as the case study for this research topic and focused on Ngali
mining limited project performance. The reason for focusing on project performance on their
increasing partnership in the tendering and procurement practices with Ngali mining limited. Procurement practices and project performance focused on in terms of domain since this is considered to be a potential resource to capitalize on.
CHAPTER TWO: REVIEW OF LITERATURE

This chapter deals with the available literature related to the study. Some of the areas covered include the theoretical anchorage of the study on procurement performance in other countries and the conceptual framework. This review is very important since it highlights the scope of this study and further relates to other studies done in different parts of the world.

2.1 Conceptual Review

Sporrong and Kadefors (2014) conducted a study which indicated that procurement practice has significant impacts on the selection criteria and processes. The study examined the new roles and decision-making contexts like increased regulative complexity, stricter control and procurement of wider ranges of municipal services were examined for how shape procurement practices for architectural and engineering services in Swedish municipalities. Based on a critical theoretical review of policy implementation and inter-professional collaboration, the procurement practices of five Swedish municipalities were examined and compared through case study interviews to understand the relationships and practices that occur between technical and procurement staff (Hui et al, 2011). It was revealed that resource constraints and stricter control are found to lead to a strong preference, especially among technical staff, for simplified procurement models with a high emphasis on lowest price, whilst procurement staff favours more advanced methods for quality assessment. However, differences in knowledge and professional culture between the technical staff and procurement staff have created barriers to communication and competence integration (Mutai & Chirchir, 2015). To develop a procurement, practice that rewards supplier competence, clear guidelines and changes to procurement roles within the organization are needed, as well as increase resources. Procurement policies need to be more closely tied to their implementation.
Procurement practice decisions have a critical impact on the performance of construction projects (Ruparathna & Hewage, 2015a). However, the construction sector has been relatively understudied, especially the procurement and supply chain practices typically implemented in early phases of capital projects (Uyarra et al. 2014). The study was done and reported on how engineering-procure-construction firms select suppliers in the early stages of the project. Particular focus involved the decisions making in procurement process and the types and roles of supporting information (Alaniazar, Zarei, & Soltanpanah, 2011).

The paper reports on five case studies with large firms. Data were collected from multiple individuals in each firm with extensive supporting documentation. A cross-case analysis describes similarities and differences between firms and helps to compare empirical findings with the broader literature. Findings contradict some areas of the literature, in particular the push for strategic supplier alliances (Hassan, 2012). Other findings confirm the strategic importance of early procurement decisions to project performance and similarity across the types of decision drivers for supplier selection. Practitioners would find the case studies useful examples of current practice to compare with their corporate efforts. Researchers would similarly find details that extend extant literature, proposing new avenues for future research (Azambuja, Ponticelli, & O’Brien, 2014).

Procurement practice is a key process in construction project management. The current construction procurement practices have been widely criticized for disregarding sustainability in the project life cycle. At present, there is a gap of knowledge on status-quo of sustainable procurement practice in Canada. Therefore, a study was done to review sustainable procurement practices in the Canadian construction industry. A multi method research design was used in this study by combining both qualitative and quantitative research methods. Three
research tools were used in the study; namely questionnaire surveys, review of documents, and semi-structured interviews. Data triangulation was used to combine the results of all three research tools. The study showed that sustainable procurement practice initiatives have rarely been used in the Canadian construction industry. Furthermore, a significant deficiency is observed in bid evaluation involving triple bottom line of sustainability. A majority of construction industry respondents agreed that sustainable procurement practice is a long due necessity and highlighted government regulations as the main driver for sustainable procurement. This study may be the first step to promote the use of sustainable procurement practice in the Canadian construction sector (Ruparathna & Hewage, 2015b).

For example, China has started the government procurement practice law since 1990s. Although there were many successful cases, the increased corruption has plagued its sustainability. With some flawed design of government procurement practice mechanism, the centralized procurement practice has witnessed more corruption than the decentralized one. The study was conducted to explore the government procurement process and procurement corruption from a game-theoretic perspective of view. The research findings demonstrate that the process of government procurement practice is a principal-agent game between procurer, procurement agent, the firms and other interest groups, and the formation and evolution of procurement regime is a process of dynamic game. Procurement corruption grows from the negotiable procurement rents created during the procurement game. Due to the procurement cost and negotiation capability, the firms, instead of the consumers would gain the procurement rents. Thus, in order to curb the corruption, multiple methods, such as the lawyer's approach, businessman's approach and market of economist's approach, should be applied (Xuexin, 2011).
2.1.1 Budget Estimation and Forecasting in Procurement (Value for money)

The purchase of the product and service must be in congruence with the market prices and at the same time, should be able to give at least good savings (Yong & Xiangtao, 2011). This thus confirms the submission of PPDA Act (2007) which postulates that purchases must be economical and efficient. The not well informed and thus corrupted way for instances; wear and tear of stocks, over invoicing, irresponsible procurement leading to wastage, shortage of goods when needed, and dishonest practices such as unplanned expenditure should be condemned with the strongest terms possible (Köster, Matt, & Hess, 2016). It is worth noting that the Judiciary Strategic Plan of (2012-2016), is having an intention of establishing, and thus putting it into institutions so as to fully operationalize results-oriented financial plan, and to further instituted an economic organization and liability facility in order to attain set standards and client wants to be specific, this arm of the government is planning to develop and operationalize procurement team at the decentralized units, trails and indicators for forensic audit, value-for-money standards, and develop an annual procurement unit. It was found during the 2007 baseline survey that item of common user cost that PE bought, were at an average of sixty percent which is beyond the existing market value (Mahmood, 2010).

According to the PPDA Act (2007), purchases must be economical and efficient. This means that they should be based on market prices and should be able to generate saving. It also means that bad practices such as irresponsible procurement leading to wastage, wear and tear of stocks, over invoicing, unplanned expenditure, shortage of goods when needed, poor quality products and similar factors to be avoided. The PPOA prepares and updates a Market Price Index (MPI) to be used by the Procuring Entity (PE) on a periodic basis.
The Procurement Plan (PP) must be integrated into the budgetary processes based on the indicative or approved budget, as stipulated in the PPDA (2006). The budget as well as the procurement plan are to be based on realistic cost estimates derived from the market research database which is to be compiled and updated regularly by the procurement unit in line with regulations, PPDA (2009). Costs are one of the factors that are concerned with the customer perspective, but price is not seen as the only parameter for costs.

2.1.2 Quality Specification on Procurement Performance

According to Mahmood (2010), quality is defined using five different approaches namely; the transcendent approach; the product-based approach; the user-based approach; the manufacturing-based approach; and the value-based approach. The transcendent approach equates quality with Innate excellence: The product-based approach defines quality as a sum or weighted sum of the desired attributes in a product: The user-based approach identifies a high-quality item as one that best satisfies consumer needs or wants. Bowra, Sharif, and Niazi, (2011) defined service quality as a measure of how well the service level delivered meet customer expectations. A common definition of service quality is that service should correspond to the requirements (Essig & Amann, 2009). Despite rigorous academic debate and attention to issues related to understanding service quality from an external customer's perspective, research on the procurement needs domain is relatively new (Mahmoud, Govindan, & Fadzilah, 2014). Murray et al., (2014) contends that specification is an integral part of the procurement function. Without a quality specification the process can be filled with pitfalls and obstacles for the purchasing department. He lists the characteristics of a good specification as follows; Identifies the minimum requirements of the end user, allows for a fair and open procurement process, provides for testing/inspection to ensure the
goods/services received meet the standard set forth in the specification and provides equitable award at the lowest possible cost.

2.1.3 Needs Assessment on Procurement Performance

Procurement planning entails the identification of what needs to be procured (which is the result of a Needs Assessment), how the organizations need can best be met, the scope of the goods, works or services required, what procurement strategies or methods to be deployed, setting the time frames, and the accountability for the full procurement process. According to Kibe and Iravo, (2013). needs assessment is “a systematic process for determining and addressing the needs, or gaps between current conditions and desired conditions or wants. This is important in procurement; because it is an effective tool to identify appropriate interventions or solutions by clearly identifying the problem to ensure that finite resources (Prior Budget appropriations) are directed towards developing and implementing a feasible and applicable solution for identified projects According to the (PPOA, 2009), the beginning of the procurement process is need realization and identification of the requirements. This is informed by the inventory status, projects plan, production schedules, work plans, capital or operational requirements budgets and the procurement plan. Establishment of the requirements is the foundation for conducting market survey to ascertain aspects such as prices, new products or alternative or substitute products, new sources of supply, nature of competition and environmental aspects that may affect the supply market. Kallestrup, et al. (2014) singled out non-adherence to procurement methods as a major impediment to public procurement development in Rwanda. They however did not specify the stage of procurement where this happened. In as much as the above studies highlight the core role of proper need assessment as a foundation for an effective procurement, they fail in bringing to the fore the
link between need assessment and institutional performance. Recent theorists also point to the importance of public administration as a moral and ethical concern and recognize that administrative action is permeated by moral choices and are therefore models of not only technical and professional competencies but also of moral behaviour (Kilonzo, 2014)

2.1.4 Procurement Planning and Procurement Performance

The general term that is when organizations “fail to plan” consequently “plan to fail” is thus a clear link that is also confirmed by Johan (2006) who argues that to fail to plan any service delivery, consequently are planning to be unsuccessful in distributing services to the intended beneficiary. If a person’s only plan to comply with regulations, ultimately, this shows that they are not managers, but robots, who follow instructions, that produce strict procedural ways of doing things, for instances, implementing, scrutinizing planning procedures, a what’s core in an organization should be to consequently, establish customer feedback on their satisfaction level with a service. The act of procurement planning is one of the core operations of the procurement processes thus it has the fertile ground to contributing to thriving of the local administration functions and better service delivery (Basheka, 2014). Procurement planning therefore puts in progress the entire local administrations procuring services. This ultimately works towards escalating the efficiency, success, and lucidity of state procurement devices in a constant anxiety of states in the third world countries and universal growth as an entity. The major input for procurement planning observation, is ultimately ensuring on well-organized and actual service delivery. Wong and Karia (2010) exposed a substantial affirmative connection between procurement planning and the delivery of service in local government procurement systems in Kenya. Consequently, these outcomes are equated to global study results and propositions in ensuring functional structures in all aspects. The most and efficient
way of procumbent planning is the basis of the enroute to realizing the proper service to be delivered to the general populace, and to the extension, increasing the level of service necessities that can be attained from the grassroots level (Mandiyambira, 2012). These support the procuring unit to achieving the utmost worth for spending and thus re-correct procurement functions before publicizing to possible bidders.

2.2 Theoretical Review

This study is guided by the theories underlying the concept of performance management. The relevant theories were the goal setting theory that relates to the evaluation process and the expectancy theory relating to the procurement expected outcomes (performance).

Theoretical framework is an explanation about the phenomenon based on conceptual analysis, previous studies and theories that exist in the literature (Dunn, 2010). For this study Transaction Costs Economics theory, stakeholder theory, theory of project management and Grey Systems theory were explored to give a basic understanding of the phenomenon.

2.2.1. Stakeholder Theory

The area of stakeholder management was pioneered by Freeman (1984) where he introduced the idea that corporations have stakeholders and outlined the basic features of the stakeholder concept. The stakeholder approach has been described as a powerful means of understanding the firm in its environment. Mitchell et al, (1997) argue that, this approach is intended to broaden the management’s vision of its roles and responsibilities beyond the profit maximization function and stakeholders identified in input output models of the firm, to also include interests and claims of non-stockholding groups.

Donaldson and Preston (1995) elaborated that the stakeholder model entails that all persons or groups with legitimate interests participating in an enterprise do so to obtain benefits and
that there is no pre-set priority of one set of interests and benefits over another. Consequently, stakeholder theory argues that in addition to stockholders there are other external constituencies involved, including communities, community groups, trade unions, trade associations, environmental groups, governmental bodies, associated corporations, employees, customers, and the public that need to be taken into consideration. The basic idea of stakeholder theory is that the organization has relationships with many constituent groups and that it can engender and maintain the support of these groups by considering and balancing their relevant interests (Jones & Wicks, 1999).

Overall, a central and original purpose of stakeholder theory is to enable managers to understand stakeholders and strategically manage them (Freeman, 1999). The managerial importance of stakeholder management has been accentuated in various studies (Mitchell et al., 1997; Rowley & Moldoveanu, 2003) that demonstrate that just treatment of stakeholders is related to the long-term survival of the organization.

Stakeholder theory has been applied to a number of fields, research management (Elias, Cavana & Jackson 2002), water utilities (Ogden & Watson 1999), and construction project management (Bourne & Walker, 2005). Construction management, as a field of research, has tended to focus on planning and managing the complex array of activities required to deliver a construction project, such as a road or building (Morris, 1994). Being able to manage construction stakeholders’ expectations and concerns is a crucial skill for managers of construction projects (Vinten, 2000), as failure to address these has resulted in countless project failures (Bourne & Walker, 2005), primarily because construction stakeholders tend to have the resources and capability to stop construction projects (Lim & Lee, 2005).
Successful completion of construction projects is therefore dependant on meeting the expectation of stakeholders (Cleland, 1995).

Stakeholders include clients, project managers, designers, subcontractors, suppliers, funding bodies, users, owners, employees and local communities (Newcombe, 2003). As a consequence, a robust construction management literature has developed on how to identify and manage stakeholder interests and relationships. An adaptation of Freeman’s (1984) original conceptualization of stakeholders to CDF works procurement include; Suppliers, Media, environmentalists, training organizations, public regulators, local community organizations, clients/owners, local and regional communities, construction firms, employees and other government departments.

Mitchell et al. (1997) argue that, a number of factors can affect the importance a certain stakeholder has in a particular project: Legitimacy - the moral or legal claim a stakeholder has to influence a particular project; Power - their capacity to influence the outcome of a given project; and Urgency - the degree to which their claims are urgent or compelling. Newcombe (2003) argues that, effective stakeholder management begins “with the identification of key stakeholder. Establishing the strategic importance of stakeholder groups then helps organizations determine what the nature of their stakeholder management strategies should be.

Various authors have attempted to operationalize this imperative through deployment of various static grids and matrices which assess the salience of various stakeholders on project outcomes based on their power, legitimacy and urgency. Karlsen (2008) argues that, the number of stakeholders interested or involved in the project can increase the complexity and
uncertainty of the situation. Each stakeholder usually has different interests and priorities that can place them in conflict or a disagreement with the project thus the way is to ignore them.

2.2.2. Grey Systems Theory

Grey system theory was first coined by Deng, (1982) with the need to address strategic choices in uncertain circumstances where information could be scanty. The idea of this theory is completely different from probability and fuzzy mathematics theories, which addresses a problem using certain sample size, known probability distribution and membership function (Deing, 1989)

In real world of business and other fields most decision problems are in grey form due to uncertainty and scanty information (Karmakar & Mujumdar, 2008). Under such circumstances decision still needs to be made. Grey theory provides a useful platform for decision making problem under such uncertainties (Karmakar & Mujumdar, 2006). It could be difficult to successfully maintain the performance of a firm without considering a suitable set of available suppliers. Quality of materials, consumables, services and sub-components are very critical to the success of any business entity and thus a firm has to considerably appraise the available set of supplier’s in-order to select the most optimal supplier. The challenge is, supplier selection consists of uncertainties which may not be solved by fuzzy or probability theory. Probability theory-based models require high volume of data, which may not be available for supplier appraisal. Furthermore, supplier appraisal problem could arise as a result of presence of precognitive uncertainty due to decision maker subjective judgment thus grey system theory provides a sufficient basis to handle both precognitive and stochastic uncertainty.
Sufficient evaluation criteria can help procuring entities to reduce the risks and uncertainties associated with suppliers. For firms to succeed in today’s fast changing technology-based consumer red ocean market is to innovate, which cannot be possible without getting the most optimal suppliers (Kanagaraj et al., 2014) Evaluation criteria is very critical in-order to reduce the operational costs by selecting the most optimal supplier (Wang et al., 2009). Though grey theory gives a mathematical framework for selection of optimal supplier, it uses quality, delivery, risk factor, quality standards, logistics service and sustainability as some of the aspects that background check needs to be undertaken as part of supplier appraisal exercise (Muhammad et al., 2012).

2.2.3 Agency Theory

Agency theory is concerned with agency relationships. The two parties have an agency relationship when they cooperate and engage in an association wherein one party (the principal) delegates decisions and/or work to another (an agent) to act on its behalf (Eisenhardt, 2009). The important assumptions underlying agency theory is that; potential goal conflicts exist between principals and agents; each party acts in its own self-interest; information asymmetry frequently exists between principals and agents; agents are more risk averse than the principal; and efficiency is the effectiveness criterion. Two potential problems stemming from these assumptions may arise in agency relationships: an agency problem and a risk sharing problem (Xingxing, 2012). An agency problem appears when agents' goals differ from the principals' and it is difficult or expensive to verify whether agents have appropriately performed the delegated work (i.e. moral hazard). This problem also arises when it is difficult or expensive to verify that agents have the expertise to perform the delegated work (i.e. adverse selection) that they claim to have. A risk-sharing problem arises when
principals and agents have different attitudes towards risk that cause disagreements about actions to be taken (Xingxing, 2012). The assumptions and prescriptions of agency theory fit naturally with the issues inherent in supply chain quality management. In the process of managing supplier quality, buyers in agency relations are faced with potential problems. By their nature, buyers expect suppliers to provide good quality and to improve the quality of supplied products and/or services, but suppliers may be reluctant to invest substantially in quality, especially if they perceive that buyers are reaping all the benefits. The difference between buyers and suppliers resulted in the two parties concerning themselves only with their self-interests (Xingxing, 2012). Agency theory determines how procurement managers execute procurement performance on behalf of State Corporation. Existence of poor principle agent relationship leads to low level of top management commitment and this also affects the relationship between institutions and the suppliers. Existence of conflict of interest amongst the agents leads to execution of procurement performance against the procurement the procurement policies and this leads to increased procurement budget and loss of procurement funds. The study thus used this model to determine the effect of procurement policies for effective implementation of procurement performance in state Corporation in Rwanda.

2.2.4 MacNeil’s Relational Contracts Theory

Macneil's writings before 1968 centred on the specific problems specifically the deficiency of reality of the agreement secured by the rules of approval, agreement of remedies and hire purchase through which traditional law of contract was acutely manifested (Macneil, 1968). The limited extent to which it is possible for folks to consent to all conditions of purchase even a relatively simple and incredibly discrete one soon faces the development of legal fictions expanding the scope of consent significantly beyond anything remotely near to what
the parties thought of. This is the greatest aim theory of contract. Macneil, (1980) defines contracts as no more with no less than the relations among parties to the process of projecting exchange into the future. Macneil (2000) advanced his relational theory to the norms-based approach. He questioned lawyer's traditional premise that all contracts are mere transactions. In particular, he stressed the role of norms in deciding the way in which commercial exchanges operate in practice and introduced the idea that specific transactions lie on array ranging from discrete to relational.

Macneil recognizes that contracts vary widely in the depth of the partnership to which they are applied. He argues that, some contracts, called here contractual relations are far more relational than others. They will lie towards one end of a relational continuum of contractual behaviour contrary from the non-relational end in which the discrete transaction is found (Macneil, 1983). Macneil's view is that, the reality given to these common contract norms differ in accordance to where an interaction lies on the contractual spectrum ranging from relational to discrete and indeed that a few of these best practice rules transform according to where they lie (Macneil, 1980).

Macneil details five basic aspects of deal/contract management; cooperation, monetary exchange, planning for the future, potential external sanctions, public control and manipulation (Macneil, 1969). He further appreciates that contracts belong to complex context of overall exchange relations (Berstrin, 1993). However, Maclein notes that some relations are much way more relational than others. According to relational term contract theory, there exists a long-range of relations from highly relational, such as long run contracts to under the radar contracts which concerns largely transact ionized relations such as hand to mouth purchases of goods and services.
2.3 Theoretical Framework

Procurement department should observe procedural transactions for the good of the population given the fact that expenditure incurred is the taxpayer’s money. This implies that public sector purchasers are accountable to the public whose money is spent, including those who tender and potential suppliers who may be disappointed. They must produce procedures and practices which will stand up either to scrutiny during government audits or to the challenge through the courts of any purchasing decision that has been made. The chief purpose of public accountability is to prevent abuses of taxpayer’s money. Planning scope refers to the period in which the budget will cover. The planning scope will be crucial in how the budget is drawn that is if they are budgeting for long term project or short term.

A Green/ Sustainable Public Procurement (GPP/SPP) strategy or action plan minimizes the environmental impacts purchasing. However, the level of commitment varies from one organization to another. Customer request, legal requirement, market demand, and business needs are the fundamental approaches of setting project performance process. A well-defined project can reduce the risk of changes and delay during project scope definition. A scope definition can be arrived at with effective needs identification which can alleviate the risk of inadequate design that can lead to expensive changes or even project failure (Fageha & Aibinu, 2014).

2.4 Empirical Review

In developing countries, Basheka and Bisangabasaija (2010) argue that, public procurement is increasingly recognized as essential in-service delivery and it takes a high proportion of total expenditure. Public procurement accounts for 60% in Kenya (Akech, 2005), 58% in Angola, 40% in Malawi and 70% of Uganda’s public spending (Wittig, 1999) This is very
high when compared with a global average of 12-20%. Due to the high chunk of money involved in government procurement and the fact that such money comes from the tax payers, there is need for accountability (Hui et al., 2011).

According to Thai (2001) Public and (private for this discussion) procurement practitioners have always walked on a tight rope. Their ability to accomplish procurement objectives and policies is influenced very much by internal forces including: Interactions between various elements of the procurement systems, various actors and sub-agencies within a department or executive agency and actors and organizations external to sub-agencies; Types of goods, services and capital assets required for an agency's missions; Professionalism or quality of procurement workforce; Staffing levels (e.g., ratio of procurement practitioners to contract actions) and budget resources; Procurement organizational structure such as the issue of centralization vs. Decentralization; Procurement regulations, rules and guidance; and Internal controls and legislative oversight. It is clear that procurement practitioners have always faced challenges imposed upon by a variety of environment factors including market, legal environment, political environment, organizational environment, and socio-economic and other environmental factors.

Brown and Hyer (2010) argue that, the attention to the management of projects undoubtedly is growing because organizations, whether private nonprofit making or public, have raised their project portfolios and consequently spend large sums of money on projects. According to Chandra (2010), poor planning has been a major constraint in successful implementation of public projects in India culminating in projects becoming uneconomical as a result of time and cost over-runs. The end result has been retarded economic development. This view is supported by Oladipo (2008) who evaluated local government projects in Nigeria where he
identified key project challenges as poor project planning, inadequate quality manpower, financial constraints and inadequate project monitoring. In addition, the established procurement processes in developing countries hinder project success (Frimpong et al., 2003) as the project procurement and administrative arrangements currently in use in developing countries have been inherited from developed Western countries which have a different culture, history, collective experience and endowment of construction expertise (Ofori, 2000).

2.5 Gaps in the Literature
Whereas previous studies have always looked at procurement planning and its effect on organizational performance not all factors have been dealt with within the institutions of justice in Rwanda. For instance, Kabega, Kule and Mbera (2016) carried research on Effect of procurement practices on performance of public projects in Rwanda. They found that there was significant relationship between public procurement planning and performance and that the positive organizational performance in Rwanda was attributed by proper public procurement planning. This study bridges the gap by investigating the effect of procurement planning, with specific focus on cost estimation, quality specification, needs assessment and risk management.

2.6 Conceptual Framework
Conceptual framework is a schematic presentation which identifies the variables that when put together explains the issue of concern (Mugenda & Mugenda, 2013). Considering the views of Robson (2011), conceptual framework is the system of concepts, assumptions, expectations, beliefs, and theories that supports and informs your research. In this study the dependent variable is performance while the independent variables are cost estimation, quality
specification, need assessment and risk management. The variables and their relationship are shown in the figure 2.1 below:

**Independent variables**

**Procurement Practices**

1. Budget Estimation
2. Quality Specification
3. Need Assessment
4. Risk Management

**Dependent variables**

**Project performance**

- Cost
- Time
- Quality

**Figure 2.1: Conceptual Framework**

According Mugenda and Mugenda, (2008) Conceptual framework involves forming ideas about relationship between variables in the study and showing these relationships graphically or grammatically. Therefore, it is used in research to outline choices or to present a preferred approach to an idea or thought. These variables and their relationships are illustrated in the following Figure 2.1 above:

According to PPADA (2015), the specification allows fair and open competition. The specifications are developed according to the need. Specification of items should describe the performance of that item, the measurements, time limit for delivery, and method of delivery, suppliers to participate in the tender, whether local or international. The specification will, however, be of paramount importance if it is environmentally friendly. It should also factor
the cost of disposing of the item and any other information that help the bidders top bid correctly.

Procurement performance is the backbone of an organization success since it contributes to competitive purchase and acquisition of quality goods that puts the organization products or services in the competitive edge in the market. However, on several occasions, poor procurement performance has caused private and public sectors financial loss due to delivery of poor-quality work materials, loss of value for money and inflated prices. Poor procurement performance also contributed to decrease of profitability of private sector. Procurement departments are under pressure to reduce costs while maintaining timeliness and quality. Inconsistent procurement policies can result in the cancellation of projects, cost overruns and delays, staff dissatisfaction and litigation. Procurement policies must reflect the needs of the organization in question. After policies have been established, selecting the right electronic tendering tools and techniques through careful analysis can help you meet your procurement challenges. In recent years, public and private sector organizations have come under intense scrutiny to improve their procurement practices.

Many aspects of procurement practices have been discussed along diversified studies. The methodology of survey questionnaire, review of documents, interview as well as the quantitative, qualitative and correlational research design was applied. Local authorities have a particular emphasis on buying from local and small suppliers relative to other sectors. Resource constraints and stricter control are found to lead to a strong preference among technical staff for simplified procurement models with a higher emphasis on lower price. The leading barriers to sustainable procurement are: cost, corruption in centralized procurement, communication (poor advertisement), transparency, poor specification, short bidding periods,
etc. The performed studies concern the construction industry, architectural and engineering services, crude oil in refining industry, performance of e-procurement practice, etc. With regard to the gap, many studies identified procurement challenges without elucidating sustainable solutions. The present study will emphasize on bridging that gap by strengthening the conclusion and recommendations.
CHAPTER THREE: METHODOLOGY

This chapter describes the methods and approaches that was employed while carrying out this study. It presents the research design, target population, sample size, sampling procedures, research instrument, validity and reliability of instruments; data gathering procedures, data management and analysis, ethical considerations and anticipated limitations of the study.

3.1 Research Design

The study adopted a cross sectional survey research design. Cross sectional survey research is a research design that is used in accurately describing the characteristics of the population under study and is concerned with the “what” concept and uses survey categories (Zikmund, 2010). According to Kothari (2014), survey research studies are designed to obtain relevant and precise information concerning the current status of a problem or phenomenon and whenever possible to draw valid general conclusions from the facts discovered. Cross sectional survey research design was chosen based on the research objectives and the fact that data and information can be obtained using the method without changing the environment.

3.2 Target Population

The study targeted the 40 members of staff working in various departments from Ngali Mining. These were employees in the top, middle level management and unions able employees in procurement, finance and engineering departments. Census approach was used.

3.3 Data collection Instruments

The study used primary data collection to attain specific objectives regarding the relationship between procurement practices on project performance in Rwanda. Primary data was collected through scheduled interviews with the identified target managers in the state corporations. A
structured questionnaire with both closed ended and open-ended questions was used to use to guide the interview. However, all questionnaires were numbered to ensure the responses are tracked carefully.

3.3.1 Pilot testing of the instrument

A preliminary test was done on the data collection tools and procedures to identify the likely problems. This test was conducted at Wolfram mining and processing Rwanda Limited. The pre-test questionnaire was distributed randomly to twenty selected employees from respective departments. The filled copies of questionnaire were later checked for consistency. This helped in ascertaining the reliability and validity of the instrument.

3.3.2 Validity and Reliability of the Research Instrument

Reliability is the extent to which results of a study are consistent overtime and there is an accurate representation of the total population understudy (Sekaran & Bougie, 2011). Reliability analysis aims at finding out the extent to which a measurement procedure produced the same result if the process is repeated over and over again under the same conditions (Orodho, 2013). Cronbach Alpha coefficient was computed using SPSS. The Cronbach alpha coefficient value above 0.7 shows that the measurement procedure is reliable (Cooper & Schindler, 2011). The reliability of the instrument was estimated using Cronbach’s Alpha Coefficient which is a measure of internal coefficient. A reliability of at least 0.70 at \( \alpha = 0.05 \) significance level of confidence was accepted. Adjustments were made accordingly incase a low co-efficient was obtained in order to improve on the instrument.
### 3.3.3 Reliability results

Cronbach’s alpha was used to determine the internal reliability of the questionnaire used in this study. Values range between 0 and 1.0; while 1.0 indicates perfect reliability Cronbach Alpha value is widely used to verify the reliability of the construct. Therefore, Cronbach Alpha was used to test the reliability of the proposed constructs.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Alpha (α)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Budget Estimation</td>
<td>0.754</td>
<td>Reliable</td>
</tr>
<tr>
<td>Quality Specification</td>
<td>0.779</td>
<td>Reliable</td>
</tr>
<tr>
<td>Needs Assessment</td>
<td>0.768</td>
<td>Reliable</td>
</tr>
<tr>
<td>Risk Management</td>
<td>0.782</td>
<td>Reliable</td>
</tr>
</tbody>
</table>

The findings indicated that budget estimation had a coefficient of 0.754, quality specification had a coefficient of 0.779, Needs assessment of 0.768, Risk management of 0.782. The results indicate that the questionnaire used in this study had a high level of reliability. Table 4.1 indicate that each of the items relates to the identified factor and that the coefficient alpha value of the identified factor was not increase if some of the items are left out. All constructs depicted that the above the suggested value of 0.7 thus the study was reliable (Mugenda & Mugenda, 2009). On the basis of reliability test it was supposed that the scales used in this study is reliable to capture the constructs.

### 3.3.4 Validity results

The study applied the KMO measures of sampling adequacy and Bartlett’s test of sphericity to test whether the relationship among the variables has been significant or not as shown in below in Table 3.2. Factor 1 was based on five items that represented budget estimation, Factor 2 was based on five items that represented quality specification, Factor 3 was based on
five items that represented needs assessment, Factor 4 was based on five items that represented
risk management, and Factor 5 with five items represented project performance.

The KMO statistic varies between 0 and 1. A value of 0 indicates that the sum of partial
correlations is large relative to the sum of correlations, indicating diffusion in the pattern of
correlations (hence, factor analysis is likely to be inappropriate). Value close to 1 indicates
that patterns of correlations are relatively compact and so factor analysis should yield distinct
and reliable factors. Ordho (2009), recommends accepting values greater than 0.5 as
acceptable (values below this should lead you to either collect more data or rethink which
variables to include). Furthermore, values between 0.5 and 0.7 are mediocre, values between
0.7 and 0.8 are good, values between 0.8 and 0.9 are great and values above 0.9 are super
(Ordho, 2009).

**Table 3.2: Factor analysis - KMO and Bart**

<table>
<thead>
<tr>
<th>KMO and Bartlett's Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kaiser-Meyer-Olkin Measure of Sampling Adequacy.</td>
</tr>
<tr>
<td>Approx. Chi-Square</td>
</tr>
<tr>
<td>Bartlett's Test of Sphericity</td>
</tr>
<tr>
<td>df</td>
</tr>
<tr>
<td>Sig.</td>
</tr>
</tbody>
</table>

Factor analysis was used to check validity of the constructs. Kaiser-Mayor-Olkin measures of
sampling adequacy (KMO) & Bartlett’s Test of Sphericity is a measure of sampling adequacy
that is recommended to check the case to variable ratio for the analysis being conducted. The
Kaiser-Mayor-Olkin measures of sampling adequacy shows the value of test statistic as 0.728,
which is greater than 0.5 hence an acceptable index. While Bartlett’s test of sphericity shows
the value of test statistic as 0.000 which is less than 0.05 acceptable indexes. This result indicates a highly significant relationship among variables.

3.4 Data Collection Procedures

Primary data was collected using structured questionnaire. The questionnaire was self-administered by the researcher to the selected personnel in the project. The researcher then picked the questionnaires after the respondents have filled them. According to Saunders et al., (2009) questionnaires are simpler in administration, scoring of items and analysis.

3.5 Data Analysis

Data collected using the questionnaire was analyzed through SPSS (Statistical Packages of Social Sciences) version 21. Data was coded for analysis. Descriptive statistics such as mean and standard deviation was used to describe indicators of supplier evaluation and procurement performance. Correlation analysis with one tailed significant test was used to test the correlation between individual indicators of procurement planning and procurement performance while a multiple regression was used to test the overall effect of procurement planning on procurement performance. ANOVA test was conducted to test the statistical significance of the overall relationship between procurement practices and project performance. The study was based on the following multiple regression model;

\[ Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \ldots + \mu \]

\[ Y = \text{Dependent variable – Project performance} \]

\[ \alpha = \text{Constant} \]

\[ \mu = \text{Error} \]

\[ \beta = \text{Coefficients} \]

\[ X_1 = \text{Cost estimation and forecasting (BEF)} \]
\( X_2 = \text{Quality specification (QSD)} \)

\( X_3 = \text{Needs assessment (NAS)} \)

\( X_4 = \text{Risk management (RMA)} \)

The functional relationship was:

\[
Y_1 = f\{X_1, X_2, X_3, X_4\}
\]

\[
Y_2 = f\{X_1, X_2, X_3, X_4\}
\]

\[
Y_3 = f\{X_1, X_2, X_3, X_4\}
\]

\[
Y_4 = f\{X_1, X_2, X_3, X_4\}
\]

Based on the formulated functional relationship the following econometric models have been tested:

Model 1 = COT = \( \beta_0 + \beta_1 \text{BEF} + \beta_2 \text{QSP} + \beta_3 \text{NAS} + \beta_4 \text{RMA} + \mu \)

Model 2 = CT = \( \beta_0 + \beta_1 \text{BEF} + \beta_2 \text{QSP} + \beta_3 \text{NAS} + \beta_4 \text{RMA} + \mu \)

Model 3 = QUA = \( \beta_0 + \beta_1 \text{BEF} + \beta_2 \text{QSP} + \beta_3 \text{NAS} + \beta_4 \text{RMA} + \mu \)
Table 3.3: Operationalization of the variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Indicators</th>
<th>Level of Measurement</th>
<th>Data collection Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Budget estimation and</td>
<td>1. Supplier evaluation</td>
<td>Ordinal</td>
<td>Questionnaire</td>
</tr>
<tr>
<td>forecasting</td>
<td>2. Close supervision</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Procurement cycle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality specification</td>
<td>1. Delivery Checking</td>
<td>Ordinal</td>
<td>Questionnaire</td>
</tr>
<tr>
<td></td>
<td>2. Supplier Audits</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. System Review</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Needs assessment</td>
<td>1. Need Identification</td>
<td>Ordinal</td>
<td>Questionnaire</td>
</tr>
<tr>
<td></td>
<td>2. Budget Approval</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Delivery Schedules</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk management</td>
<td>1. Corrective Measures</td>
<td>Ordinal</td>
<td>Questionnaire</td>
</tr>
<tr>
<td></td>
<td>2. Examination of Procurement</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Mitigation of System</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Obstacles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project performance</td>
<td>1. Cost (Y₁)</td>
<td>Ordinal</td>
<td>Questionnaire</td>
</tr>
<tr>
<td></td>
<td>2. Completion time (Y₂)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Quality (Y₃)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3.6 Limitations of the study

It was very difficult to the researcher to measure the research variables relationship between procurement practices and project performances in Ngali mining limited Rwanda. There are some areas of concern where the researcher could not get single information. In here the research used little available information given. Lack of sufficient data: the researcher faced challenges during data collection from respondents. Some respondents were not in position to reveal out data and therefore, the researcher spent more effort to attain the required data. Time
constraint: The researcher spent a lot of time running for the questionnaire if filled; the respondents have tendency of not revealing out information.

3.7 Ethical consideration

All the guidelines for writing a dissertation and the whole methodology have been followed in full. Participants in the research were informed about the purpose of the research, questionnaires designed and interview as well as assurance that results would remain anonymous. This strategy assisted in ensuring that participants were open and honest with their comments, without fear of being identified. The dignity and wellbeing of respondents was protected at all times. Individuals were treated as autonomous agents. The researcher ensured that the subject received a full disclosure of the nature of the study, the risks, benefits and alternatives. The research data remained confidential throughout the study and the researcher obtained the respondents’ permission to publish the findings of the study. In this research, no person was coerced to participate
CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND INTERPRETATION OF FINDINGS

This Chapter provides information on the findings of the study. It starts with the response rate of the study followed by the general background information of the respondents and then descriptive statistics. Factors like cost estimation, quality specification, Needs assessment and risk management were investigated to find out whether they had any influence. Towards the end of the chapter correlation and regression analysis has also been done to show the relationship between dependent variable and independent variable. The data collected from respondents was presented and summarized using tables, graphs, scatter plots, pie-charts, and descriptive statistics. To enhance quality of data obtained, Likert type questions were included whereby respondents indicated the extent to which the variables were practiced in a five-point Likert scale. The findings were discussed and interpreted in relation to the objectives of the study as in the following sections.

4.1 Response Rate

In this research, out of 40 questionnaires administered to the respondents, a total of 38 questionnaires were returned. This represent 95% response rate which is satisfactory to make conclusions for the study. According to Mugenda and Mugenda (2009) a response rate of 70% and above is rated very good. According to Rogers, Miller and Judge (2009) a response rate of 50% is acceptable for a descriptive study. Fincham (2008) further asserts that response rates approximating 60% should be the goal of researchers for most research.
4.3 Demographic Information

4.3.1 Education level of Respondents

Education level of the respondents was important, because this is an important variable in understanding if the population has the competence and capacity to plan and be mindful on cost saving for procurement activities in the institution. The study results reveal that 15.7% of the respondents had acquired college diploma, 34.2% of the respondents indicated that they had acquired bachelor’s degree, while majority 50.0% had acquired post graduate level of education as their highest level of education. These results imply that majority of the respondents had at least an undergraduate degree and hence understood the information sought by this study.

Table 4.4: Education level of respondents

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diploma</td>
<td>6</td>
<td>15.7</td>
</tr>
<tr>
<td>Graduate</td>
<td>13</td>
<td>34.2</td>
</tr>
<tr>
<td>Postgraduate</td>
<td>19</td>
<td>50.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>38</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

The level of education presented a concern in implementing effective procurement planning. Lack of proper planning could be associated with ignorance of procurement requirements and how the procurement activities are carried out in the institution. The institutions planning on procurement is not up to date since the higher percentages of the population are ignorant on the process. They request items directly from the procurement office for purchase before approval by the head of procuring entity. Due to their low education level they also purchase items which are not budgeted for in the plan.
4.3.2 Years Worked in Ngali mining

The research survey also was interested in finding out the number of years the respondents have worked with the institution. The number of years of service was interest to understand the culture and attitude of the work environment. During this study, length of working experience was tabulated, and respondents were asked to tick the relevant option provided. Sixteen-point seven percent (16.7%) of the respondents have worked in their respective organization for a period of less than five years, 33.3% had worked for a period of 6 to 10 years whereas 50.0% had worked for more than 10 years.

Table 4.5: Duration of Working in Ngali Mining

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid &lt;5</td>
<td>4</td>
<td>10.5</td>
</tr>
<tr>
<td>6 – 10</td>
<td>15</td>
<td>39.5</td>
</tr>
<tr>
<td>More than 10</td>
<td>19</td>
<td>50.0</td>
</tr>
<tr>
<td>Total</td>
<td>38</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The results reveal interesting culture those new employees have to adopt to fit into the system. The system in place as a method of procurement activities that doesn’t hold ant accountability to the people involved. There is no system in place to guide the procurement process since most of the employees inherited an institution with no systems and no department to oversee all procurement activities of the institution.

4.4 Procurement budget estimation used by Ngali’s mining limited

The study has established that cost estimation has been considered to be among the effects of procurement planning which is agreeable by the sampled population. 30% of the population recommends that is the major factor affecting procurement planning therefore it must be put into consideration when the plan is being prepared. All procurements by any institution are it
private or public is requirements given to the procurement office will determine the amount of money to be allocated. Thus, procurement planning is affected by the quality specification provided by the user departments. If the quality of the items to be procured is poor, then the procurement plan will also be poor.

Table 4.6: Respondents Views on Procurement Budget Estimation on Ngali’s Performance

<table>
<thead>
<tr>
<th>Statements</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrective actions are taken once discrepancy is identified in these processes</td>
<td>2.6%</td>
<td>10.5%</td>
<td>21.1%</td>
<td>21.1%</td>
<td>44.7%</td>
<td>3.95</td>
<td>1.16</td>
</tr>
<tr>
<td>Supplier evaluation is periodically undertaken to ensure good quality of the goods and services</td>
<td>0.0%</td>
<td>10.5%</td>
<td>7.9%</td>
<td>44.7%</td>
<td>36.8%</td>
<td>4.08</td>
<td>0.94</td>
</tr>
<tr>
<td>Close supervision of purchases is done as a way of controlling costs</td>
<td>0.0%</td>
<td>0.0%</td>
<td>15.8%</td>
<td>36.8%</td>
<td>47.4%</td>
<td>4.32</td>
<td>0.74</td>
</tr>
<tr>
<td>Market survey is conducted perpetually to ensure accuracy in cost estimate</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>57.9%</td>
<td>42.1%</td>
<td>4.32</td>
<td>0.74</td>
</tr>
<tr>
<td>Obstacles in the procurement process are mitigated in a timely manner</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>5.3%</td>
<td>94.7%</td>
<td>4.42</td>
<td>0.50</td>
</tr>
<tr>
<td>Discrepancy identified are corrected in these processes</td>
<td>10.5%</td>
<td>10.5%</td>
<td>10.5%</td>
<td>10.5%</td>
<td>10.5%</td>
<td>4.95</td>
<td>0.23</td>
</tr>
</tbody>
</table>

According to Table 4.6, among the contacted respondents, 8 (21.1%) of respondents agreed that corrective actions are taken once discrepancy is identified in these processes. 17 (44.7%) of respondents strongly agreed, 4 (10.5%) disagreed with the statement, 1 (2.6%) strongly disagreed while 8 (21.1%) were indifferent. The mean was 3.94 and the standard deviation
was at 1.16. This is strong but with level of dispersion of 0.863 shows that less controls are in place to ensure cash budgets are well prepared. Hence the need of state corporations’ management to ensure stronger controls are in place during preparation of cash budgets and this will be well represented by a smaller standard deviation.

In addition, from the contacted respondents, 44.7% of respondents agreed that Supplier evaluation is periodically undertaken to ensure good quality of the goods and services 36.4% of respondents strongly agreed, 10.5% disagreed with the statement, none strongly disagreed while 7.9% were indifferent. Findings also show that Supplier evaluation is periodically undertaken to ensure good quality of the goods and services as shown by a mean value of 4.08, which shows supplier evaluation is done and taken seriously in the state corporations.

Moreover, from the contacted respondents, 36.8% of respondents agreed that close supervision of purchases is done as a way of controlling costs 47.4% of respondents strongly agreed, while none disagreed, none strongly disagreed while 15.8% were indifferent. The mean was 4.32 and the standard deviation was at 0.74.

The researcher also established that 57.9% of respondents agreed that Market survey is conducted perpetually to ensure accuracy in cost estimate 42.1% of respondents strongly agreed, while none disagreed, none strongly disagreed while none were indifferent. The mean was 4.32 and the standard deviation was at 0.74.

The researcher established that obstacles in the procurement process are mitigated in a timely manner as indicated by mean of 4.42. This raises a great concern in the cash management of the state institutions. Lastly, the researcher established the level of dispersion was very high as reviewed by standard deviation of 0.5 hence it poses a high risk in the management of cash
in state corporations. Hence the need of establishing good mechanism to encourage proper
checks on discrepancy that are identified and corrected in these processes.

4.4.1 Regression analysis – Budget estimation and project performance

Regression analysis was conducted to empirically determine whether budget estimation was
a significant determinant of project performance at Ngali mining. Regression results in Table
4.7 indicate the goodness of fit for the regression between budget estimation and project
performance was satisfactory in the linear regression.

An R squared of 0.312 indicates that 31.2% of the variances in project performance at Ngali
mining are explained by the variances in budget estimation in the linear model.

Table 4.7: Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.442a</td>
<td>.301</td>
<td>.312</td>
<td>.65724</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Budget estimation

Result review that budget estimation is statistically significant in explaining project
performance at Ngali mining. An F statistic of 5.020 indicated that the combined model was
significant. From the analysis, a p-value less than 0.05 (p-value =0.0000) was obtained. This
implies that the simple linear model with budget estimation as the only independent variable
is significant. The ANOVA test in Table 4.8 shows that the probability value (value=0.000)
is less than α= 0.05 meaning that null hypothesis is rejected and conclude that there is a
statistical significance relationship cost of the project and project performance.
Further, to test the significance of regression relationship between cost of the project and project performance, the regression coefficients ($\beta$), the intercept ($\alpha$), and the significance of all coefficients in the model were subjected to the t-test to test the null hypothesis that the coefficient is zero. The null hypothesis state that, $\beta$ (beta) = 0, meaning there is no relationship between cost of the project and project performance as the slope $\beta$ (beta) = 0 (no relationship between the two variables). The results on the beta coefficient of the resulting model in Table 4.9 shows that the constant $\alpha = 2.487$ is significantly different from 0, since the p-value = 0.000 is less than 0.05. The coefficient $\beta = 0.342$ is also significantly different from 0 with a p-value=0.000 which is less than 0.05.

This implies that the null hypothesis $\beta1=0$ is rejected and the alternative hypothesis $\beta1 \neq 0$ is taken to hold implying that the model $Y=1487+0.342 \text{ (cost of the project)} + e$, is significantly fit. The model Project performance = $\alpha + \beta \text{ (cost of the project)}$ holds as suggested by the test above. This confirms that there is a positive linear relationship between cost of the project and project performance.
Correlation coefficients show that budget estimation ($X_1$) is significant (p-value = 0.0000) in influencing project performance ($Y$). The results of the analysis are shown in Table 4.9 and the fitted model from this analysis is shown below:

$$Y = 2.487 + 0.342X_1$$

Table 4.9: Coefficient Results Showing The Relationship Between Budget Estimation And Project Performance Coefficients (a)

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>2.487</td>
<td>.270</td>
<td>7.169</td>
</tr>
<tr>
<td></td>
<td>Budget estimation</td>
<td>.342</td>
<td>.062</td>
<td>.444</td>
</tr>
</tbody>
</table>

a. Dependent variable: Project performance

4.5 Quality Specification of Goods used by Ngali’s mining limited

The study revealed that procurement manager and procurement officers are engaged in quality specification as a way of ensuring that the outcomes of services to the public are high. Respondents indicated that with quality services and goods supplied to parastatals, these organizations can assure the public of service delivery second to none. They opined that poor services and sub-standard goods supplied to them translate to poor services offered by them to the public. The mean scores and standard deviations of the elements under quality specifications are shown in Table 4.10.
According to the results in Table 4.10, among the contacted respondents, 34.2% of respondents agreed that Consultation and information gathering to ensure high quality goods (28.9%) of respondents strongly agreed, 15.8% disagreed with the statement, 5.3% strongly disagreed while 15.8% were indifferent. The mean was 3.65 and the standard deviation was at 1.21.

Researcher also established that the user departments clearly specify quality of the required goods and services as shown by a mean value of 4.15, and standard deviation of 1.08. The researcher also established there was planning, and analysis is done before commencement of specification development as indicated by mean of 3.97 and 1.4. The researcher established
that User and management involvement in specification development as indicated by mean of 3.92. This raises a great concern in the cash management of the state institutions. Lastly, the researcher established the level of dispersion was very high as reviewed by standard deviation of 0.85 hence it poses a Supplier evaluation is periodically undertaken to ensure good quality of the goods and services. Hence the need of establishing good mechanism to overcome obstacles in the procurement process are mitigated in a timely manner.

Edvardsson (1998) contents that specification is an integral part of the procurement function. Without a quality specification the process can be filled with pitfalls and obstacles for the purchasing department. He lists the characteristics of a good specification as follows; Identifies the minimum requirements of the end user, allows for a fair and open procurement process, provides for testing/inspection to ensure the goods/services received meet the standard set forth in the specification and provides equitable award at the lowest possible cost.

Kramer and Katz, (2007) contends of poor accountability measurement within the public procurement as the major reason why service quality is compromised within the public service. This has become obvious reason why entities fail in achieving important goal of satisfying the internal users. Accountability is important both in itself and as a means to improving perceived service quality of both public and private organizations (Mustafa, 2005).

4.5.1 Regression analysis – Quality specification and project performance

Regression analysis was conducted to empirically determine whether quality specification was a significant determinant of project performance at Ngali mining. Regression results in Table 4.11 indicate the goodness of fit for the regression between quality specification and project performance was satisfactory in the linear regression.
An R squared of 0.205 indicates that 20.5% of the variances in project performance at Ngali mining are explained by the variances in quality specification in the linear model.

**Table 4.11: Model Summary**

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.209a</td>
<td>.208</td>
<td>.205</td>
<td>.65724</td>
</tr>
</tbody>
</table>

b. Predictors: (Constant), Quality specification

Result review that quality specification is statistically significant in explaining project performance at Ngali mining. An F statistic of 6.17 indicated that the combined model was significant. From the analysis, a p-value less than 0.05 (p-value =0.0000) was obtained. This implies that the simple linear model with quality specification as the only independent variable is significant.

**Table 4.12: ANOVA Results Showing the Effect of Quality Specification on Project Performance ANOVA**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>12.14</td>
<td>1</td>
<td>12.14</td>
<td>6.17</td>
<td>.000a</td>
</tr>
<tr>
<td>Residual</td>
<td>28.684</td>
<td>37</td>
<td>.476</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>40.824</td>
<td>38</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

b. Dependent Variable: Project performance
c. Predictors: (Constant), Quality specification

Further, to test the significance of regression relationship between quality specification and project performance, the regression coefficients (β), the intercept (α), and the significance of all coefficients in the model were subjected to the t-test to test the null hypothesis that the coefficient is zero. The null hypothesis state that, β (beta) = 0, meaning there is no relationship between completion time and project performance as the slope β (beta) = 0 (no relationship
between the two variables). The results on the beta coefficient of the resulting model in Table 4.13 shows that the constant $\alpha = 0.754$ is significantly different from 0, since the p-value = 0.000 is less than 0.05. The coefficient $\beta = 0.242$ is also significantly different from 0 with a p-value=0.000 which is less than 0.05.

This implies that the null hypothesis $\beta_1=0$ is rejected and the alternative hypothesis $\beta_1\neq0$ is taken to hold implying that the model $Y=0.754 + 0.242 \times \text{quality specification} + e$, is significantly fit. The model $\text{Project performance} = \alpha + \beta \times \text{quality specification}$ holds as suggested by the test above. This confirms that there is a positive linear relationship between quality specification and project performance.

Correlation coefficients show that quality specification ($X_2$) is significant (p-value = 0.0000) in influencing project performance ($Y$). The results of the analysis are shown in Table 4.13 and the fitted model from this analysis is shown below:

$Y = 0.754 + 0.242X_2$

**Table 4.13: Coefficient Results Showing the Relationship Between Quality Specification and Project Performance Coefficients (a)**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>0.754</td>
<td>.698</td>
<td>.308</td>
<td>6.365</td>
</tr>
<tr>
<td>Quality specification</td>
<td>.242</td>
<td>.152</td>
<td>.308</td>
<td>2.663</td>
</tr>
</tbody>
</table>

b. Dependent variable: Project performance

**4.6 Need Assessment done by Ngali’s mining limited**

Need assessment is the determinant of the institution requirements and then budget developed for it for the institution at any given point guided by the availability of funds an organization
can finance. Therefore, procurement planning depends on the cost or budget of the institution. The study findings reveal that respondents agreed that needs assessment affects performance in Ngali’s mining limited. The means and standard deviations of each element are tabulated in Table 4.14.

**Table 4.14: Respondents Views on Proper Need Assessment on Ngali’s Performance**

<table>
<thead>
<tr>
<th>Statements</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>The business need is clearly defined by the responsible personnel in the unit/department</td>
<td>5.3%</td>
<td>5.3%</td>
<td>13.2%</td>
<td>55.3%</td>
<td>22.1%</td>
<td>3.81</td>
<td>1.00</td>
</tr>
<tr>
<td>Thorough needs assessment is undertaken by respective heads for goods and services needed</td>
<td>5.3%</td>
<td>0.0%</td>
<td>10.5%</td>
<td>73.7%</td>
<td>10.5%</td>
<td>3.90</td>
<td>0.65</td>
</tr>
<tr>
<td>Market analysis is carried out to determine where to procure from</td>
<td>0.0%</td>
<td>5.3%</td>
<td>13.2%</td>
<td>28.9%</td>
<td>52.6%</td>
<td>4.29</td>
<td>0.90</td>
</tr>
<tr>
<td>Budget approval is obtained for the required items before purchase in the organization</td>
<td>0.0%</td>
<td>0.0%</td>
<td>31.6%</td>
<td>42.1%</td>
<td>26.3%</td>
<td>3.94</td>
<td>0.77</td>
</tr>
<tr>
<td>Reviews of the procurement system are done at regular intervals</td>
<td>0.0%</td>
<td>0.0%</td>
<td>26.3%</td>
<td>47.4%</td>
<td>26.3%</td>
<td>4.00</td>
<td>0.74</td>
</tr>
<tr>
<td>Delivery schedules that fit in the organization requirements are drawn with the suppliers</td>
<td>0.0%</td>
<td>10.5%</td>
<td>23.7%</td>
<td>39.5%</td>
<td>26.3%</td>
<td>3.82</td>
<td>0.98</td>
</tr>
</tbody>
</table>

Research established that among the contacted respondents, 55.3% of respondents agreed that the business need is clearly defined by the responsible personnel in the unit /department 22.1%
of respondents strongly agreed, 5.3% disagreed and strongly disagreed with the statement, while 13.2% were indifferent. The mean was 3.81 and the standard deviation was at 1.00.

Further the study indicated that among the contacted respondents, 73.7% of respondents agreed that thorough needs assessment is undertaken by respective heads for goods and services needed 10.5% of respondents strongly agreed, none disagreed and 5.3% strongly disagreed with the statement, while 10.5% were indifferent. The mean was 3.90 and the standard deviation was at 0.65.

In addition, among the contacted respondents, 28.9% of respondents agreed that market analysis is carried out to determine where to procure from 52.6% of respondents strongly agreed, 5.3% disagreed and none strongly disagreed with the statement, while 13.2% were indifferent. The mean was 4.29 and the standard deviation was at 0.9.

Among the contacted respondents, 26.3% of respondents agreed that budget approval is obtained for the required items before purchase in the organization 42.1% of respondents strongly agreed, none either disagreed or strongly disagreed with the statement, while 31.6% were indifferent. The mean was 3.94 and the standard deviation was at 0.77.

Among the contacted respondents, 26.3% of respondents agreed that Reviews of the procurement system are done at regular intervals 47.4% of respondents strongly agreed, none either disagreed or strongly disagreed with the statement, while 26.3% were indifferent. The mean was 4.00 and the standard deviation was at 0.74.

Lastly, among the contacted respondents, 26.3% of respondents agreed that Delivery schedules that fit in the organization requirements are drawn with the suppliers 39.5% of respondents strongly agreed, 10.5% disagreed, none strongly disagreed with the statement, while 23.7% were indifferent. The mean was 3.82 and the standard deviation was at 0.98.
4.6.1 Regression analysis – Needs assessment and project performance

Regression analysis was conducted to empirically determine whether needs assessment was a significant determinant of project performance at Ngali mining. Regression results in Table 4.15 indicate the goodness of fit for the regression between needs assessment and project performance was satisfactory in the linear regression.

An R squared of 0.285 indicates that 28.5% of the variances in project performance at Ngali mining are explained by the variances in needs assessment in the linear model.

Table 4.15: Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.321a</td>
<td>.294</td>
<td>.285</td>
<td>.65724</td>
</tr>
</tbody>
</table>

| c. Predictors: (Constant), Needs assessment |

Result review that needs assessment is statistically significant in explaining project performance at Ngali mining. An F statistic of 4.85 indicated that the combined model was significant. From the analysis, a p-value less than 0.05 (p-value =0.0000) was obtained. This implies that the simple linear model with needs assessment as the only independent variable is significant.
Table 4.16: ANOVA Results Showing the Effect Of Needs Assessment on Project Performance ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>12.14</td>
<td>1</td>
<td>12.14</td>
<td>4.85</td>
<td>.000a</td>
</tr>
<tr>
<td>Residual</td>
<td>28.684</td>
<td>37</td>
<td>.476</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>40.824</td>
<td>38</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

b. Dependent Variable: Project performance

c. Predictors: (Constant), Needs assessment

Further, to test the significance of regression relationship between needs assessment and project performance, the regression coefficients (β), the intercept (α), and the significance of all coefficients in the model were subjected to the t-test to test the null hypothesis that the coefficient is zero. The null hypothesis state that, β (beta) = 0, meaning there is no relationship between needs assessment and project performance, as the slope β (beta) = 0 (no relationship between the two variables). The results on the beta coefficient of the resulting model in Table 4.17 shows that the constant α = 2.683 is significantly different from 0, since the p-value = 0.000 is less than 0.05. The coefficient β = 0.272 is also significantly different from 0 with a p-value=0.000 which is less than 0.05.

This implies that the null hypothesis β1=0 is rejected and the alternative hypothesis β1≠0 is taken to hold implying that the model Y=2.683+0.272 (Needs assessment) + e, is significantly fit. The model project performance = α + β (Needs assessment) holds as suggested by the test above. This confirms that there is a positive linear relationship between Needs assessment and project performance.
Correlation coefficients show that budget estimation ($X_3$) is significant (p-value = 0.0000) in influencing project performance ($Y$). The results of the analysis are shown in Table 4.17 and the fitted model from this analysis is shown below:

$$Y = 2.683 + 0.272X_3$$

**Table 4.17: Coefficient Results Showing the Relationship Between Budget Estimation and Project Performance Coefficients (a)**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>2.683</td>
<td>.698</td>
<td>6.365</td>
<td>.000</td>
</tr>
<tr>
<td>Needs assessment</td>
<td>.272</td>
<td>.152</td>
<td>.308</td>
<td>2.663</td>
</tr>
</tbody>
</table>

c. Dependent variable: Project performance

**4.7 Risk Management of Goods used by Ngali’s mining limited**

Study findings reveal that risk management greatly affects service delivery at state corporations. Respondents indicated that if risks are not foreseen and mitigated, government agency risk losing a lot of money. This money, they argued can be used to offer other services to the public. Risk management helps these corporations avoid court cases, delayed supply of goods and services just but to mention a few. The mean score and standard deviations of the elements under risk management are shown in Table 4.18.
Table 4.18: Respondents’ Views on Risk Management on Ngali’s Performance

<table>
<thead>
<tr>
<th>Statements</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of transparency and accountability of procurement funds are periodically reviewed.</td>
<td>2.6%</td>
<td>10.5%</td>
<td>21.1%</td>
<td>21.1%</td>
<td>44.7%</td>
<td>3.95</td>
<td>1.16</td>
</tr>
<tr>
<td>Organizations level of compliance to procurement act and its regulation are adhered to</td>
<td>0.0%</td>
<td>0.0%</td>
<td>7.9%</td>
<td>44.7%</td>
<td>36.8%</td>
<td>4.08</td>
<td>0.94</td>
</tr>
<tr>
<td>The organization examines the procurement cycle to prevent fraud</td>
<td>0.0%</td>
<td>0.0%</td>
<td>15.8%</td>
<td>36.8%</td>
<td>47.4%</td>
<td>4.32</td>
<td>0.74</td>
</tr>
<tr>
<td>Reviews of the procurement system are done at regular intervals</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>57.9%</td>
<td>42.1%</td>
<td>4.32</td>
<td>0.74</td>
</tr>
<tr>
<td>Corrective actions are taken once discrepancy is identified in these processes</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>5.3%</td>
<td>94.7%</td>
<td>4.42</td>
<td>0.50</td>
</tr>
<tr>
<td>Periodic supplier audits are undertaken to correct compliance errors</td>
<td>10.5%</td>
<td>10.5%</td>
<td>10.5%</td>
<td>10.5%</td>
<td>10.5%</td>
<td>4.95</td>
<td>0.23</td>
</tr>
<tr>
<td>What is the level of minimization of procurement expenditure</td>
<td>2.6%</td>
<td>10.5%</td>
<td>21.1%</td>
<td>21.1%</td>
<td>44.7%</td>
<td>3.95</td>
<td>1.16</td>
</tr>
<tr>
<td>Received goods and services are checked against the local purchase order</td>
<td>0.0%</td>
<td>10.5%</td>
<td>7.9%</td>
<td>44.7%</td>
<td>36.8%</td>
<td>4.08</td>
<td>0.94</td>
</tr>
<tr>
<td>The technical abilities of the suppliers are evaluated before contract awarding</td>
<td>0.0%</td>
<td>0.0%</td>
<td>15.8%</td>
<td>36.8%</td>
<td>47.4%</td>
<td>4.32</td>
<td>0.74</td>
</tr>
</tbody>
</table>

The researcher established that the Level of transparency and accountability of procurement funds are periodically reviewed as indicated by mean of 3.29, this is strong but with level of dispersion of 1.096. Researcher also established that the organizations level of compliance to
procurement act and its regulation are adhered to as shown by a mean value of 3.56, and standard deviation of 1.210. The researcher also established the organization examines the procurement cycle to prevent fraud as indicated by mean of 3.75 and 1.210. The researcher established that reviews of the procurement system are done at regular intervals as indicated by mean of 3.75. Received goods and services are checked against the local purchase order as indicated by mean of 3.56. Lastly, the researcher established the level of dispersion was very high as reviewed by standard deviation of 1.344.

4.7.1 Regression analysis – Risk management and project performance

Regression analysis was conducted to empirically determine whether risk management was a significant determinant of project performance at Ngali mining. Regression results in Table 4.19 indicate the goodness of fit for the regression between risk management and project performance was satisfactory in the linear regression.

An R squared of 0.398 indicates that 39.8% of the variances in project performance at Ngali mining are explained by the variances in risk management in the linear model.

Table 4.19: Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.411a</td>
<td>.402</td>
<td>.398</td>
<td>.65724</td>
</tr>
</tbody>
</table>

Result review that risk management is statistically significant in explaining project performance at Ngali mining. An F statistic of 7.034 indicated that the combined model was significant. From the analysis, a p-value less than 0.05 (p-value =0.0000) was obtained. This implies that the simple linear model with risk management as the only independent variable is significant.
Table 4.20: ANOVA Results Showing the Effect Of Risk Management on Project Performance ANOVA\(^b\)

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>12.14</td>
<td>1</td>
<td>12.14</td>
<td>7.034</td>
<td>.000(^a)</td>
</tr>
<tr>
<td>Residual</td>
<td>28.684</td>
<td>37</td>
<td>.476</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>40.824</td>
<td>38</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(b\). Dependent Variable: Project performance  
\(c\). Predictors: (Constant), Risk management

Further, to test the significance of regression relationship between risk management and project performance, the regression coefficients (\(\beta\)), the intercept (\(\alpha\)), and the significance of all coefficients in the model were subjected to the t-test to test the null hypothesis that the coefficient is zero. The null hypothesis state that, \(\beta\) (beta) = 0, meaning there is no relationship between risk management and project performance, as the slope \(\beta\) (beta) = 0 (no relationship between the two variables). The results on the beta coefficient of the resulting model in Table 4.21 shows that the constant \(\alpha = 3.107\) is significantly different from 0, since the \(p\)-value = 0.000 is less than 0.05. The coefficient \(\beta = 0.274\) is also significantly different from 0 with a \(p\)-value=0.000 which is less than 0.05.

This implies that the null hypothesis \(\beta1=0\) is rejected and the alternative hypothesis \(\beta1\neq0\) is taken to hold implying that the model \(Y=3.107+0.274\) (Risk management) + e, is significantly fit. The model project performance = \(\alpha + \beta\) (Risk management) holds as suggested by the test above. This confirms that there is a positive linear relationship between risk management and project performance.
Correlation coefficients show that budget estimation ($X_4$) is significant ($p$-value = 0.0000) in influencing project performance ($Y$). The results of the analysis are shown in Table 4.21 and the fitted model from this analysis is shown below:

$$Y = 3.107 + 0.274X_4$$

**Table 4.21: Coefficient Results Showing the Relationship Between Risk Management and Project Performance Coefficients (a)**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>3.107</td>
<td>.698</td>
<td></td>
<td>6.365</td>
</tr>
<tr>
<td>Risk management</td>
<td>.274</td>
<td>.152</td>
<td>.308</td>
<td>2.663</td>
</tr>
</tbody>
</table>

**4.8 Procurement performance**

Respondents indicated that procurement planning affects performance in state corporations. They noted that proper planning before procuring goods and services ensures that these corporations get the best goods and services at competitive rates. They argued that organizations risk losing money whenever goods and services are procuring haphazardly. They argued that it is only through proper planning that organizations are able to draft clear terms of reference for procurement as well as statements of work for service delivery. The mean scores and standard deviations for element under procurement planning are indicated in Table 4.22.
Table 4.22: Respondents’ Views on Ngali’s Performance

<table>
<thead>
<tr>
<th>Statements</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>The organization is efficient and effective in- procurement performance</td>
<td>2.6%</td>
<td>10.5%</td>
<td>21.1%</td>
<td>21.1%</td>
<td>44.7%</td>
<td>3.95</td>
<td>1.16</td>
</tr>
<tr>
<td>Procurement planning helps budgetary proposals that seek to approval procurement performance</td>
<td>0.0%</td>
<td>10.5%</td>
<td>7.9%</td>
<td>44.7%</td>
<td>36.8%</td>
<td>4.08</td>
<td>0.94</td>
</tr>
<tr>
<td>Procurement planning identifies sources of funding hence procurement performance</td>
<td>0.0%</td>
<td>0.0%</td>
<td>15.8%</td>
<td>36.8%</td>
<td>47.4%</td>
<td>4.32</td>
<td>0.74</td>
</tr>
<tr>
<td>Procurement planning ensures that the organization makes clear Terms of Reference (TOR) for procurement performance</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>57.9%</td>
<td>42.1%</td>
<td>4.32</td>
<td>0.74</td>
</tr>
</tbody>
</table>

Basheka, (2008) in his findings concludes that planning is a process that consists of many steps and the bottom line is that planning is not concerned with future decisions but rather with the future impact of decisions made today. The results further revealed that the departments prepared annual procurement plans and that the procurement plans were prepared, and the goals set participatory. Procurement plans therefore influence procurement performance in the sense that they provide focused and efficient utilization of available resources, help in budgeting and planning and therefore with adequate provision of funds due to procurement plans, performance is assured.
4.9 Procurement Planning Practices and Ngali’s mining performance

The regression model applied the multiple linear regression equation: \( Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon \) where \( Y = \text{Performance} \); \( X_1 = \text{Cost Estimation} \); \( X_2 = \text{Quality Specification} \); \( X_3 = \text{Needs Assessment} \); \( X_4 = \text{Risk Management} \); \( \beta_1, \beta_2, \beta_3, \beta_4 = \text{Coefficients of determinations (R2)} \); \( \beta_0 = \text{Constant} \), and; \( \alpha = \text{Error term} \). The R square (R2) measured the correlation between the effects of procurement planning practices and performance of an institution.

The regression model was computed at 95% confidence level. The regression analysis shows that the slope of the curve or coefficient of determination (R square) is equal to 0.633. P-Value = 0.000 < 0.05 means that the model is significant at the 5%-percentage significance level.

Table 4.23: Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.792(^a)</td>
<td>.630</td>
<td>.592</td>
<td>.130</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Cost Estimation, Quality Specification, Needs Assessment and Risk Management

Table 4.23 shows that the coefficient of determination R square is 0.592 and R is 0.592 at 0.05 significant level. The coefficient of determination indicates that 59.2% of the variation in the dependent variable procurement performance is explained by the independent variables (Budget Estimation, Quality Specification, Needs Assessment and Risk Management). This means that the research variables under the study are significant.
Table 4.24: ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>.5975&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3</td>
<td>.5975</td>
<td>16.374</td>
<td>.000&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Residual</td>
<td>8.099</td>
<td>38</td>
<td>.017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>8.6965</td>
<td>41</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Performance
b. Predictors: (Constant), Budget Estimation, Quality Specification, Needs Assessment and Risk Management

Table 4.24 presents the results of Analysis of Variance (ANOVA) on procurement planning versus performance. The ANOVA results for regression coefficient indicate that the significance of the F is 0.00 which is less than 0.05. This implies that there is a positive significant effect between procurement practices and performance that the model is a good fit for the data. In other words, the null hypothesis is rejected hence accepting the alternative hypothesis. This means \((Y_1, Y_2, Y_3)\) are significant in terms of project performance.

In addition, the ANOVA test in Table 4.24 shows that the probability value (value=0.000) is less than \(\alpha=0.05\) meaning that null hypothesis is rejected and conclude that there is a statistical significance effect between procurement practices and performance.

Further, to test the significance of regression relationship between effect between procurement practices and performance, the regression coefficients \((\beta)\), the intercept \((\alpha)\), and the significance of all coefficients in the model were subjected to the t-test to test the null hypothesis that the coefficient is zero. The null hypothesis state that, \(\beta\) (beta) = 0, meaning there is no effect between procurement practices and performance as the slope \(\beta\) (beta) = 0 (no relationship between the two variables). The results on the beta coefficient of the resulting model in Table 4.24 shows that the constant \(\alpha = 0.25\) is significantly different from 0, since
the p-value = 0.000 is less than 0.05. The coefficient $\beta$ is also significantly different from 0 with a p-value=0.000 which is less than 0.05. This confirms that there is a positive linear effect between procurement practices and performance. The results of the analysis are shown in Table 4.25.

**Table 4.25: Coefficient Results**

<table>
<thead>
<tr>
<th>Mode</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>.250</td>
<td>.231</td>
<td>1.973</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>.221</td>
<td>.009</td>
<td>.444</td>
<td>1.815</td>
</tr>
<tr>
<td></td>
<td>.106</td>
<td>.050</td>
<td>1.231</td>
<td>3.616</td>
</tr>
<tr>
<td></td>
<td>.185</td>
<td>.017</td>
<td>1.075</td>
<td>1.815</td>
</tr>
<tr>
<td></td>
<td>.189</td>
<td>.240</td>
<td>.230</td>
<td>.850</td>
</tr>
</tbody>
</table>

The multiple regression equation was that:

$$Y = \alpha + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \mu$$

and the multiple regression equation became:

$$Y = 0.25 + 0.221X_1 + 0.106X_2 + 0.185X_3 + 0.189X_4.$$

As depicted in Table 4.10, there was strong positive and significant effects between budget estimation and performance ($\beta = .444; t = 1.815; p < 0.05$). and Needs assessment ($\beta = 1.075; t = 1.815; p < 0.05$). There were positive effects of between risk management and performance ($\beta = .230; t = .850; p > 0.05$). However, there was weak but significant effects between quality specification and performance ($\beta = 1.231; t = 3.616; p < 0.05$).
CHAPTER FIVE: DISCUSSION OF RESEARCH FINDINGS, CONCLUSION, AND RECOMMENDATIONS

This chapter presents a summary of major findings, a conclusion of the results followed by the recommendations arising from the findings of the study.

5.1. Discussion of research findings

Regarding the extent to which quality specification affects procurement planning, the study established that there was a significant statistical relationship between quality specification and procurement planning. This was particularly established in the type of item to be procured, financial capacity/budget allocated for that item, user involvement in development of the needs analysis of the department and drawing up the quality standards of the items requested. In the specifications of the item to be purchased and professionalism in the procurement section applied while undertaking the activity were critical in procurement planning (Mullins, 2003).

5.1.1 Procurement budget estimation on procurement performance

Research established that corrective actions are taken once discrepancy is identified in these processes as indicated by mean of 3.52, this is strong but with level of dispersion of 0.863 shows that less controls are in place to ensure cash budgets are well prepared. Hence the need of state corporations’ management to ensure stronger controls are in place during preparation of cash budgets and this will be well represented by a smaller standard deviation. Researcher also established that Supplier evaluation is periodically undertaken to ensure good quality of the goods and services as shown by a mean value of 3.87, which shows supplier evaluation is done and taken seriously in the state corporations. The researcher also established there was market survey is conducted perpetually to ensure accuracy in cost estimate as indicated by
mean of 3.56 and 1.344. The researcher established that obstacles in the procurement process are mitigated in a timely manner as indicated by mean of 3.75. This raises a great concern in the cash management of the state institutions. Lastly, the researcher established the level of dispersion was very high as reviewed by standard deviation of 1.097 hence it poses a high risk in the management of cash in state corporations. Hence the need of establishing good mechanism to encourage proper checks on discrepancy that are identified and corrected in these processes. This implies that most of the respondents were agreeing to the statements on budgeting procedures and that the variation in responses was low. Burt et al (2004) stated that, procedural procurement is vital due to considerable amounts of money spent annually in the public sector.

5.2.2 Quality specification of goods on procurement performance

established that consultation and information gathering to ensure high quality goods as indicated by mean of 3.87, this is strong but with level of dispersion of 0.794. Researcher also established that the user departments clearly specify quality of the required goods and services as shown by a mean value of 3.29, and standard deviation of 1.096. The researcher also established there was planning, and analysis is done before commencement of specification development as indicated by mean of 3.56 and 1.210. The researcher established that User and management involvement in specification development as indicated by mean of 3.75. This raises a great concern in the cash management of the state institutions. Lastly, the researcher established the level of dispersion was very high as reviewed by standard deviation of 1.097 hence it poses a Supplier evaluation is periodically undertaken to ensure good quality of the goods and services. Hence the need of establishing good mechanism to overcome obstacles in the procurement process are mitigated in a timely manner between quality specification and
institutional performance concurring with the finding of (Adamson, 1988; Davis, 1992; Feldman, 1991). The importance of procurement planning has been recognized and most researchers agree that procurement planning supports activities and the quality specification of the product which has a key link to organizations performance. Edvardsson (1998) contents that specification is an integral part of the procurement function. Without a quality specification the process can be filled with pitfalls and obstacles for the purchasing department. He lists the characteristics of a good specification as follows; Identifies the minimum requirements of the end user, allows for a fair and open procurement process, provides for testing/inspection to insure the goods/services received meet the standard set forth in the specification and provides equitable award at the lowest possible cost.

5.2.3 Proper need assessment on procurement performance

The researcher established that the business need is clearly defined by the responsible personnel in the unit/department as indicated by mean of 3.81, this is strong but with level of dispersion of 1.00. Researcher also established that thorough needs assessment is undertaken by respective heads for goods and services needed as shown by a mean value of 3.9, and standard deviation of 0.65. The researcher also established Market analysis is carried out to determine where to procure from as indicated by mean of 4.29 and 0.9. The researcher established that Budget approval is obtained for the required items before purchase in the organization as indicated by mean of 3.94. Reviews of the procurement system are done at regular intervals as indicated by mean of 4.00. Lastly, the researcher established the level of dispersion was very high as reviewed by standard deviation of 0.98 hence it poses a delivery schedules that fit in the organization requirements are drawn with the suppliers.
Agreeably Mamiro (2010) in his findings underscores these facts and concludes that one of the major setbacks in public procurement is poor procurement planning and management of the procurement process which include needs that are not well identified and estimated, unrealistic budgets and inadequacy of skills of procurement staff are responsible for procurement problems in an institution.

5.2.4 Risk management on procurement performance.

Researcher established that the Level of transparency and accountability of procurement funds are periodically reviewed as indicated by mean of 3.29, this is strong but with level of dispersion of 1.096. Researcher also established that the organizations level of compliance to procurement act and its regulation are adhered to as shown by a mean value of 3.56, and standard deviation of 1.210. The researcher also established the organization examines the procurement cycle to prevent fraud as indicated by mean of 3.75 and 1.210. The researcher established that reviews of the procurement system are done at regular intervals as indicated by mean of 3.75. Received goods and services are checked against the local purchase orders indicated by mean of 3.56. Lastly, the researcher established the level of dispersion was very high as reviewed by standard deviation of 1.344. The technical abilities of the suppliers are evaluated before contract awarding

5.2. Conclusion

Based on the above findings it can therefore be concluded that there was a significant statistical relationship between procurement planning and performance. Staff competence which is shown in the professionalism while coming up with the cost estimates and quality specification in the procurement plan as shown in the findings. Factors affecting procurement
planning was identified as need assessment, cost estimation and quality specification; other factors identified included: Financial capacity of an institution, professionalism, Management style, Availability of the procurement office, market price and quality of the items to be procured.

Some identified factors are very vital to institution procurement process. Lack of proper planning through effective identification of user needs in an organization creates an avenue of unethical practices in procurement department such as corruption and improper use of resources, excess budget votes therefore integration of procurement planning into budgetary process is important in an institutional framework.

The bottom line in procurement planning is that planning is not about the future decision but the impact of decision today, the goals must be set participatory by all users this will influence procurement performance and effective utilization of available resources and budget allocation.

From the study there is a positive significant effect between procurement practices and performance that the model is a good fit for the data. Hence the study concludes that the null hypothesis is rejected hence accepting the alternative hypothesis.

5.3. Recommendations

Findings revealed that procurement competences and most especially key personal competences highly predicted perceived performance of user departments and the institution as a whole. This therefore calls for the PPOA to carryout competences profile for all procurement cadres working in the public sector institution in all counties from time to time. Special emphasis should be put in developing key personal competences which are not clear
in Public sector organization reform Agenda. Such profile can be used for major human resource functions such as recruitment and selection, performance management and training and development of procurement officers with an aim of ensuring quality employees. Procurement practitioners’ Association should be established where representatives from centres of expertise and various procuring entities should meet regularly to inform test and develop policies and where appropriate operationalize issue

There is need for all users of organization department to develop the resource requirements needs for their department to allow procurement department proper budgetary allocation vote to the needs of the department to avoid wastages of resources and where overspending without planning a risky factor for procurement professionals.

The Researcher recommends the current study to be replicated in other public sectors to enable the readers acknowledge the area of study. This was not considered in the study hence is a viable area where a similar study can be carried out in order to establish whether the results would be the same or otherwise. The current study only looked at only one public institution which is not a full representation of the public sectors.

5.4. Areas for further research

Through this study the researcher has gained a deeper insight on how organizations can achieve successful procurement planning and the benefits in doing so, but there are some areas in which the researcher believes more research is needed to fully understand the nature of procurement planning. The results of analysis show the effect on procurement planning and institutional performance. The future research should also be carried out to explore variables affecting perceived service quality, ethics, transparency, procurement performance, and value for money in public institution procurement planning process.
Future studies should focus on the effect of procurement planning practices on service
delivery in the civil service as well as the effect of procurement practices on the performance
of private corporations.
REFERENCES


Delhi: New Age International.


APPENDICES
Appendix 1: Questionnaire

This questionnaire is designed to collect data on the relationship between procurement practices and project performances in Ngali mining limited Rwanda. The data shall be used only for academic purpose and it will be treated with confidentiality it deserves. The respondents are highly encouraged and persuaded to respond to the statements in this questionnaire in the most truthful and objected way possible. Your participation in facilitating this study will be highly appreciated. Kindly tick in the space provided with the correct answer or supply the required information where, required, please specify and elaborate.

Section A: Background of the Respondents

1. Gender
   Male ( )   Female ( )

2. Age
   18 -25 years ( )   36 – 40 years ( )   26 - 30 years ( )
   41 – 45 years ( )   31 - 35 years ( )   46 – 50 years ( )
   Over 50 years ( )

3. Job position
   Procurement officer ( )   Purchasing officer ( )
   Other (specify) ________________________________

4. How long have you worked in the current organization?
   Less than 2 years ( )   2 – 5 years ( )   5 – 7 years ( )
   7 – 10 years ( )   Over 10 years ( )
SECTION B: Relationship between procurement practices and project performances in 
Ngali mining limited Rwanda

Budget Estimation

5. To what extent do you agree or disagree to the following statements on a Likert scale 
where: 1 = Strongly Disagree 2 = Disagree 3 = Neither Agree nor Disagree 4 = Agree 
5 = Strongly Agree

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<tr>
<th>Statements</th>
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<th>3</th>
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<tbody>
<tr>
<td>Corrective actions are taken once discrepancy is identified in these processes</td>
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<tr>
<td>Supplier evaluation is periodically undertaken to ensure good quality of the goods and services</td>
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<td>Close supervision of purchases is done as a way of controlling costs</td>
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<td>Market survey is conducted perpetually to ensure accuracy in cost estimate</td>
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<tr>
<td>Obstacles in the procurement process are mitigated in a timely manner</td>
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Quality Specification

6. To what extent do you agree or disagree to the following statements on a Likert scale 
where: 1 = Strongly Disagree 2 = Disagree 3 = Neither Agree nor Disagree 4 = Agree 
5 = Strongly Agree.
7. In your opinion state how could the institution management and procurement staffs improve on the quality of specification developed..............................

**Need Assessment**

8. To what extent do you agree or disagree to the following statements on a Likert scale where: 1 = Strongly Disagree 2 = Disagree 3 = Neither Agree nor Disagree 4 = Agree 5 = Strongly Agree

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<th>Statements</th>
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<tr>
<td>Consultation and information gathering to ensure high quality goods.</td>
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<td>The user departments clearly specify quality of the required goods and services</td>
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<td>Planning and analysis is done before commencement of specification development</td>
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<td>User and management involvement in specification development</td>
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<tr>
<td>Supplier evaluation is periodically undertaken to ensure good quality of the goods and services.</td>
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<tr>
<td>Obstacles in the procurement process are mitigated in a timely manner</td>
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<tr>
<td>Statements</td>
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<tr>
<td>The business need is clearly defined by the responsible personnel in the unit /department</td>
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<tr>
<td>Thorough needs assessment is undertaken by respective heads for goods and services needed</td>
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<tr>
<td>Market analysis is carried out to determine where to procure from</td>
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<tr>
<td>Budget approval is obtained for the required items before purchase in the organization</td>
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<tr>
<td>Reviews of the procurement system are done at regular intervals</td>
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<tr>
<td>Delivery schedules that fit in the organization requirements are drawn with the suppliers</td>
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**Risk Management**

9. To what extent do you agree or disagree to the following statements on a Likert scale where: 1 = Strongly Disagree 2 = Disagree 3 = Neither Agree nor Disagree 4 = Agree 5 = Strongly Agree

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<th>Statements</th>
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<tr>
<td>Level of transparency and accountability of procurement funds are periodically reviewed.</td>
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<td>Organizations level of compliance to procurement act and its regulation are adhered to</td>
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<td>The organization examines the procurement cycle to prevent fraud</td>
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<tr>
<td>Reviews of the procurement system are done at regular intervals</td>
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</table>
10. In your opinion, state how could the institution management reduce/eliminate risk involved in procurement practices ………………………………………

**Project Performance**

11. To what extent do you agree or disagree to the following statements on a Likert scale where: 1 = Strongly Disagree 2 = Disagree 3 = Neither Agree nor Disagree 4 = Agree 5 = Strongly Agree

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<tr>
<td>The organization is efficient and effective in procurement performance in the county</td>
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<td>Project planning helps budgetary proposals that seek to approval procurement performance.</td>
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<td>Project planning identifies sources of funding hence procurement performance</td>
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<td>Project planning ensures that the organization makes clear Terms of Reference (TOR) for procurement performance</td>
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12. Please provide the following information on procurement performance; to what extent do you rate the following statements?

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<tr>
<th></th>
<th>0%-25%</th>
<th>25%-50%</th>
<th>50%-75%</th>
<th>75%-100%</th>
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<tbody>
<tr>
<td>Effectiveness</td>
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<td>Efficiency</td>
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<td>Responsiveness</td>
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Thank you