AN ASSESSMENT OF THE IMPACT OF PROCUREMENT PLANNING ON PROJECT IMPLEMENTATION AT THE OMUSATI REGIONAL COUNCIL

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ABSTRACT

The study assessed the impact of procurement planning on project implementation at the Omusati Regional Council. The research looked at need identification, procurement scheduling and risk management planning as independent variables, as well as effective project implementation as the dependent variable. Literature review has revealed a lack of consensus on specific determinants of efficiency and effectiveness in project implementation. Furthermore, the relationship between procurement planning and project implementation may vary, depending on the context in which it is studied. The study adopted a causal-comparative research design and a quantitative approach. The target population of the study was 95 PMU members at the Omusati Regional Council. The study employed a complete enumeration survey method, as it was the most appropriate for a small population. Therefore, a questionnaire with structured questions on a five-point Likert scale was administered to collect primary data from all 95 PMU members. However, only 85 copies of the questionnaire were recovered and considered for analysis. Quantitative data was analysed using Chi-square test, Pearson correlation and multiple linear regression analysis in SPSS 27. Correlation analysis found procurement need identification and procurement scheduling to be very highly single; thus, they were combined for further analysis to avert multicollinearity. Furthermore, results from regression analysis revealed that risk management planning, as well as a combination of need identification and procurement scheduling all enhanced effective project implementation, hence a positive and significant relationship between procurement planning and project implementation, resulting in the rejection of all the null hypotheses. The study recommends that roles related to need identification and procurement scheduling should be merged, to avoid duplication of functions. Furthermore, it is suggested that future research should investigate the effectiveness of the current procurement planning practices, in ensuring project continuity amidst varying impacts of different COVID-19 variants on project implementation. Likewise, new studies should assess the effectiveness of centralised procurement planning functions, in responding to community development needs. Finally, there is a need to

address the knowledge gap on how the emergence of procurement planning as a strategic tool for enhancing service delivery affects individual performances of procurement practitioners, in their drive to overcome a myriad of procurement challenges and achieve key strategic goals of PEs.

Key Words: *Procurement Planning, Need Identification, Procurement Scheduling, Risk Management Planning, Effective Project Implementation.*

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LIST OF ACRONYMS

CDC = Constituency Development Committee

EPI = Effective Project Implementation

NBS = National Bureau of Statistics

NI = Need Identification

ORC = Omusati Regional Council

PE = Procuring Entity

PMU = Procurement Management Unit

PS = Procurement Scheduling

RDCC = Regional Development Coordination Committee

RMP = Risk Management Plan

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DEDICATION

The study is tenderly dedicated to my family, whose spiritual and material support gave me the drive to undertake this challenging project with optimism. The power of family support has propelled this project to fruition.

DECLARATION

I, Mennas Mwanyangapo Aitana, hereby declare that this study is my own work and is a true reflection of my research, and that this work, or any part thereof has not been submitted for a degree at any other institution.

……. …….
Signature Date

CHAPTER ONE: INTRODUCTION AND BACKGROUND OF THE STUDY

1.1 INTRODUCTION OF THE STUDY

The study assesses the impact of procurement planning on project implementation at the Omusati Regional Council. This chapter introduces the study by providing the background of the research problem, objectives of the study, research hypotheses, significance of the study, limitations of the study, delimitation of the study, as well as the outline of the study.

1.2 BACKGROUND OF THE STUDY

The effectiveness of a procurement activity is significantly influenced by procurement planning (Changalima, Mushi & Mwaiseje, 2020). Saad (2017) argues that failure to adhere to legally defined procurement processes inhibits effective project procurement, in terms of time, cost and quality. However, Frefer, Mahmoud, Haleema and Almamlook (2018) contend that considering the project as a success or failure exclusively depending on whether it meets or fails to meet the criteria for time, cost and quality amounts to a narrow view of project success. Furthermore, there are various determinants of effective project implementation, as well as numerous organisation-specific causes of poor project implementation. The Omusati Regional Council's failure to effectively implement some capital projects is attributable to *inter alia* poor planning (Mbangula, 2020).

Lack of concurrence in literature, coupled with failure to significantly expedite project implementation despite the enactment of a statutory law on procurement, creates an opportunity for quantitative research, which presents empirical evidence on how impactful procurement planning is. Furthermore, there is growing interest in qualitatively analysing procurement systems and procedures, manifested in the increasing number of qualitative studies on procurement. However, little attention has been paid to the impact of procurement planning on project implementation, specifically considering responsiveness, budget execution and risk minimisation. Furthermore, past research on project management has overlooked the multi-dimensional nature of project success (Zaman, Nawaz, Tariq & Humayoun 2019).

The dearth of literature underscores the need for quantitative research, which determines causal relationships between defined variables of procurement planning and key deliverables of project implementation. Causal-comparative research is bound to help project managers understand the impact of procuring, pursuant to the annual procurement plan. Furthermore, the study is expected to contribute to the development of new knowledge and insights by addressing gaps in procurement literature, within the context of procurement planning and project implementation.

1.3 PROBLEM STATEMENT

Procurement planning enables an entity to define its procurement needs that inform project implementation (Saad, 2017). There is an acute shortage of scholarly work on procurement planning in Namibia. Available studies on procurement, such as Philipus (2015) are mainly based on the old

procurement statutory law, the Tender Board of Namibia Act 16 of 1996, which did not give prominence to procurement planning. Procurement planning is therefore an emerging subject in Namibia.

Despite continued emphasis on procurement planning to ensure efficient project implementation, the Omusati Regional Council continues to experience delayed completion of some development projects (Mbangula, 2020). The delayed projects include the construction of sewer reticulation at Okalongo Settlement and the establishment of Ogongo Rural Development Centre (ORC, 2021; Mbangula, 2020). In light of the above, there are many facets of procurement planning in relation to project implementation which have not yet been fully studied. The study is therefore precipitated by the dearth of literature documenting the relationship between procurement planning and effective project implementation. The study is further necessitated by the slow progress in the implementation of some development projects, despite policy efforts aimed at expediting project implementation.

1.4 OBJECTIVES OF THE STUDY

The main objective of the study is to assess the impact of procurement planning on effective implementation of development projects at the Omusati Regional Council.

Sub objectives:

- To assess the impact of need identification on project implementation.
- To examine the effectiveness of a procurement schedule in enhancing Project budget execution.

- To determine the influence of risk management planning on project implementation.

1.5 RESEARCH HYPOTHESES

The study is aimed at testing the following hypotheses.

H_0^1: Procurement need identification does not significantly influence the implementation of development projects at the Omusati Regional Council

H_1^1: Procurement need identification significantly influences the implementation of development projects at the Omusati Regional Council

H_0^2: Procurement scheduling does not significantly augment project budget execution at the Omusati Regional Council

H_1^2: Procurement scheduling significantly augments project budget execution at the Omusati Regional Council

H_0^3: Risk management planning does not significantly enhance efficient project implementation at the Omusati Regional Council

H_1^3: Risk management planning significantly enhances efficient project implementation at the Omusati Regional Council

1.6 SIGNIFICANCE OF THE STUDY

The study is significant in both furthering academic knowledge in the field of procurement and enhancing efficiency in public procurement. Below are the theoretical and practical benefits of the study.

1.6.1 Theoretical benefits of the study

The study is expected to enrich literature on the role of procurement planning in effective project implementation. Furthermore, the study will make policy recommendations on the possible interventions that are vital in ensuring that Namibian Public institutions are efficiently implementing development projects, through effective procurement plans. Given the shortage of procurement studies in Namibia, the current study is expected to help in amplifying the local procurement knowledge base.

1.6.2 Practical benefits of the study

The study will yield important knowledge and insights on procurement planning, which when applied to the Namibian Public Sector environment, can prevent wastage and overspending during the implementation of development projects.

1.7 LIMITATIONS OF THE STUDY

The target population of 95 Procurement Management Unit (PMU) members is relatively small, making it difficult to obtain an adequate sample size. The entire population will be studied through a census method, in order to prevent the occurrence of type II error.

1.8 DELIMITATION OF THE STUDY

Although inference will be made to the effect of procurement planning on the implementation of all development projects at the Regional Council, questionnaires will be delimited to the implementation of capital projects.

1.9 OUTLINE OF THE STUDY

The study consists of five (5) interrelated chapters, presented using the following chapter layout. Chapter one introduces the context of the study, discusses the background of the study and explicitly states the research problem. Furthermore, the chapter identifies the objectives of the study and three research hypotheses emanating from the objectives. The significance of the study, limitations of the study, delimitation of the study, as well as the outline of the study are also explained in chapter one.

Chapter two reviews available literature regarding the impact of procurement planning on project implementation. Chapter three specifies the methods used in collecting, analysing and presenting data. Chapter four presents data analysis and interpretation of the findings. Finally, the conclusions and recommendations of the study are discussed in chapter five. Figure 1.1 summarises the outline of the study in terms of chapter layout.

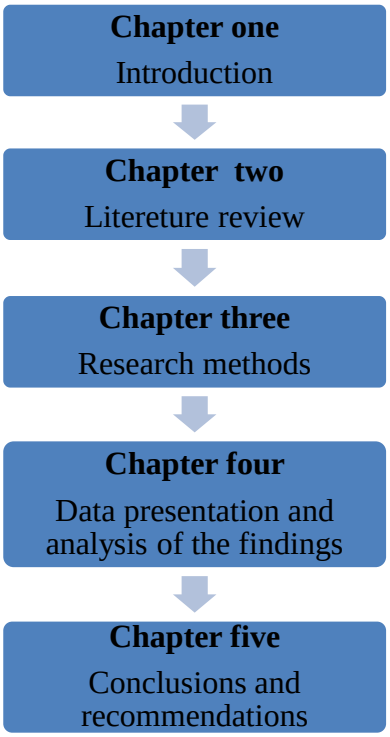

Figure 1.1 Outline of the study.

Source: *Author's construct, (2022).*

1.10 SUMMARY

At the outset, chapter one introduced the study and presented a brief orientation into the subject of procurement planning. The chapter aimed to give context to the study and identify gaps in the existing procurement knowledge base. Through providing the background of the research problem, chapter one also briefly discussed the status quo of procurement planning and project implementation at the Omusati Regional Council. Research objectives and hypotheses were also generated, in order to address the research problem. Moreover, the significance of the study was explained in terms of the practical and theoretical benefits that are likely to be derived from the study. The limitations and delimitation of the study were also identified.

Finally, the chapter ended with an outline of the study, providing a brief orientation into the layout of all chapters constituting the study. The next chapter is a critical review of available studies that looked at facets of procurement that are relevant to the current study.

CHAPTER TWO: LITERATURE REVIEW

2.1 INTRODUCTION

Procurement is a wide-ranging concept with various facets that invoke research interest. Therefore, there is an increasing body of academic knowledge on various facets of procurement. The current chapter reviews available literature on effective procurement planning. Firstly, the chapter defines procurement concepts and discusses theoretical underpinnings of the study. Secondly, the researcher juxtaposes findings of related studies on relevant aspects of procurement planning and effective project implementation. Finally, the chapter ends with a conclusion of reviewed studies that partly informs research findings. The chapter compartmentalises procurement planning into three key constructs, namely need identification, procurement scheduling and procurement risk management.

2.2 THEORETICAL LITERATURE REVIEW

According to Anane, Adoma, and Awuah (2019) sound research is ingrained in a concept. The current study is therefore directed by the two theories explained below.

2.2.1 Transaction cost theory

Coase (1937, as cited in Miriti & Mwangangi, 2018) proposed the transaction cost theory. The theory is vital in unravelling barriers that inhibit firms which intend to engage in efficient public procurement. Miriti and Mwangangi (2018) explain that such costs include costs incurred in verifying information

about the quantity and quality of what an institution intends to procure. To provide a better understanding of the relevance and applicability of the transaction cost theory in procurement research, the study is based on a theoretical framework which posits that project implementation depends on the Procuring Entity (PE) engaging in a number of transactions. The involvement of a PE in project transactions is dependent on essential activities that are vital for the successful execution of such transactions (Darabi & Jalali, 2019).

Miriti and Mwangangi (2018) in concurrence with Darabi and Jalali (2019) defend the importance of transaction cost theory in research, thus giving credence to the foundational argument of Coase (1937, as cited in Miriti & Mwangangi, 2018). The transaction cost theory will be adopted, due to its relevance in procurement planning, because formal planning procedures impose transaction costs on PEs (Darabi & Jalali, 2019). Moreover, procurement involves transactions that produce coordinated costs.

2.2.2 Stakeholders Theory

The Stakeholders theory was developed by Friedman (2006, as cited in Ocharo & Kimutai, 2018). According to the theory, the organisation in itself is considered to be a group of stakeholders. Moreover, the purpose of the organisation should be to manage stakeholders' interests, needs and viewpoints (Ocharo & Kimutai, 2018). The theory defines a stakeholder as an individual or group that exerts an impact on the realisation of defined organisational goals or is affected by the attainment of such objectives (Ocharo & Kimutai, 2018).

The management of stakeholders is understood to be fulfilled by the firm's management. Through effective stakeholder management, stakeholders play their part in ensuring that the firm complies with the relevant procurement laws, as envisaged by the Transaction cost theory. The Stakeholders theory will be adopted because public project implementation is about managing and consolidating defined roles of stakeholders within the confinement of the law, in order to achieve defined project objectives.

Compliance with the law unblocks the pathway to efficient procurement. Additionally, sound management of stakeholders ensures inclusive project implementation. Furthermore, development projects at the Omusati Regional Council are implemented in close collaboration with many stakeholders, who are represented in various development committees. Thus, the Transaction cost theory and the Stakeholders theory complementarily help in ensuring effective project management through efficient and inclusive procurement management.

2.3 EMPIRICAL LITERATURE REVIEW

Procurement planning is an emerging concept in Africa. Early studies such as Nzimande and Padayachee (2017) as well as Willy and Njeru (2014) are relatively new and did not extensively research the role of procurement planning in decentralised institutions of government, such as Regional Councils. The current subsection extensively explores the available body of procurement knowledge.

2.3.1 Conceptual Definitions

Farhat, Akbalik, Sauer and Hadji-Alouane (2017) define procurement planning as the process of identifying and consolidating procurement requirements, to ensure that required goods or services are bought from suitable suppliers in time and at reasonable costs. Mwaiseje (2020) concurs, adding that the procurement planning process may involve three major steps; namely, definition of required items, definition of the process of acquisition and preparing a schedule of the timeframes for delivery or execution purposes. It can therefore be established from the above definitions that the PE ought to have a plan that specifies the type and quantities of what needs to be bought, as well as a dated schedule of the entire procurement process.

Awanyo (2019) defines an annual procurement plan as the PE's indicative plan of what, how and when to procure goods, works and services for a particular financial year. It is a tool that facilitates organised procurement, by predetermining project deliverables, in order to achieve a foreordained outcome (Awanyo, 2019). Awanyo (2019)'s definition is in line with the Namibian Public Procurement Act 15 of 2015, which states that a procurement plan should include the required specifications of goods, works or services to be procured by the public entity during a given financial year (Parliament, 2015). Willy and Njeru (2014) agree with Nzimande and Padayachee (2017) further explaining that the procurement planning process consists of many steps. However, the bottom line is that planning is not concerned with future decisions, but rather with the future impact of decisions made today (Willy & Njeru, 2014).

Given the above definitions, procurement planning endeavours to answer questions related to what an institution wants to procure; when to procure it; where to procure from; availability of resources; the procurement method to be employed, as well as how timely or delayed procurement will affect the client (John & Kenya, 2016).

2.3.2 The importance of procurement planning

Van der Waldt and Fox (2015) explain that a procurement plan is a prerequisite, should the organisation desire to procure any products from an external supplier. The project procurement plan contains resource requirements per phase of the project. Furthermore, the plan includes details on how the Organisation intends to mobilize the requisite resources (Van der Waldt & Fox, 2015). Nshimyumuremyi, Osunsan, Florence and Comet (2019) concur, further clarifying that procurement planning is the primary function that sets the stage for subsequent procurement activities. An error in procurement planning has adverse repercussions for PEs, as it may result in redundant purchases (Nshimyumuremyi *et al.,* 2019).

According to Nzimande and Padayachee (2017) the demise of Municipalities like Harare (Zimbabwe) and Lusaka (Zambia) in terms of project implementation can be attributed to managements' failure to devise effective procurement processes. Rane, Narvel and Bhandarkar (2017) also concurred, citing inter alia, lack of digital strategy, lack of new technological competencies and inefficiencies of financial planning factors, as the most critical barriers that one would come across when investigating procurement processes in many organisations. Given the above arguments, available

literature, though limited, points to the possibility of inefficient procurement planning being one of the causes of project failure. Financial planning is specifically vital in project implementation, especially in Public Sector institutions, such as Regional Councils, whose projects are funded by national treasury. Therefore, the argument advanced by both researchers (Nzimande & Padayachee, 2017; Narvel & Bhandarkar, 2017) necessitates the need for more literature on procurement planning, in order to ensure that public funds earmarked for development are carefully budgeted and efficiently expended.

2.3.3 Procurement planning as a strategic tool for effective project implementation

Ocharo and Kimutai (2018) explain that effective project implementation can be measured based on time, cost and quality (performance). The three factors are ordinarily considered as the triple constraint (Ocharo & Kimutai, 2018). These three factors represent the Key Performance Indicators (KPIs). To establish whether a project has been effectively implemented, or better still, if the project has been successful, one has to revert to the initial project goals of time, cost and quality (performance) and be able to measure the extent of their individual achievement (Ocharo & Kimutai, 2018).

Contrary to Ocharo and Kimutai (2018)'s argument, Pinto (1986, as cited in Iram, Khan and Sherani, 2016) argues that the project management process requires extensive and collective attention to a broad aspect of human, budgetary and technical variables, due to its complex nature. The argument above defies the conventional way of assessing project success based squarely on time, cost and quality. This observation was also shared by Frefer *et al.*

(2018) who although recognizing time, cost and quality as important success factors, argued that it was vital to further examine the alignment of project outcomes with strategic organisational objectives. Assessing project compliance with key organisational documents such as the annual procurement plan contributes to project success. Thus, considering the project as a success or failure exclusively depending on whether it meets or fails the criteria for time, cost and quality is outmoded and it is the narrow view (Frefer *et al.,* 2018).

According to Zaman, Nawaz, Tariq and Humayoun (2019) earlier studies on project management have overlooked the multi-dimensional nature of project success. This has resulted in the lack of empirical data on many facets of project success. Several attempts were made to examine the interplay between transformational leadership and project success (Zaman *et al.,* 2019). However, the role of procurement management as an element of transformational leadership was barely investigated. Thus, although Zaman *et al.* (2019) found a positive relationship between transformational leadership and project success, there were no variables on procurement planning.

According to Iram *et al.* (2016) project success is the primary requirement of every organisation that is reliant on projects. The authors appear to harmonize the two arguments elucidated above, giving a more balanced view on what constitutes project success. If project administrators and executive managers do not pay attention to project operations in order to identify and manage all critical success factors, the project is bound to fail (Iram *et al.,* 2016).

Changalima, Mushi and Mwaiseje (2020) undertook a quantitative study on the effectiveness of procurement planning as a strategic tool for public procurement effectiveness, employing a cross-sectional design. The study revealed that the effectiveness of public procurement is significantly influenced by procurement planning. Therefore, PEs could achieve procurement effectiveness through effective procurement, which augments project success (Changalima *et al.*, 2020). Amadeo (2019) affirms the above argument, identifying poor procurement monitoring and failure to adhere to legally defined procurement processes and practices as factors that inhibit effective procurement. Additionally, procurement monitoring has been identified as one factor that can help an organisation to deal with the global supply chain.

Adhering to accepted procurement practices, such as procurement planning helps PEs to undertake transparent, efficient and effective procurement processes (Amadeo, 2019). Monitoring mechanisms are informed and defined by the procurement plan. Hence, the efficacy of procurement monitoring in ensuring effective project implementation is reliant on how well monitoring mechanisms are spelled out in the procurement plan or other guiding tools on project monitoring and evaluation.

It can thus be concluded from the above reviewed studies that a carefully planned procurement process is the precondition for successful project implementation. Therefore, a procurement plan is one of the key strategic tools, whose sound implementation propels effective implementation of development projects.

2.3.4 Procurement planning as a strategic tool for public service delivery

According to Awonyo (2019) service delivery is a deliberate obligatory decision by elected or appointed officials, to serve or deliver goods and services to recipients. Public service in public institutions is provided under a legal framework that governs procurement in central, regional and local spheres of Government.

A Service Delivery Framework (SDF) is a set of principles, standards, policies and constraints, used to guide the design, development, deployment, operation and retirement of services delivered by a service provider. The framework is adopted with a view to offering a consistent service experience to a specific user community in a specific context (Helmsing, 1995, as cited in Awonyo, 2019). Thus, development projects undertaken by Regional Councils are aimed at the betterment of the livelihoods of communities within the context of their respective regions. Furthermore, procurement planning in the context of the public sector allows for efficient investment of public funds in development (Awonyo, 2019).

Zahari, Loong, Liaw, Mardzuki and Ismail, (2019) affirm the need for efficiency in public procurement, further arguing that one of the strategic planning techniques that PEs can use to enhance efficient investment of public funds into development projects is a SWOT analysis. The SWOT analysis helps the PE to understand its advantages and challenges.

The studies reviewed above are predominantly qualitative. Therefore, there is an urgent need for quantitative research that critically assesses the relationship between need identification and successful public procurement. Through correlation and regression analysis, a deeper understanding of the influence that planning exerts on the procurement process can be created, in order to inform strategic decisions by PEs and improve service delivery.

2.3.5 The impact of need identification on project implementation

Zahari, *et al.* (2019) reviewed the procurement process in the context of national Defence Office and explored prerequisites in identifying the need before the procurement process begins, through a qualitative study, using semi-structured interview and document analysis. Zahari *et al.* (2019) explained that the main objective of procurement is to acquire the right quantity of the right product at a justifiable price.

The procurement office gathers all the requirements and identifies possible suppliers (Zahari *et al.*, 2019). Acquisition of a good or service through public procurement consumes the PE's financial resources. Thus, to avoid wasteful expenditure and under budgeting, it is vital that a proper identification of procurement needs is undertaken. A reliable need identification report informs preparation of project cost estimates, during project budgeting (Zahari *et al.*, 2019).

Arena *et al.* (2014, as cited in Zahari *et al.*, 2019) argues that the planning stage of capital asset acquisition is very important, as it involves the identification and definition of procurement requirement. Need assessment

must thus be carried out in a disciplined manner. At the onset, the user unit should define all procurement requirements and formulate the concept of the capital asset design.

The said process begins with evaluation of requirement and purpose before arriving at the decision to procure the asset (Arena *et al.*, 2014, as cited in Zahari *et al.*, 2019). Zahari *et al.* (2014) concurs, arguing that the principal intent of procurement planning is to ensure that the PE acquires the right product. Therefore, it is essential that the PE determines the correct product specifications, through a comprehensive need assessment exercise. The procurement process commences when user need is established and requirements for procurement are registered (Zahari *et al.*, 2019).

In light of the above arguments, need identification ensures that the Public Entity obtains the lowest purchase price for the correct product specifications. Furthermore, need identification ensures supplier reliability and allows the PE to maintain transparency in the procurement process during the implementation of development projects.

Once again, the studies reviewed above have given a predominantly qualitative account on the importance of need identification in project implementation. Therefore, the findings presented above should be supported with statistical data analysis. Hence the need for the current study.

2.3.6 The impact of procurement scheduling on Project implementation

A procurement schedule is a formal program that narrates how and when material and service requirements on the project are expected to be met (Builder-question.com, nd). Procurement scheduling may also involve allocation of responsibilities to procurement personnel and project administrators, in order to ease implementation (Dixit, Srivastava & Chaudhuri, 2014). The current subsection reviews literature based on three themes: procurement scheduling and project costs, procurement scheduling and procurement method, as well as procurement scheduling and timely project completion.

Procurement scheduling and project costs

A number of researchers have placed emphasis on the importance of minimizing costs associated with storage of materials. Dixit, Srivastava & Chaudhuri, (2014) explain that planning of deliverables, milestones and durations helps in minimizing inventory holding costs. Aloulou and Kovalyov (2017) in a study on integrated production scheduling supported the argument above, emphasising the importance of minimizing inventory holding costs through proper planning. The study concluded that it is important that project procurement activities are properly scheduled and procured materials are used within the specified timeframe, as storing materials for a long-time escalates storage costs (Aloulou & Kovalyov, 2017).

According to Andrade, Martens and Vanhouecke (2019) project scheduling encompasses decisions that affect both the duration and cost of the Project. It is thus imperative that the cost and duration of the project are accurately forecasted (Andrade *et al.,* 2019). Precise forecast averts budget overruns, especially due to incidental expenses ancillary to the costs of labour and materials, resulting from underestimation of project duration and costly exclusion of key items from the project Bill of Quantities (BoQ). Many PEs face challenges of imprecise procurement schedules, because vague estimations are often used in calculating timeframes for the implementation of project activities. Resultantly, imprecise estimates adversely affect project implementation, should they not be promptly addressed (Ssempebwa, 2013).

Habibi, Barzinpour and Sadjadi (2018) concur, arguing that the practical and theoretical benefits of project scheduling cannot be overemphasised. Practically, advancement of project scheduling as a critical part of the project management process can accelerate project completion. Unavailability or delayed delivery of materials to the sites where project activities are scheduled to take place delays specific project activities and the overall completion of the project (Patoghi & Mousavi, 2021). Therefore, scheduling procurement activities allows the PE to procure sufficient materials for the implementation of each phase of the project.

The adverse effect of keeping enough materials is that it increases inventory holding costs, leading to excessive spending (Patoghi & Mousavi, 2021). Cost is an important aspect of project implementation because project managers always aim at minimising project costs, without compromising the quality of

the final product or service. Thus, there is a need for new studies to look at how best PEs can ensure that sufficient stock of requisite materials has been procured, while minimizing holding costs by ensuring timely project implementation.

Yaghootkar and Gil (2011) explain that in schedule-driven project management, PEs are faced with an astounding challenge of sharing skilled resources across projects that are running concurrently. Thus, in the era of an acute shortage of resources, improperly coordinated sharing of resources between projects can prevent achievement of long-term project milestones in PEs.

From the qualitative research undertaken by Habibi *et al.* (2018) it can be deduced that determining the timeframe within which project procurement activities should be undertaken, allows for timeous achievement of project objectives. Thus, properly scheduling projects is an act that enhances the attainment of greater efficiency and throughput. Minnaar (2016) concurs, explaining that management has an important role to play, in ensuring that the right quality in the right quantities is procured at the right time and place. Procurement scheduling therefore helps the procurement team to achieve the desired project goals by being effective, timely and economical (Minnaar, 2016).

Procurement scheduling and procurement method

Effective scheduling is a critical element of successful time management (Wang, Hou and Cheng, 2019). It is thus important that required activities,

project deliverables and appropriate procurement methods are identified during the early stages of planning, in order to estimate the required timeframe for implementation and responsibly assign requisite resources to the project. Wang *et al.* (2019) identify two procurement methods that are frequently employed in public procurement, namely the Lowest Tender (LT) and the Best Value (BV) methods.

The two methods referred to above, are used for homogenous and heterogonous projects respectively. Moreover, many public entities are increasingly embracing a novel procurement method for heterogonous projects, called the Heterogonous Lowest Tender Method (HLT) (Wang *et al.*, 2019).

Wang *et al.* (2019) further observe that insistence on a specific way of procurement may have occasioned some public institutions to repeatedly adopt a certain procurement method, notwithstanding the varying natures of Projects. Osanyino and Aghimien (2017) agree with the above argument, affirming that some PEs choose a specific method of procurement by default, because they are familiar with it, without paying due regard to the suitability of such method to project needs. Consequently, project beneficiaries have complained about poor performance in development projects, which characterises the Country's construction sector (Osanyino & Aghimien, 2017).

In light of the consensus in literature regarding procurement methods, it can be summarised that a suitable procurement method eases satisfaction of project needs. Procurement methods contribute to project success, as they are

the key determinants of the framework of assignments for participants in a contract (Osanyino & Aghimien, 2017).

Procurement scheduling and timely project completion

Another element of procurement scheduling that literature has not extensively discussed is its impact on the availability of requisite materials to ensure smooth and timeous project implementation, as it informs the Contractors' project schedule (work program). Patoghi and Mousavi (2021) concur with both Habibi *et al.* (2018) and Wang *et al.* (2019) on project scheduling being a critical factor of effective time management, should a realistic procurement schedule be prepared.

Project activity scheduling is vital in managing inherent uncertainties in project implementation that may affect the duration of activities, required time for delivery of materials and lead time (Patoghi & Mousavi, 2021). Thus, procurement requirements should be well scheduled, in order for them to help in drawing up a realistic project schedule. Furthermore, it can be concluded from the consensus reached by the three studies that a procurement schedule is important in both aiding the preparation of subsequent plans and documenting possible dependencies between planned project activities (Patoghi & Mousavi, 2021).

Conclusion

There is general consensus amongst reviewed studies regarding the significance of procurement scheduling on project implementation. However, literature appears not to appreciate differences in the settings within which

procurement scheduling takes place at various institutions. Hence, there is a need for organisation specific studies on how procurement scheduling affects project implementation in the context of each organisation.

2.3.7 The impact of Procurement Risk Management on project success

Hong, Lee and Zhang (2018) define Procurement Risk Management (PRM) as the minimisation of disruptions in procurement, by safeguarding the PE from threats that can arise during the procurement process. The documentation of potential risks such as variable lead time, uncertain demand and volatile prices play a pivotal role in averting costly disruptions in project implementation, as a result of threats. It is therefore vital that potential risks are documented and risk mitigating plans are devised, to deal with potential impacts of procurement risks (Hong *et al.*, 2018).

Despite the important role of PRM that was identified by Hong *et al.* (2018) PRM continues to be studied as a topic under the canopy of Supply Chain Risk Management (SCRM). Therefore, there are few studies that specifically discuss PRM. Jakobsson and Nensen (2021) bemoaned the paucity of research on PRM and expressed the need for scholars to separate PRM from SCRM. Critically discussing PRM as an independent subject helps to build a firm foundation of literature, on which new studies can continue to be built, as the intensification of academic debate on the emerging subject of PRM gains momentum (Jakobsson & Nensen, 2021).

Myeza, Nkhi and Mouron (2021) explored risk management factors that contribute to contravention of procurement laws. The study identified

political influence and the tone set at executive management level as role players in determining compliance with risk management policies and principles. Risk management policies are undermined due to political interference in the administrative aspects of procurement, which leads to project failure (Myeza, Nkhi & Mouron, 2021).

In light of the two studies, literature places the function of risk management policy formulation on the legislature and the function of implementation on technocrats. The legislature through its principal function of law making lays down government policies on risk management for implementation. Since statutes passed by the legislature are generally broad, executive managements of PEs are empowered to inform such principles with operational details. Therefore, the political will expressed through risk management laws is a vital enabler of compliance, as it provides the necessary legal basis upon which project managers develop risk management plans that effectively avert losses due to risky socio-economic and environmental uncertainties.

Hong *et al.* (2018) identified wrong estimation of demand and poor coordination as the main contributing factors to operational and disruption risks. Moreover, exposure of project procurement to risk is exacerbated by market volatility. Unpredictable market changes result in uncertainties, such as volatile price, variable lead time and uncertain demand. Thus, to ensure efficient project execution, PEs should adopt sustainable risk management approaches, such as a back-up supply plan or an annual procurement plan and make integrated sourcing decisions (Hong *et al.*, 2018).

During turbulence such as COVID-19, risk management is essential in averting rash corporate decisions. Although Miceli, Hagen, Riccardi, Sotti and Settembre-Blundo (2021) postulate that procurement risk management acts as a shield bearer for institutions during uncertain times, the role of planning has not been explained. Both Miceli *et al.* (2021) and Hong *et al.* (2018) emphasise the importance of risk planning given the complex socio-economic, environmental and political settings within which both public and private institutions operate. However, the available body of knowledge does not quantify the significance of the influence that procurement risk planning exerts on project execution.

Overall, although reviewed studies offer recommendations on the best practices as far as risk planning and management are concerned, there is a deficiency of practical steps on how intra organisational communication can be enhanced, in order to raise awareness and compliance. Furthermore, reviewed studies did not elucidate the basis upon which internal risk control procedures should be built, to lighten the impact of risk on project implementation. It is thus imperative that new research focuses on two aspects of risk management, namely the impact of effective risk management practices on efficient project procurement and the possible implementation modalities of identified policy initiatives aimed at managing risk.

2.3.8 Procurement Planning in Africa

Although Africa generally has limited procurement literature, there are few studies that discussed procurement in some African Countries. Moreover, it

is perceptible that the procurement environment in many parts of Africa is largely homogeneous. However, African Countries do not have a standardized legislative directive on procurement. Each country plans its procurement based on the dictates of their procurement laws, hence the need to distinctly discuss procurement planning in each African Country, within the context of its procurement laws. Below is a review of some notable studies that discuss procurement planning in Kenya, Nigeria, Tanzania, South Africa and Namibia.

Procurement planning in the Republic of Kenya

Ocharo and Kimutai (2018) found that implementation of most power projects in Kenya was preceded by thorough planning. However, there is a general inclination that procurement plans are abandoned during implementation (Ocharo & Kimutai, 2018). Moreover, some stakeholders were mostly excluded during project design since implementation was viewed as a responsibility that was strictly bestowed on the assigned teams of technocrats. Exclusion of stakeholders and centralisation of implementation led to the project outcomes being displeasing to targeted beneficiaries (Ocharo & Kimutai, 2018). Exclusion of stakeholders defies the stakeholders' theory.

Contrary to the above finding by Ocharo and Kimutai (2018) Oliech and Mwangangi (2019) found a positive relationship between procurement planning and compliance with procurement specifications, in their study on procurement planning in Kenyan hospitals. The products procured by the hospitals were always in compliance with technical specifications. It was

further found that the quality of products procured for Kenyan hospitals was always up to the required standards, thanks to procurement planning (Oliech & Mwangangi, 2019). In this regard, it is evident that hospitals had clear procurement planning guidelines. Thus, through optimal employment of procurement planning strategies, the health sector ensured that procured goods were of the required standards, as per the technical specifications.

Furthermore, Kenyan hospitals got good procurement results because suppliers were prequalified in advance (Oliech & Mwangangi, 2019). Prequalification averted wastage of financial resources and reduced capital and operational costs in hospitals (Oliech & Mwangangi, 2019).

Anane *et al.,* (2019) also found that procurement policy, procurement plan and sustainable procurement were significant determinants of service delivery. There is coherence between Oliech and Mwangangi (2019) and Anane *et al.,* (2019). Convergence of arguments between the two research papers is premised on the argument that sound procurement policy makes provision for procurement planning, which in turn helps to provide a framework for procurement, in order to deliver the desired service. Mutoro, Makokha and Namusonge (2018) found a strong correlation between procurement planning and service delivery in the Bungoma County of Kenya. However, two shortcomings were identified as missing links in the procurement system, which adversely affected project procurement. The identified deficiencies were; lack of proper procurement plans and exclusion of stakeholders from the procurement process (Mutoro *et al.*, 2018).

The fact that abandonment of procurement plans was found to be prevalent in 2018, while improvement was reported in 2019 presents an area of possible research. It is imperative to undertake new studies which investigate whether there was an improvement as far as compliance to the procurement plan is concerned between the years 2018 and 2019. Furthermore, new research should be based on two themes; namely, the possibility of an improvement and the possibility of non-compliance being peculiarly a problem in the power sector of the Kenyan economy and uncommon in some Sectors.

Although Mutoro *et al.* (2018) identified preparation of proper procurement plans and stakeholder consultation as areas requiring improvement, reviewed studies did not propose how remedial actions should be tailored to best address exact limitations within the specific context in which such shortcomings inhibit efficient procurement planning and project implementation. Research is thus required on whether such problems are county-specific or are common in all PEs in Kenya. Further research is bound to inform procurement practitioners on the most resourceful ways of enhancing procurement planning and stakeholder consultations, in order to instil a sense of credibility and confidence in the procurement system.

Procurement planning in the Federal Republic of Nigeria

Bamidele (2020) explains that Nigeria's Public Procurement Act (2007) applies to all the processes required in acquiring goods, works and services, needed in running Government Ministries, Departments and Agencies. Moreover, The Public Procurement Act, consistent with international procurement laws, stipulates regulations and administrative techniques for

procurement of goods, works and services at the operational level (Bamidele, 2020). Furthermore, Bamidele (2020) concludes that Nigerian procurement laws generally emphasize inclusive procurement planning, which culminates into timely award of contracts to competent contractors, suppliers and service providers.

Although available research stipulates the process of procurement in Nigeria, details of the effectiveness of procurement laws remain imprecise, thus underscoring the need for more research on the practical applicability and results of such procurement regulatory frameworks. Additionally, vague conclusions on the role of procurement planning in project implementation makes it difficult to identify shortcomings in the procurement system. Hence, presenting a challenge to Nigeria in designing mitigating plans to procurement risks. The identified dearth of literature grants an opportunity to Nigerian scholars to address the identified gap, by identifying possible areas of academic interest, within the milieu of procurement planning.

Procurement planning in the United Republic of Tanzania

Changalima *et al.* (2020) explains that Tanzanian Public Procurement laws compel all PEs to adhere to procurement plans. However, the Controller and Auditor General (CAG) has uncovered widespread breach of procurement laws by some of the Audited Public Entities (Changalima *et al.,* 2020). Through Annual Audit reports, the CAG has expressed concerns over the procurement of unplanned items, contrary to the requirements of the law (Changalima *et al.,* 2020). Concerns by public procurement watchdogs in Tanzania on conducts that are inconsistent with the law reflect the

significance of procurement planning to the economy. Procurement planning is specifically important because public procurement accounts for over 50% of the Tanzanian economy (Changalima *et al.,* 2020).

The National Bureau of Statistics (NBS) reported that increased procurement activities have culminated in an increased GDP performance in the year 2019. Improvement in GDP is consistent with the rising public expenditure in key areas of the Tanzanian economy, such as health and construction (Changalima *et al.,* 2020). Thus, although Changalima *et al.* (2020) identifies concerns over adherence to procurement laws, literature shows that procurement planning has resulted in economic advancement. It is thus important that research is repeated after a period of time, to determine whether there will be further advancement or deterioration, taking into account shocks that may occur in the intervening period.

Procurement planning in the Republic of South Africa

Nzimande and Padayachee (2017) found that although South African district municipalities draw up annual procurement plans, lack of formal implementation has often led to wasteful expenditure, thus rendering procurement plans redundant in some instances. Emphasis has frequently been placed on capacitating PMU members to be able to plan effectively, in the hope that in-service training would translate into improved project implementation *(*Mokgethi & Van der Waldt, 2020). However, the Ramotshere Moiloa Local Municipality (RMLM) annual reports indicate that project procurement is not handled as scheduled, leading to delayed completion (Mokgethi & Van der Waldt, 2020). Furthermore, persistent

overspending and noncompliance with quality parameters continue to be reported in Public Institutions (Mokgethi & Van der Waldt, 2020). Poor planning, execution, controlling and monitoring of projects is attributable to lack of project management skills (Mokgethi & Van der Waldt, (2020).

Concurrence in literature on the preparation of procurement plans without any measures to ensure compliance points to the gravity of the problem. Additionally, the attribution of deteriorating procurement planning processes to lack of project management skills is consistent with the findings by Tukuta and Saruchera (2015) who discovered that procurement in Namibia, Botswana and Zimbabwe was considered an extramural activity, performed by inadequately qualified staff members. Thus, in the absence of both resourceful procurement personnel and performance management criteria, literature points to non-compliance being resultant from lack of explicit compliance guidelines in the stated African countries including South Africa.

Procurement planning in the Republic of Namibia

Namibia, just like Botswana and Zimbabwe experiences an acute shortage of published studies on procurement planning (Tukuta & Saruchera, 2015). However, there are several studies on other facets of procurement, which succinctly cover salient facts about the result of effective procurement planning, such as efficient project implementation and value for money. Public Procurement in Namibia is regulated by the Public Procurement Act 15 of 2015, which comprehensively spells out the legal requirements that PEs should meet, for any procurement activity to be deemed prudent. Schmidt (2017) explains that the enactment of the Public Procurement Act 15 of 2015

was a result of a lengthy reform process, which sought to repeal the Tender Board of Namibia Act 16 of 1996 and align public procurement with international best practices, especially by instilling the principles of competition, equity, transparency and cost-efficiency in the procurement process (Schmidt, 2017).

Tukuta and Saruchera (2015) examined the critical role of the procurement function, as well as challenges facing procurement professionals in Namibia, Botswana and Zimbabwe. The study found that procurement was still treated as a "back-office" function in the three countries. Hence, little has been invested in trying to improve the procurement systems. There is thus an urgent need for a deliberate effort to explore difficulties encountered by procurement practitioners in PEs. Given the identified inadequacy of procurement research in Namibia, it is imperative that the current research considers recommendations on how the myriad of challenges experienced by local PEs in project procurement can be handled.

There is no explicit reference to Public Procurement in the Namibian Constitution. However, Schmidt (2017) argues that fostering an efficient public procurement system is inherent in the State's mandate to advance social welfare. Schmidt (2017) further argues that Public Procurement is a complex undertaking, which significantly contributes to Namibia's GDP. However, the procurement function in Namibia and some African Countries is assigned to the non-professional staff of PEs, as an additional activity to their core responsibilities (Tukuta & Saruchera, 2015).

The complexity of public procurement in Namibia lies in the fact that it takes place at the interface of state and commercial interests (Schmidt, 2017). Therefore, procurement activities should be well planned, to ensure that the procurement process serves the interest of stakeholders in both public and private entities that are responsible for project implementation. Furthermore, it is imperative that custodianship of procurement is placed in the hands of well-trained procurement professionals, who can handle the complexity of procurement, in the context of both the state and commercial environment.

Namibia, just like Nigeria need to invest more in procurement research, as available studies do not offer resourceful insight on how procurement in general and particularly procurement planning impacts project implementation. Nevertheless, the Namibian procurement legal framework has a lot of similarities with procurement laws of Tanzania and Kenya, hence review of studies from the two economies is likely to give results that are applicable to the Namibian context.

Available writings on procurement in Namibia run far short of a comprehensive collection of studies on a country that endeavours to build a full-fledged procuring economy, with laws spelling out the obligation of compliance on PEs. Hence, the current study is necessary, since it endeavours to set a new research trend that is expected to stimulate academic debate on procurement planning in Namibia. Finally, the study will inspire new research interest on various facets of procurement.

2.3.9 Summary of literature reviewed

Chapter two was compartmentalised into theoretical and empirical literature review. The study is ingrained in the Transaction cost theory and the Stakeholders' theory, from which research hypotheses were developed. Through empirical literature review, key conceptual definitions were presented and juxtaposed, while the existing body of knowledge on procurement was critically reviewed. Below are the main highlights of the literature review.

Literature generally appears to suggest a positive relationship between some of the independent variables and the dependent variable, which ensures value for money. Firstly, timely identification of procurement needs allows the PE to obtain goods or services that commensurate with project needs. Likewise, accurate project scheduling accelerates project completion, while considerably decreasing project costs. However, some of the reviewed studies also show that the effectiveness of a procurement plan may vary from one institution to the next, depending on the procurement legal framework being used and the administrative procedures and processes of a given Institution. Hence, the relationship between procurement planning and project implementation may vary depending on the context in which it is studied and the variables under consideration.

Secondly, the prescribed procurement method exerts influence on project performance, as it defines the framework by which tasks are allocated to participants in a Contract. Therefore, poor project implementation is

attributable to *inter alia* lack of effective planning on how project deliverables can be attained.

Furthermore, literature concludes that failure to integrate compliance policies and procedures into procurement planning deprives a PE of an opportunity to safeguard its operations from potential risks. It is also concluded from literature that organisational objectives of a PE can be achieved through effective procurement. Thus, planning is a strategic tool that plays a significant role in influencing project procurement effectiveness.

Thirdly, efficient approaches to reducing capital and operating costs in public institutions can be achieved through proper hierarchical coordination of the procurement process. Strict adherence to procurement laws is vital in ensuring that there is a uniform procurement procedure, consistent with legal requirements that are spelled out in public procurement laws.

Finally, reviewed studies suggest that public procurement laws in many African Countries are unanimous in emphasising the need for a properly planned procurement process, which fosters transparency, probity and quality. However, little appears to have been done to encourage compliance and augment value for money through effective project implementation.

2.3.10 Identified research gap

It was concluded from the studies reviewed above that literature lacks an in-depth analysis of the effects of procurement planning on the implementation of development projects in Public Entities. Furthermore, where a relationship between procurement planning and project implementation appears to have

been observed, there is hardly any analysis of statistical data to determine the type of relationship between variables. Hence, the current study is expected to address the identified gap in literature, by critically analysing the role of procurement planning on the implementation of development projects at the Omusati Regional Council. The current study is thus an overdue addition to the available body of knowledge, which ameliorates the level of procurement knowledge by addressing the rarely researched subject of procurement planning.

2.4 CONCEPTUAL FRAMEWORK

Mugenda (2003, as cited in Msigwa, 2017) defines a conceptual framework as a diagrammatic demonstration of the conceptual relationship between variables of a study (P.14). The conceptual relationship between the variables under study is diagrammatically presented below.

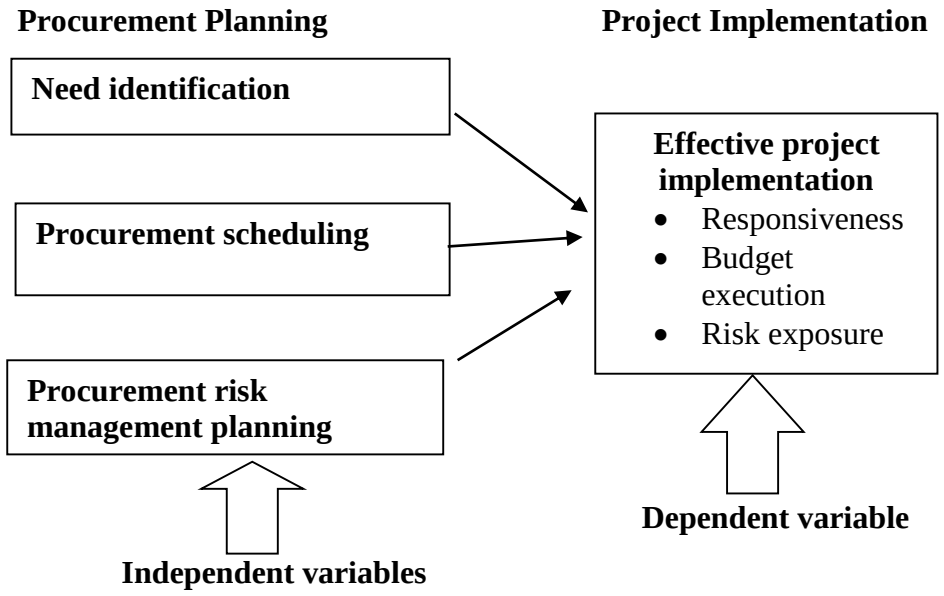

Figure 2.1 Conceptual Framework

Source: *Author's construct, (2022)*

2.4.1 Contextualisation of variables

Literature review has revealed that although different institutions and governments generally use similar terms to describe various aspects of procurement and project implementation, such terms do not always mean the exact same thing. Below are the brief definitions of variables in the specific context of the current study.

- **Need identification**- refers to the identification and specification of what needs to be procured to address a development need, through project implementation. Development needs are identified at community level and discussed by relevant development committees, such as the Constituency Development Committee (CDC) and Regional Development Coordination Committee (RDCC) while identification of required inputs is done by PMU.

- **Procurement scheduling**- In the context of the current study, procurement scheduling refers to the establishment of timelines within which each step in the procurement process should be carried out. Furthermore, depending on the nature of the project, a procurement schedule may also involve assignment of resources to various activities, as well as determining milestones and deliverables to be achieved.

- **Procurement risk management planning-** Refers to the identification and thorough assessment of possible risks associated with the

procurement process, as well as devising plans to curtail the impact of unanticipated occurrences that may lead to undesirable outcomes.

- **Effective project implementation**- refers to timely implementation of a development project that is optimally responsive to a defined development need, within the allocated budget and with minimal disruptions due to unforeseen occurrences. Effective implementation of development projects thus means achieving all defined targets and milestones within the project scope, over the contractually agreed period of time. Furthermore, it includes prudent allocation of scares resources to achieve quantifiable project outputs.

CHAPTER THREE: RESEARCH METHODS

3.1 INTRODUCTION

The current chapter is an overview of specific procedures employed in collecting, analysing and presenting research data for the current study. The chapter presents the applied research strategy in terms of philosophy, design, target population and research sample. The chapter further identifies instruments that are used in collecting data and expounds on the procedure adopted in undertaking the study. Finally, the chapter explains how appropriate ethical standards of academic research were upheld.

3.2 RESEARCH PHILOSOPHY

The study employed a positivist philosophy. According to Ryan (2018) positivism is appropriate to quantitative research, as it adopts a clear quantitative approach to investigating phenomena (p.4).

3.3 RESEARCH DESIGN

Uupindi (2019) explains that the research design is important in directing the research process, as it specifies the overall strategy for systematic data collection and analysis. The current study adopted a causal-comparative research design and quantitative approach. A causal-comparative design was suitable for establishing cause-effect relationship among variables (Jackson & Ombui, 2018). A quantitative approach in the form of a survey was adopted because it allowed the researcher to gain first-hand information and insights

from the target population, regarding the impact of the three predefined constructs of procurement planning on project implementation.

The total population of PMU members at the Omusati Regional Council was 95 officials when the study was undertaken. The number of PMU members was relatively small, making it difficult to obtain an adequately representative sample size. Thus, the entire population was included in the study through a census method, in order to prevent the occurrence of type II error due to a low statistical power. Therefore, a questionnaire with structured questions on a five-point Likert scale was issued to all 95 PMU members to collect primary data.

3.4 RESEARCH POPULATION

The target population of the study was 95 PMU members at the Omusati Regional Council. This is because in terms of the Public Procurement Act 15 of 2015, PMU members are the only employees tasked with procurement planning and actual procurement of works, goods and services for Project implementation in Public Entities.

3.5 RESEARCH SAMPLE

The study employed a complete enumeration (census) survey method. Therefore, all 95 PMU members (the entire population) were chosen for participation in the study. A questionnaire with structured questions on a five-point Likert scale was administered to collect primary data from all 95 PMU members. A census is an appropriate method for studying a small population.

Furthermore, absence of the researcher's discretion regarding the selection of the sample makes census results less biased (Leeman, 2018).

3.6 RESEARCH INSTRUMENTS

A questionnaire with structured questions on a five-point Likert scale was designed by the researcher and administered to collect primary data. The questionnaire was specifically tailored to obtain data from the respondents regarding the impact of procurement need identification, procurement scheduling and procurement risk management planning on project implementation. Responses were: **1**=Strongly Agree, **2**=Agree, **3**=No Opinion, **4**= Disagree and **5**=Strongly Disagree. A questionnaire was chosen as it enables substantial and consistent response (Iram, Khan & Sherani, 2016). Coverage efficacy of the questions included in the questionnaire was determined through assessment by the research supervisor and two reviewers. Furthermore, the questionnaire was piloted on six PMU members before undertaking the actual data collection, to enhance validity.

3.7 PROCEDURE

The study was undertaken pursuant to the UNAM research guidelines. Research activities succeeding presentation of the research proposal were undertaken as per the below narrated procedure.

Firstly, a research permission letter to proceed with the study was obtained from the University of Namibia after approval of the research proposal.

Secondly, written consent to conduct the study on the Omusati Regional Council was sought and obtained from the Regional Council.

Thirdly, self-administered questionnaires were then hand delivered to the Regional Council after permission had been granted, for the Accounting Officer's Office to issue them to all 95 PMU members. The drop and pick later method allowed participants to complete questionnaires at their most convenient time (Iram, Khan & Sherani, 2016). Questionnaires were collected from the Regional Council after two weeks. Participants were given two weeks to complete the questionnaire because Officials at the Regional Council worked in weekly shifts as part of government effort to curb the spread of COVID-19. Participants who could not complete the questionnaires during the first week had an opportunity to do so during the second week when they returned to the Office.

3.8 DATA ANALYSIS

The study employed deductive data analysis. Quantitative data was analysed using multiple linear regression in SPSS 27, as it was the latest version available. The following multiple linear regression model was used: $\mathbf{Y= \alpha_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon}$. Where: Y= Effective project implementation; α_0 = Constant; X_1 =Need identification; X_2 = Procurement scheduling; X_3 = Risk management planning; while ε = error term at 95% confidence level. The influence of each predictor is reported in the form of a standardized coefficient, β and the p-value for each predictor. Pearson Correlation was used to quantify linearity.

Prior to undertaking correlation and regression analyses, chi-square test was used to determine relationships among variables, while internal consistency of the questionnaire was determined through a reliability test. Data was also tested for normality, culminating into the adoption of Pearson correlation and linear regression for data analysis.

3.9 VALIDITY AND RELIABILITY

Uupindi (2019) explains that the accuracy and replicability of research is largely determined by the validity and reliability of research findings. Therefore, the questionnaire was piloted on six PMU members prior to undertaking the actual data collection exercise. The aim of the pilot study was to determine and enhance the validity of the research questionnaire. Reliability of the data was determined using Cronbach's Alpha.

3.10 ETHICAL CONSIDERATIONS

Ethical considerations in research include consent, confidentiality, anonymity, conflict of interest and respondents' right to privacy (Amwaama, 2020). Therefore, the researcher should clearly demonstrate how ethical standards of research are to be upheld, to prevent conflict of interest and the risk of harm to participants (Fleming & Zegwaard, 2018).

Firstly, approval to collect data was granted by the University of Namibia, while consent to undertake the study on the activities of PMU was sought from the Omusati Regional Council. Due to ethical reasons, the Regional Council does not encourage its employees to undertake academic research on activities of the Divisions under which they are employed. Thus, although the

study was undertaken by an internal researcher, permission was granted on account of the fact that the researcher is not a PMU member. Therefore, there was neither any conflict of interest nor was there implicit coercion of participants. Furthermore, participation was voluntary and participants were kept anonymous.

Secondly, there was no misrepresentation, fabrication or falsification of data. Data has been reported accurately and sources are acknowledged pursuant to the APA referencing and citation style. Finally, the data is safely stored in a lockable file cabinet, to which only the researcher has access and it will be shredded after five years.

3.11 SUMMARY

The chapter provided an overview of the techniques employed in undertaking the research. The chapter specified the adopted research philosophy and design, the target population of the study, as well as the sample size and sampling technique. Furthermore, the research instrument, procedure and data analysis methods were identified and discussed. Finally, the chapter discussed how the researcher enhanced validity and reliability of the research instrument, while upholding ethical standards of academic research. Chapter four analyses and discusses data that is germane to the subject under consideration, in order to assess cause and effect relationships between variables, pursuant to the objectives of the study.

CHAPTER FOUR: DATA PRESENTATION AND ANALYSIS OF THE FINDINGS

4.1 INTRODUCTION

The current chapter analyses and discusses the results from the analysis of data obtained through the questionnaire, in light of the defined research objectives and hypotheses. The chapter begins with a discussion on the demographic characteristics of the respondents, in terms of gender, age, occupation and experience. Furthermore, a Chi-square test was performed to determine the relationship between categorical data. Internal consistency was determined through a reliability test, using Cronbach's Alpha, while correlation between ordinal variables was tested through Pearson's correlation analysis. Regression analysis was also undertaken to amplify results of correlation analysis in determining causation.

4.2 RESPONSE RATE, VARIABLE CODES AND DEFINITIONS

The study assessed the impact of procurement planning in terms of need identification, procurement scheduling and risk management planning on effective project implementation. 95 questionnaires were distributed to PMU members at the Omusati Regional Council to source the data. However, only 85 of them were traced back, which accounted for 84.2% response rate. Since all the returned questionnaires were completely populated, they were considered for further analyses. Prior to analyses, the data was captured into an excel sheet to clean and sort it out since it was manually collected.

Codes were created for each variable and the data was subsequently extracted to SPSS software for further analyses. Effective project implementation was

coded as EPI with its 3 items coded as EPI1-EPI3. Need identification was coded as NI, while its 8 items were coded as NI1-NI8. Moreover, procurement scheduling constituted 7 items and it was given a code PS while the items were given codes PS1-PS8. Lastly, risk management planning was coded as RM and its 8 items were coded as RM1-RM2. Table 4.1 defines the variables according to their codes.

Table 4.1: Variable codes and definitions

CODE	VARIABLE
EPI	
EPI1	Responsiveness
EPI2	Cost/budget execution
EPI3	Risk exposure
NI	**Need Identification**
NI1	Ensures that the process focuses on the solution
NI2	Helps to spread out annual procurement activities
NI3	Helps the Institution to determine requisite resources
NI4	Analysis guides all subsequent procurement activities
NI5	Allows user units to project their procurement requirements
NI6	Helps the Regional Council to procure the right quantity of products
NI7	Regional Council develops its annual plan based on procurement data
NI8	Determining the expected outcomes of the procurement process
PS	**Procurement Scheduling**
PS1	A critical enabler of time management
PS2	Reduces maverick spending
PS3	Allows for timely project completion
PS4	Informs bidders' Project activity schedules
PS5	Associated with sound budget utilisation
PS6	Defines categories that are needed
PS7	Eases the allocation of resources to the project
RM	**Risk Management Planning**
RM1	Helps to understand the impact of potential risks
RM2	It is a proactive instrument that averts potential risks
RM3	Helps to promptly reconfigure procurement schedules
RM4	Helps in minimizing procurement risks
RM5	Eases risk identification
RM6	Facilitates coordinated allocation of resources
RM7	Risk monitoring leads to low-risk exposure
RM8	It is imperative to develop a risk management plan for every project

Source: *Author's construct (2022)*

4.3 DESCRIPTIVE STATISTICS

The data was collected using a Likert scale of 5, where 1 was the minimum while 5 was the maximum. Overall, all the variables yielded mean values close to 3, implying that the data was convergent to the central tendency as portrayed in Table 4.2. Furthermore, standard deviation was used to measure the level of variation for the data from the mean, and it presented low values. That is, the data was found to be closely clustered around the mean, signifying the absence of outliers in the data. Hence, the absence of multicollinearity that leads to inaccurate results.

Table 4.2: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
EPI1	85	1	5	3.31	1.346
EPI2	85	1	5	3.35	1.420
EPI3	85	1	5	2.72	1.394
NI1	85	1	5	3.12	1.392
NI2	85	1	5	3.05	1.405
NI3	85	1	5	2.98	1.397
NI4	85	1	5	3.16	1.550
NI5	85	1	5	2.92	1.433
NI6	85	1	5	3.36	1.463
NI7	85	1	5	3.12	1.475
NI8	85	1	5	3.33	1.475
PS1	85	1	5	3.48	1.368
PS2	85	1	5	3.15	1.410
PS3	85	1	5	3.58	1.276
PS4	85	1	5	2.90	1.347
PS5	85	1	5	2.64	1.396
PS6	85	1	5	2.93	1.110
PS7	85	1	5	3.15	1.286
RM1	85	1	5	3.35	1.376
RM2	85	1	5	3.46	1.410
RM3	85	1	5	3.47	1.221
RM4	85	1	5	3.19	1.310
RM5	85	1	5	3.55	1.402
RM6	85	1	5	3.27	1.383
RM7	85	1	5	3.47	1.287
RM8	85	1	5	3.44	1.384
Valid N(listwise)	85				

Source: *Research Results (2022)*

4.4 DEMOGRAPHIC STATISTICS

Demographic variables encompass readily available information that describes the sample of participants in a study (Saunders, Lewis & Thornhill, 2016). Demographic variables of the study were made up of gender, occupation, age, and the years of experience. Gender was categorised into male and female while occupation was made up of administrative officer, development planner, liaison officer, accountant, and others. Age was grouped into 20-35 years, 36-45 years, as well as 40 years and above categories. Finally, years of work experience was categorised into 1-3 years, 4-6 years, 7-10 years and above 11 years.

4.4.1 Gender

The gender demographic was analysed to determine the extent to which gender was fairly represented in the study. Results show that out of 85 participants, 59% of them represented the male category while 41% of them represented the female category as depicted in Figure 4.1. This is an indication of a moderate representation of gender in the study, implying that results are slightly skewed to the perspective of males. Nevertheless, this slight skewness does not prohibit generalisation of the results among gender.

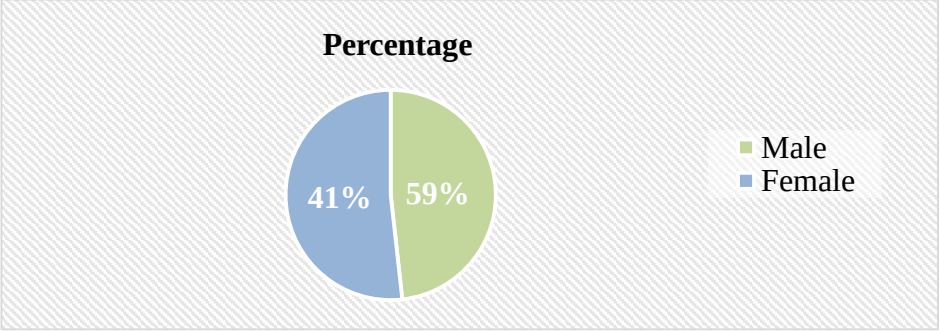

Figure 4.1: Gender demographic

Source: *Research Results (2022)*

4.4.2 Occupation

In terms of occupation, most of the participants were administrative officers, accounting for 83% of all participants, as demonstrated in Figure 4.2. Moreover, 2% represented the development planners, equivalent to the liaison officers who have also accounted for 2%. Lastly, 1% was a representation of accountants while 12% did not indicate their occupation. Overall, 87% of the participants in the study was a representation of officials who were involved in project related activities, dealing with procurement planning, contract management and report writing. The occupations of research respondents enabled them to have a better understanding of the subject matter; thus, leading to high accuracy of the data.

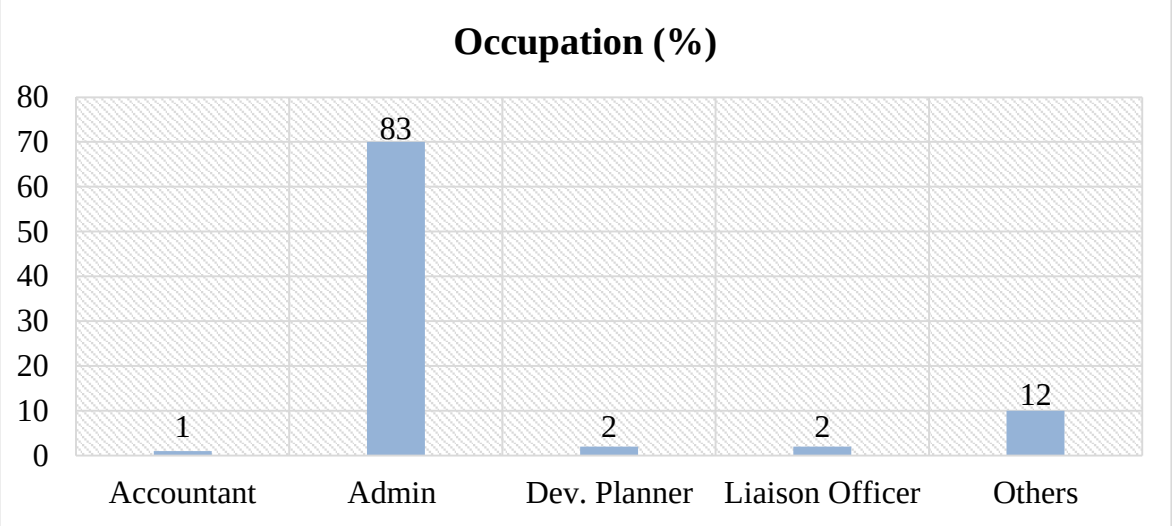

Figure 4.2: Occupation demographic

Source: *Research Results (2022)*

4.4.3 Experience and age

Experience and age data was collected from participants, to examine whether there exists a relationship between age and the years of work experience. Demographically, 52% of the participants had 4-6 years of experience, followed by 21% and 14% of those with 1-3 and over 11 years of work

experience respectively. Those with 7-10 years of work experience had the lowest representation in the study. In terms of age demographic, 59% of the participants were aged between 36-45 years, followed by 28% of those aged between 20-35 years while 13% represents participants who were at least 46 years old. These statistics are presented in Figure 4.3a (experience) and 4.4.3b (age). Statistics from the two figures indicate that the Omusati Regional Council has bestowed procurement duties predominantly on young to middle aged staff members. Furthermore, procurement practitioners at the Regional Council have at least one year of experience in procurement related activities. To determine the relationship between variables, Chi-square analysis was performed as detailed in section 4.5.

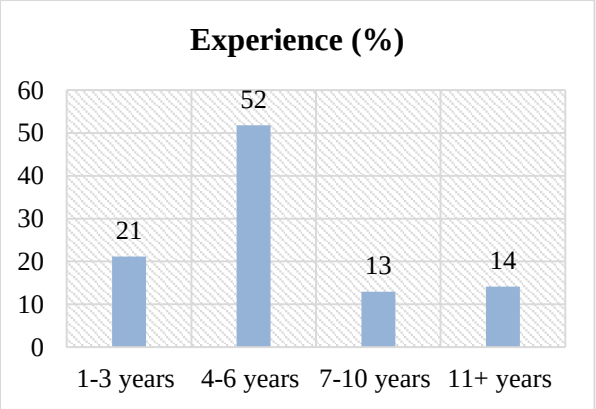

Figure 4.3a: Experience demographic

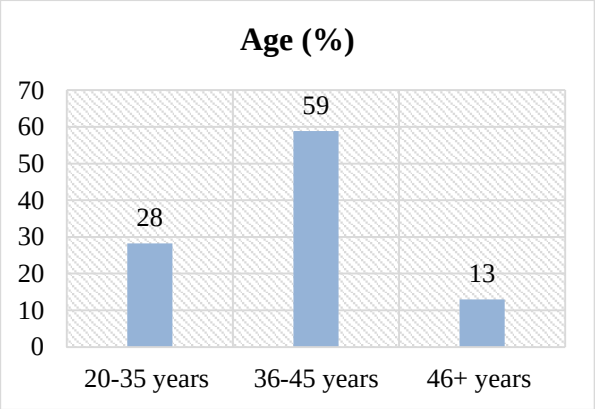

Figure 4.3b: Age demographic

Source: *Research Results (2022)*

4.5 CHI-SQUARE ANALYSIS

Both experience and age are categorical variables. Therefore, to determine whether there is dependence between them, the study employed Chi-square analysis that measures the relationship among variables that are categorical in nature rather than continuous. From the crosstabulation results portrayed

in Table 4.3a, observed count represents the observed frequency in the crosstabs table's cells while the expected count signifies the predicted frequency in the crosstabs table's cells, following the assumption that the null hypothesis is true. In this regard, the null hypothesis of Chi-square (X^2) states that there is no dependency between age and work experience while the alternative hypothesis states that age and work experience are associated with each other. Generally, the higher the divergence between the values of the observed count and expected count, the higher the score of the Chi-square, and more likely to be statistically significant enabling the rejection of the null hypothesis, which leads to the conclusion that the variables are dependent on each other. Table 4.3a presents the crosstabulation results from the Chi-square analysis, while Table 4.3b shows the Chi-square test results.

Table 4.3a: Crosstabulation results

Age * Experience Crosstabulation							
			Experience				
			1-3 years	4-6 years	7-10 years	10+ years	Total
Age	20-35 years	Count	17	7	0	0	24
		Expected Count	4.8	12.7	2.8	3.7	24.0
		% within Age	70.8%	29.2%	0.0%	0.0%	100.0%
	36-45 years	Count	0	38	10	2	50
		Expected Count	10.0	26.5	5.9	7.6	50.0
		% within Age	0.0%	76.0%	20.0%	4.0%	100.0%
	45+ years	Count	0	0	0	11	11
		Expected Count	2.2	5.8	1.3	1.7	11.0
		% within Age	0.0%	0.0%	0.0%	100.0%	100.0%
Total		Count	17	45	10	13	85
		Expected Count	17.0	45.0	10.0	13.0	85.0
		% within Age	20.0%	52.9%	11.8%	15.3%	100.0%

Source: *Research Results (2022)*

From the crosstabulation results, out of the total participants, 24 of them were aged between 20-35 years. Among these 24 participants, majority of them (17/24) accounting for 70.8%, which is greater than the expected count had 1-3 years of work experience. Similarly, among the 50 participants who were aged between 36-45 years, 38 of them (76%) had 4-6 years of experience, which is greater than the expected count. Lastly, those with over 10 years of work experience added up to 11 participants and accounted for 100% (11/11) which is also greater than the expected count. Furthermore, they were all over the age of 45. Overall, while results implied that the null hypothesis is not true, crosstabulation results did not present adequate evidence to conclude that the variables were associated with each other. Thus, the Chi-square test statistics came into play as illustrated in Table 4.3b.

Table 4.3b: Chi-square test results

	Value	**df**	**Asymptotic Significance (2-sided)**
Pearson Chi-Square	123.062[a]	6	0.000
Likelihood Ratio	108.685	6	0.000
Linear-by-Linear Association	59.777	1	0.000
N of Valid Cases	85		

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	1.203	0.000
	Cramer's V	0.851	0.000
N of Valid Cases		85	

Source: *Research Results (2022)*

From the analysis, the X^2 test results indicate the presence of dependency between age and work experience, given the p-value of 0.000, which is statistically significant at 5% level of significance. That is, (χ^2 (6, N = 85) = 123.062, p = 0.000). Thus, the null hypothesis was rejected to validate that there is indeed a relationship between age and years of work experience. On the symmetric measure of the X^2 analysis, the Cramer's V value shows 0.851, which is implying that the effect size is adequately large.

4.6 TWO-WAY ANALYSIS OF VARIANCE (ANOVA)

In general, two-way ANOVA is a comparison of means test that is used to test the effect of two independent variables on the dependent variable. For this study, the two-way ANOVA was used to analyse the effects that gender and experience as the independent variables have on effective project implementation (EPI) as the dependent variable.

4.6.1. Two-way ANOVA descriptive statistics

The results show that gender was fairly represented in the study, numerically recorded at 35 for female and 50 for males. Among the majority (45/85) who had 4-6 years of work experience, 18 were female while 27 were male, indicating a fair representation of experience among gender. However, while 17 of the participants with 1-3 years of work experience were all females, 13 and 10 of the total participants with over 10 and 7-10 years of work experience, respectively were all males. This is an indication that male representatives had more work experience than female representatives. Lastly, 1-3 years, 4-6 years, and 7-10 years categories of work experience were all adequately converging to the central tendency while the category of over 10 years of work experience was diverging from the central tendency.

Table 4.4: Two-way ANOVA descriptive statistics

Dependent Variable: EPI				
Gender	**Experience**	**Mean**	**Std. Deviation**	**N**
Female	1-3 years	14.88	0.332	17
	4-6 years	12.67	1.188	18
	Total	13.74	1.421	35
Male	4-6 years	8.89	1.281	27
	7-10 years	5.70	0.949	10
	10+ years	3.46	0.519	13
	Total	6.84	2.590	50
Total	1-3 years	14.88	0.332	17
	4-6 years	10.40	2.240	45
	7-10 years	5.70	0.949	10
	10+ years	3.46	0.519	13
	Total	9.68	4.051	85

Source: *Research Results (2022)*

4.6.2. Levine's test of equality of error variances

The Levine's test was used to test the null hypothesis, in order to determine whether the error variance of the dependent variable is equal across the groups. In that view, the test follows the assumption that the p-values must be greater than 5% level of significance in order to proceed. Against that, results indicated the presence of statistical significance as shown in Table 4.5, given that all the p-values are less than 5%, indicating that there is difference in variances between the groups.

However, the assumption can be violated in this regard, as evident from the descriptive statistics that show higher experience in the male category than in the female category. Moreover, the test was also conducted using LSD model, which is more robust, enabling moving on to the next test.

Table 4.5: Levine's test of equality of error variances

Levine's Test of Equality of Error Variances[a,b]					
		Levene Statistic	df1	df2	Sig.
EPI	Based on Mean	11.784	4	80	0.000
	Based on Median	3.024	4	80	0.022
	Based on Median and with adjusted df	3.024	4	55.750	0.025
	Based on trimmed mean	12.152	4	80	0.000

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Dependent variable: EPI

b. Design: Intercept + Gender + Experience + Gender * Experience

Source: *Research Results (2022)*

4.6.3. Tests between-subjects' effects

As depicted in Table 4.6, the tests of between-subjects effects reveal that there is a statistically significant difference between effective project implementation (EPI) and gender, as well as between EPI and number of years of work experience, given that all the p-values are less than the significant level of 5%. In addition, the Partial Eta Squared indicates that gender positively influences EPI by 65.9%, while experience positively influences it by 79.9%. However, the interaction of gender and work experience has no effect on EPI. In a nutshell, experience has the greatest impact on effective project implementation.

Table 4.6: Tests of between-subjects' effects

Dependent Variable: EPI						
Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1298.661[a]	4	324.665	325.634	0.000	0.942
Intercept	5925.606	1	5925.606	5943.276	0.000	0.987
Gender	154.133	1	154.133	154.593	0.000	0.659
Experience	317.644	3	105.881	106.197	0.000	0.799
Gender * Experience	0.000	0				0.000
Error	79.762	80	0.997			
Total	9347.000	85				
Corrected Total	1378.424	84				

a. R Squared = .942 (Adjusted R Squared = .939)

Source: *Research Results (2022)*

4.6.4. Pairwise comparison

Lastly, the pairwise comparison test was used to determine whether the differences in effective project implementation between all the categories of work experience are statistically significant. As shown in Table 4.7, the results reveal that all the differences are statistically significant, given all the p-values less than 5% level of significance.

Table 4.7: Pairwise comparisons

Dependent Variable: EPI						
(I) Experience		Mean Difference (I-J)	Std. Error	Sig.[d]	95% Confidence Interval for Difference[d]	
					Lower Bound	Upper Bound
1-3 years	4-6 years	4.105[*,b]	0.286	0.000	3.536	4.673
	7-10 years	9.182[*,b,c]	0.398	0.000	8.390	9.974
	10+ years	11.421[*,b,c]	0.368	0.000	10.689	12.153
4-6 years	1-3 years	-4.105[*,c]	0.286	0.000	-4.673	-3.536
	7-10 years	5.078[*,c]	0.350	0.000	4.380	5.775
	10+ years	7.316[*,c]	0.316	0.000	6.688	7.945
7-10 years	1-3 years	-9.182[*,b,c]	0.398	0.000	-9.974	-8.390
	4-6 years	-5.078[*,b]	0.350	0.000	-5.775	-4.380
	10+ years	2.238[*,b,c]	0.420	0.000	1.403	3.074
10+ years	1-3 years	-11.421[*,b,c]	0.368	0.000	-12.153	-10.689
	4-6 years	-7.316[*,b]	0.316	0.000	-7.945	-6.688
	7-10 years	-2.238[*,b,c]	0.420	0.000	-3.074	-1.403

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. An estimate of the modified population marginal mean (I).

c. An estimate of the modified population marginal mean (J).

d. Adjustment for multiple comparisons: Least Significant Difference (equals no adjustments).

Source: *Research Results (2022)*

4.7 RELIABILITY TEST

Reliability test was conducted to determine the internal consistency of the questionnaire used for data collection. Cronbach's Alpha was used for reliability testing. Cronbach's Alpha consists of an Alpha coefficient with a value between 0 and 1, used to measure the consistency of responses to a set of questions (Saunders *et al.,* 2016). The rule of thumb considers a Cronbach's Alpha of at least 0.7 acceptable and indicating internal

consistency of the instrument, while an Alpha less than 0.7 shows inconsistency of the instrument. As illustrated in Table 4.8, reliability test within and among the factors all show Cronbach's Alphas greater than 0.7, signifying the existence of internal consistency of the instrument; hence, the reliability of the data.

Table 4.8: Reliability test

Factor	N of Items	Cronbach's Alpha
EPI	3	0.913
NI	8	0.874
PS	7	0.872
RM	8	0.895
Overall	4	0.899

Source: *Research Results (2022)*

4.8 NORMALITY TEST

The data was first tested for normality to determine the appropriate inferential statistical analyses to be used for ordinal variables. After transforming the raw data based on their means, the Shapiro-Wilk test for data sets less than 100 showed that the variables were not statistically significant, implying that they were all normally distributed. This was validated with the skewness and kurtosis presented in Table 4.9.

Table 4.9: Normality test

Statistics				
Variable	**N**		**Skewness**	**Kurtosis**
	Valid	**Missing**		
Age	85	0	0.121	-0.476
Education	85	0	0.776	0.206
Occupation	85	0	2.069	2.544
Experience	85	0	0.667	-0.344
EPI1	85	0	-0.484	-1.026
EPI2	85	0	-0.345	-1.153
EPI3	85	0	0.415	-1.067
NI1	85	0	-0.052	-1.273
NI2	85	0	-0.085	-1.301
NI3	85	0	-0.064	-1.358
NI4	85	0	-0.066	-1.504
NI5	85	0	0.048	-1.357
NI6	85	0	-0.287	-1.273
NI7	85	0	-0.071	-1.335
NI8	85	0	-0.295	-1.246
PS1	85	0	-0.305	-1.254
PS2	85	0	-0.515	-1.142
PS3	85	0	-0.457	-0.899
PS4	85	0	-0.577	-0.918
PS5	85	0	-0.662	-0.863
PS6	85	0	-0.873	-0.173
PS7	85	0	-0.653	-0.710
RM1	85	0	-0.238	-1.309
RM2	85	0	-0.501	-1.050
RM3	85	0	-0.332	-0.929
RM4	85	0	-0.844	-0.396
RM5	85	0	-0.669	-0.849
RM6	85	0	-0.792	-0.620
RM7	85	0	-0.671	-0.549
RM8	85	0	-0.387	-1.042
EPI	85	0	-0.161	-1.255
NI	85	0	-0.129	-1.378
PS	85	0	-0.570	-0.915
RM	85	0	-0.563	-0.878
NIPS	85	0	-0.311	-1.244

Source: *Research Results (2022)*

According to the rule of thumb, the acceptable values of skewness and kurtosis should not be greater than 3 or -3 in absolute values. From the analyses, results show that the skewness and kurtosis values for all variables

are less than +/-3 in absolute value. This is an indication that the data are normally distributed, confirming the Shapiro-Wilk test's results that reveal normal distribution of the data. Thus, Pearson correlation and linear regression analyses were used for further analyses.

4.9 PEARSON'S CORRELATION ANALYSIS

Pearson correlation analysis was used to determine the extent to which ordinal variables were correlated to each other. EPI represents effective project implementation, NI is need identification, PS is project scheduling, while RM is risk management planning. From the correlation analysis, NI and PS were found to be very highly correlated at 0.989. This was an indication that when they are included in the regression model separately, they would cause multicollinearity. Therefore, the two variables were combined according to their averages to form one variable coded as NIPS for regression analysis. Moreover, both NI and PS were found to be equally correlated to EPI at 0.794, while RM and EPI; RM and NI, as well as RM and PS were all moderately correlated at 0.810, 0.798, and 0.741 respectively. Thus, they were all included in the correlation model separately. Correlation results are presented in Table 4.10.

Table 4.10: Pearson correlation analysis

	1	2	3	4
EPI	1			
NI	. 794**	1		
PS	.794**	.989**	1	
RM	.880**	.798**	.741**	1

**. Correlation is significant at the 0.01 level (2-tailed).

Source: *Research Results (2022)*

4.10 REGRESSION ANALYSIS

Regression analysis was performed to supplement correlation analysis with respect to the determination of causal relationship between the dependent variable and independent variables. Table 4.11a displays the regression model summary.

Table 4.11a: Regression model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.898a	0.887	0.879	0.50950

a. Predictors: (Constant) NIPS, RM

Source: *Research Results (2022)*

Regarding the goodness fit of the model to the data, the R shows a large value (0.898) indicating that the model fits well to the data, as presented in figure 4.11a. Additionally, R-squared is 0.887, signifying that 88.7% of variation in effective project implementation is accounted for by risk management and a combination of need identification and procurement scheduling. Lastly, the adjusted R-squared (0.879) is also good enough, implying the potential of the predictors to explain 87.9% of the variation in effective project implementation on the population level.

Table 4.11b: Regression analysis summary

Model		B	Std. Error	T	Sig.	Tolerance	VIF
1	(Constant)	-0.349	0.205	-1.504	0.136		
	RM	0.101	0.045	7.231	0.018	0.988	1.003
	NIPS	0.385	0.047	8.148	0.000	0.988	1.003

a. Dependent Variable: EPI

Source: *Research Results (2022)*

Table 4.11b depicts the regression analysis summary. According to the model, effective project implementation (EPI) was treated as the dependent variable, while risk management (RM) and a combination of need identification and procurement scheduling (NIPS) were the predictors. The coefficient signs indicate the direction of the relationship between the variables, where a positive sign (+) indicates a direct relationship while a negative sign (-) is an indication of an inverse relationship. Moreover, a coefficient of zero (0) implies no relationship between the variables.

Results show a negative value for the constant, indicating that the absence of RM and NIPS can cause a reduction of 34.9% in EPI. Asides the constant, the coefficient signs of RM and NIPS are both positive, indicating a direct relationship between the regressand and the predictors. Precisely, when RM improves by 1%, EPI will improve by 10.1%. Similarly, an improvement of 1% in NIPS enhances EPI by 38.5%. These relationships are both statistically significant at p-values less than 5%, which can also be confirmed with the t-values, both greater than 1.96, according to the rule of thumb. In that light, the regression equation is simplified as follows:

Initial equation:

$$EPI = \alpha_0 + \beta_1 NI + \beta_2 PS + \beta_3 RM + \varepsilon$$

Modified equation after correlation analysis:

$$EPI = \alpha_0 + \beta_1 RM + \beta_2 NIPS + \varepsilon$$

Therefore, $EPI = -0.349 + 0.101(RM) + 0.385(NIPS) + \varepsilon$

Lastly, the collinearity diagnostics was constituted in the model to measure the amount of multicollinearity in a set of variables included in the model,

using the variance inflation factor (VIF). Following the rule, low value of the VIF, particularly less than 10 means high tolerance of variation, indicating that the model is not suffering from multiple collinearities. On the other hand, a high value indicates low level of tolerance for variation, implying the presence of multicollinearity due to high correlation between the variables included in the model. Based on the regression results presented in Table 4.11b, the VIF values for RM and NIPS are both 1.003 (less than 10) indicating moderate correlation of the variables constituted in the model; hence, high tolerance of 98.8% for both variables, implying the reliability of the results since the model is not suffering from multiple collinearities. Since the results of the study reveal a positive and statistically significant relationship between RM and EPI; and NIPS in terms of NI and PS, the study rejects all the null hypotheses associated with the variables to accept the alternative hypothesis. That is:

> **H_1**: Risk management planning has a positive and significant influence on efficient project implementation at the Omusati Regional Council.
>
> **H_2**: A combination of procurement need identification and procurement scheduling has a positive and significant impact on the effective implementation of projects at the Omusati Regional Council.

In light of the above results, procurement planning should always precede all succeeding activities leading up to actual delivery of the procured good, service or work, in order to achieve defined procurement objectives through optimal utilisation of resources allocated to the project.

4.11 DISCUSSIONS

The study employed instruments of data analysis indicated above, to critically analyse the impact of procurement planning on project implementation. The impact of two independent variables; RM and NIPS on EPI was measured. Data analysis was done in the sequence of sections on the questionnaire. Below is a detailed discussion on the findings of the study.

4.11.1 Demographic characteristics of PMU Members

The significance of demographic data in research is that it helps in determining whether participants of the study constitute a representative sample of the target population, for the purpose of generalisation. Therefore, demographic data helps to avert sampling bias (Connelly, 2013). Demographic characteristics of PMU members were analysed prior to the analysis of data obtained from the 5-point Likert scales.

Uupindi (2019) explains that younger and older employees have different views and perspectives about certain factors, due to different effects of life stage development, appertaining to level of education, marital status and work experience. Therefore, demographic characteristics of employees were considered in the study, to determine the composition of various demographic characteristics in PMU at the Omusati Regional Council.

The gender demography indicated that male respondents who returned the questionnaire outnumbered their female counterparts. Thus, the gender demographic indicated slight skewness to the perspective of the males, given that 51% of the respondents were male, while female respondents accounted

for 49%. However, the detected imbalance was not significant to inhibit generalisation of results. Furthermore, it is important to note that the high number of male respondents does not imply that PMU at the Omusati Regional Council consists of a high number of male than female members, since only 84.2% of members returned the questionnaire.

Data on the occupations of employees was also analysed. Results indicated that respondents were Officials who are directly involved in procurement and project implementation at the Regional Council. Although 12% of the participants did not indicate their occupations, it is imperative to note that all participants were PMU members. PMU holds custodianship of all procurement activities. Thus, although some employees may be coming from Divisions that procure more often than others, all respondents had knowledge on the subject matter, as they were appointed under the same Act of parliament (Public Procurement Act 15 of 2015) and are legally empowered to facilitate procurement activities when need arises.

Furthermore, all PMU members contribute to the preparation of the annul procurement plan, as well as the annual report on what the Regional Council has procured. The data obtained is therefore trustable as it came from knowledgeable Officials, most of whom have 4-6 years of experience in procurement.

Results indicate that most PMU members are in the position of Administrative Officer, constituting 83% of all participants. The high representation of the Administrative Officer position is attributable to the fact that most of the positions at the Omusati Regional Council are administrative

in nature. Administrative Officers therefore outnumbered all other employees at various ranks within the Regional Council.

Importantly, many Administrative Officers at different levels are employed under different Divisions within the Regional Council and do not all perform the same tasks outside the scope of their procurement duties. Additionally, PMU members are based at different duty stations, thus working under varying environments that partly inform their perspectives and characteristics. Hence, the fact that Administrative Officers constitute the majority of PMU members does not signify any form of asymmetry or bias. The small representation of other occupations in the study is due to less employees from the specific professions at the Regional Council.

Results of the Chi-square test analysis indicate that there was a relationship between age and years of experience. Furthermore, results on the relationship between age and years of experience are complementary to those of Setiadi, Ursula, Rismawati and Setini (2020) who found that age and work experience had a significant influence on the productivity of officials. However, Setiadi *et al.* (2020) did not assess the relationship between the two variables, thus the current finding fills an important gap, by providing empirical evidence regarding the type and significance of the relationship. It can be deduced from the results that older employees are presumed to have worked at the Regional Council for a long time, acquiring experience in procurement over the years, while being sent for In-service training workshops, in order for their capacities to be enhanced.

Generally, results of demographic data analysis indicate that respondents are well-versed in procurement and project management. Respondents have the experience and exposure in public procurement, given that the Omusati Regional Council serves regional inhabitants through the implementation of development projects. Therefore, respondents engage in procurement activities on a daily basis. Thus, data obtained from the questionnaire could be relied upon for well-grounded findings.

4.11.2 Validity and reliability of the research instrument

The study used a questionnaire on five-point Likert scales to collect primary data. Questionnaires are primarily designed to obtain appropriate data in the most valid and reliable manner (Taherdoost, 2016). Therefore, it was important for validity and reliability of the questionnaire to be tested prior to undertaking correlation and regression analysis of the data collected using the questionnaire.

Validity

Validity explains how well the collected data covers the focus area of the study (Taherdoost, 2016). The importance of validity testing is that it helps to determine if the researcher can make inferences from the data obtained with the research instrument. Taherdoost (2016) identifies four major types of validity, namely face validity, content validity, construct validity and criterion validity. However, content validity was chosen for the current study, as it is the most appropriate measure of validity that best covers the content universe to which the questionnaire would be generalised (Farideh, 2003). Content

validity is concerned with how well the research instrument covers measurable content that constitutes the focus of the study (Farideh, 2003).

In light of the above, content validity was applied to measure the extent to which questions included in the questionnaire provided adequate coverage of the specified research objectives. In that respect, coverage efficacy was determined through assessment by a panel of professors, who assessed the essentiality and practicality of the questions that constituted the questionnaire. Academics have vast expertise in questionnaire content, as they are experienced research supervisors.

Therefore, validity assessment guided the researcher in making key determinations about the research instrument under consideration, namely the measurable extend of each item for defining the traits and the set of items that represent all aspects of the traits (Farideh, 2003). Appropriate amendments were made to the questionnaire, pursuant to the recommendations of content experts. Modification of the questionnaire on recommendation of experts prior to data collection ensured that the questionnaire was appropriately tailored to capture all key facets of the variables under consideration, in order to aid identification of causative relationships between the independent and dependent variables.

Reliability

The reliability concept in quantitative research is concerned with the extent to which measurement of a phenomenon provides stable and consistent data (Taherdoost, 2016). Reliability tests are therefore undertaken to determine repeatability of results. A reliable instrument is expected to uphold the

principle of repeatability. In the context of the current study, repeat measurement under constant conditions using the questionnaire is expected to give the same results.

Cronbach's Alpha using an Alpha coefficient with a value between 0 and 1, was used to determine internal consistency of the questionnaire used for data collection. Cronbach's Alpha coefficient was used because it is the most suitable measure of reliability when Likert scales are used in data collection (Taherdoost, 2016). It is imperative that reliability tests are undertaken to minimize subjectivity in the study, so that results can be replicated. Results of the reliability test within and among the factors all demonstrated Cronbach's Alphas greater than 0.7, signifying the existence of internal consistency of the instrument; hence, reliability of the data. Results confirmed that should the questionnaire be used again to probe the constructs defined in the study; similar results will be obtained.

4.11.3 Findings from Pearson correlation and multiple linear regression analysis

Below is an interpretation of correlation and regression results. The results are discussed according to the objectives of the study.

The impact of need identification and procurement scheduling on project implementation

As earlier indicated in section 4.8, the direction and strength of the relationship between NI and PS was measured using Pearson correlation. Correlation analysis found a strong relationship between NI and PS. The fact that the two variables are highly correlated with one another at 0.989 and both

are equally correlated to EPI with a correlation coefficient of 0.794 is interpreted to mean that the two variables move in one direction. Therefore, one variable can be used to predict the other, which skews results in a regression model, creating redundant data. In other words, multicollinearity makes some variables statistically insignificant, by overinflating the standard errors (Daoud, 2017). Highly correlated variables (NI and PS) were thus not separately included in the regression model.

In the context of determining the impact of need identification and procurement scheduling on effective project implementation, a strong relationship between the two variables implied that functions associated with need identification and procurement scheduling were related. High correlation would therefore lead to the distortion of the relationship between dependent and independent variables, resulting in the researcher wrongly interpreting the relationships. At the level of effective project implementation, it would not be cost effective for the Regional Council to consider investing resources in concurrently undertaking both NI and PS. Parallel undertaking of the two activities will result in duplication of duties.

It can be deduced from the results that the two variables are equally important. Identification of procurement needs informs procurement activity scheduling, as project procurement activities, deliverables and milestones are all derived from the needs defined during the need identification phase of procurement planning. It is therefore imperative that the two functions are merged into one activity, which encompasses correct identification of needs and careful

scheduling of procurement activities, to prevent wasteful usage of resources in attempting to separately augment both.

The influence of risk management planning on project implementation

The study found a positive and statistically significant relationship between RM and EPI. Results of regression analysis address the need identified in the literature review, for empirical studies that critically assess the type and significance of the relationship between RM and EPI. Results indicate that RM significantly influence EPI. A 1% increase in RM improves EPI by 10.1%, implying that enhancing procurement risk planning minimizes procurement risk exposure, which results in improved project implementation. Furthermore, poor procurement planning exerts a negative impact on effective project implementation. Procurement risk planning is thus an essential factor in enhancing the resilience of the entire procurement process to risk. Risk management planning guides the project team's efforts to keep procurement risk in a tolerable range. Moreover, minimal risk exposure eases management of procurement activities, thus shielding project implementation from unforeseen disruptions.

Evidence of a positive, statistically significant relationship between RM and EPI affirms the widely accepted argument, initially advanced by Hong *et al.* (2018) that the importance of procurement risk management planning lies in shielding resources invested in the project. Therefore, PEs should maintain a high standard of security for the entire procurement process (Hong *et al.,* 2018). It can further be reasoned from the results that PMU members should integrate RM into the annual procurement plan and individual procurement

plans for development projects, in order to protect the procurement process from adverse impacts of unforeseen occurrences.

4.12 MAIN FINDING OF THE STUDY

The main finding of the study is that procurement risk planning and a combination of need identification and procurement scheduling activities enhance effective project implementation. Therefore, there exists a positive and statistically significant relationship between procurement planning and project implementation. Effective project implementation can thus be enhanced by augmenting the two independent variables of the study namely, RM and NIPS.

Omusati Regional Council should therefore ensure that all PMU members are capacitated with requisite skills to undertake activities related to RM and NIPS, in a way that allows the Regional Council to effectively implement regional development projects. Effective project implementation in the specific context of the study implies ensuring that the project is optimally responsive to the specific development need(s) for which it was incepted. Furthermore, effective project implementation involves ensuring that implementation is done efficiently, within the allocated project budget and there are risk mitigating strategies in place, to ensure minimal risk exposure and impact throughout the implementation process.

In light of the above finding, the study amplifies findings of past research, while creating new knowledge within the context of procurement studies.

Below is a detailed explanation of how the current study contributes to new knowledge perspectives.

4.12.1 CONTRIBUTION OF THE STUDY TO NEW KNOWLEDGE PERSPECTIVES

Through the rejection of all the null hypotheses and the acceptance of alternative hypotheses, the study addresses the knowledge gap identified in the literature review, regarding the impact of procurement planning on project implementation. Literature review revealed that although there were predominately qualitative studies conducted on procurement planning, the impact of independent variables which the study sought to assess was often overlooked or partly considered. Hence, below are the ways in which the study contributes to new knowledge perspectives.

Firstly, the study extends knowledge and understanding of procurement planning within the Namibian context, by providing an in-depth analysis of measurable data to formulate facts and juxtaposing results with insights derived from a review of predominantly qualitative studies on procurement in Namibia. Additionally, there is an acute shortage of procurement studies in Namibia. Reviewed studies that looked at procurement in Namibia did not explicitly assess the effectiveness of the local procurement system in terms of the reigning legal framework.

Tukuta and Saruchera (2015) looked at general challenges facing procurement professionals in developing economies including Namibia, without comprehensively analysing the effectiveness of procurement systems

and processes. Furthermore, Philipus (2015) looked at the old procurement statutory law, which has now been repealed, while Mbangula (2020) looked at project implementation in one settlement. Therefore, the current study is expected to help in advancing the emergence of procurement as an area of academic interest in Namibia, specifically the planning phase of public procurement, in terms of the Public Procurement Act 15 of 2015.

The current study did not look at procurement planning under the umbrella of Supply Chain Management (SCM) as was done by past studies. The study engaged procurement planning as an emerging subject. Furthermore, the study positively responded to the intensification of academic debate to enrich available literature on procurement planning, by building a firm empirical foundation for future researchers to build on. Thus, recommendations of the study are bound to inform specific strategies to mitigate threats amidst disruption risks resulting from inter alia the spread of the COVID -19 pandemic, as requested by Jakobsson and Nensen (2021). The study is thus a vital component of modern procurement literature, which advances the development of new knowledge and insights that are in tune with Namibia's current procurement legal framework.

Secondly, development of the author's unique constructs to explain results of data analysis fortifies the originality of the findings, which can aid development of more vigorous procurement theories that are useful in both devising new ways of analysing phenomena and expanding the available procurement knowledge base. Furthermore, a Cronbach's Alpha greater than 0.7 signifies that data is reliable and thus fit to be used by other researchers

in further exploring different aspects of procurement planning and enriching available literature with new insights on how public procurement can be improved.

Thirdly, given the dearth of literature on risk management planning as a component of procurement planning, the study intensifies emergence of academic debate on the significance of risk management planning, especially in light of threats and uncertainties facing implementation of many projects as a result of the COVID-19 pandemic. Furthermore, a positive and statistically significant relationship between RM and EPI that was found through regression analysis augments findings by Hong *et al.* (2018).

The current study also informs literature on how operational and disruptive risks identified by Hong *et al.* (2018) affect implementation of development projects. Literature review has revealed a deficiency in information on the basis upon which PEs could develop their internal procurement risk control procedures. In response, data analysis has produced empirical evidence on the kind of relationship that exists between risk management planning and effective project implementation. The results are likely to be beneficial to both theory and practice. Results serve as a foundation for the development of procurement risk control procedures, while underpinning prior research with statistical evidence.

Fourthly, the findings underpin past studies with new empirical evidence by accepting all alternative hypotheses. Changalima, *et al.* (2020) undertook a cross-sectional study on the effectiveness of procurement planning and

observed that there was a relationship between procurement planning and the effectiveness of public procurement. However, it is imperative to note that cross sectional studies are observational in nature. Therefore, the study cited above did not extensively determine the impact of specific independent variables of procurement planning on specific dependent variables of public procurement. Changalima, *et al.* (2020) rather focused on existing characteristics of the study. Furthermore, public procurement is a very comprehensive concept, thus the results might not be applicable when different variables are used. It was thus important that a causal-comparative study is undertaken to analyse statistical data and identify causative relationship between variables.

Additionally, findings of the current study present new insights on the type and significance of the relationship that exists between specified variables. Thus, a positive and statistically significant relationship between the dependent and independent variables addresses the shortcoming that existed in past studies, such as Changalima *et al.* (2020).

Fifthly, results from Pearson correlation analysis contribute to the expansion of the existing understanding of correlation amongst indicators of procurement planning. NI and PS were found to be highly correlated at 0.989. Therefore, the results are expected to help future researchers avert the problem of multicollinearity, should they intend to replicate the study. Furthermore, correlation results have generated knowledge that is useful to project managers in making strategic decisions on the allocation of requisite resources to functions related to NI and PS.

Finally, regression results introduce an essential dimension to the body of knowledge within the domain of procurement management. Results are important to researchers and procurement practitioners alike, as they quantify the reduction or improvement in EPI that results from a change in RM and NIPS. Besides the relevance of the study in procurement research, results are also expected to contribute to research in the risk management milieu. The extensive nature of data analysis and the high tolerance of 98.8% implies high reliability of results. Reliability of results creates a trustable basis for future research on emerging concepts, such as procurement planning.

4.13 SUMMARY

In summary of the results, data analysis has generated essential information and knowledge which can aid both future studies and policy formulation. Firstly, the study extends knowledge and understanding of procurement planning within the Namibian context, by providing an in-depth analysis of measurable data to formulate facts and juxtaposing results with insights derived from a review of predominantly qualitative studies on procurement in Namibia.

Secondly, the study advances the development of new knowledge and insights on the type and significance of the relationship that was observed through qualitative research. Thirdly, the study intensifies the emergence of academic debate on the significance of risk management planning, especially in light of threats and uncertainties facing implementation of many projects, as a result of the COVID-19 pandemic. Research findings further underpin

previous research with new empirical evidence by accepting all alternative hypotheses.

Finally, results from Pearson correlation and multi-linear regression analyses significantly contribute to the existing understanding of correlation amongst indicators of procurement planning. Therefore, the study is not a duplicate of past research. Data analysis creates a firm basis that informs policy recommendations on how project procurement can be enhanced, taking the positive and statistically significant relationship between variables into consideration. The next chapter presents the conclusions and recommendations of the study.

CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

The current chapter is an overview of the main findings of the study. The chapter summarises the main findings of the study and discusses theoretical as well as practical implications of the study. Furthermore, the chapter spells out policy recommendations that will help the Omusati Regional Council and other PEs to improve project implementation through meticulous procurement planning. Finally, the chapter identifies key areas for further research.

The purpose of the study was to assess the impact of procurement planning on project implementation at the Omusati Regional Council. Procurement planning was premised on three key constructs that constituted the independent variables, namely, need identification, procurement scheduling and risk management planning. Furthermore, project implementation was assessed in terms of responsiveness to development needs, budget execution and risk exposure.

The main objective of the study was to be addressed through the achievement of the following sub-objectives:

i. To assess the impact of need identification on project implementation
ii. To examine the effectiveness of a procurement schedule in enhancing Project budget execution.
iii. To determine the influence of risk management planning on project implementation.

In an attempt to achieve the above stated objective, the study adopted a causal-comparative design and quantitative approach. Primary data was collected through a questionnaire with structured questions on a five-point Likert scale. Due to the small size of the target population, a complete enumeration survey method was used and copies of the questionnaire were administered on the entire population. A comprehensive review of procurement and project management literature was undertaken, in order to give context and define the scope of the study. Literature review focused on relevant procurement theories, as well as empirical review of the findings from related studies. Finally, the main findings were summarised according to the research objectives.

5.2 MAJOR FINDINGS OF THE STUDY

The enactment of the Public Procurement Act 15 of 2015, has brought fundamental changes to the Namibian procurement landscape. The Act introduced major reforms to public procurement, aimed at achieving greater efficiency and value for money. It was therefore necessary that a study is conducted, to assess the impact that procurement planning has on effective implementation of development projects. Below summarised are the major findings of the study, according to the three sub-objectives, whose achievement signifies achievement of the main objective.

Sub-objective one (1) and two (2): To assess the impact of need identification and procurement scheduling on effective project implementation.

Firstly, need identification (NI) and procurement scheduling (PS) were found to be highly correlated. Therefore, they could not be included in a regression model separately, lest they cause multicollinearity. The two variables were thus combined to form one variable coded as NIPS for the purpose of regression analysis.

Secondly, results of the study revealed a positive, statistically significant relationship between NIPS and EPI. Therefore, NIPS significantly influences EPI. Furthermore, regression results indicated that a 1% improvement in NIPS enhances EPI by 38.5%**.**

Sub-objective three (3): To determine the influence of risk management planning on project implementation.

The study revealed a positive, statistically significant relationship between risk management planning (RM) and effective project implementation (EPI). Furthermore, it was found that a 1% improvement in RM enhances EPI by 10.1%.

5.3 IMPLICATIONS OF THE STUDY

Findings of the study are likely to significantly contribute to procurement theory, policy and practice. Moreover, the study can serve as the basis upon which further research can be grounded, to further develop the existing body

of knowledge on procurement and project implementation. The theoretical and practical implications of the study are explained in subsections 5.3.1 and 5.3.2 below.

5.3.1 Theoretical implications

The study contributes to procurement literature in two important ways: Firstly, a novel conceptual framework was developed, in order to organise new ideas that help in achieving the research objective. The new conceptual framework averted unnecessary duplication of past research, while guiding a comprehensive and deeper data analysis to address the gap identified in literature.

Secondly, assessment of the impact of procurement planning on project implementation was undertaken, using responsiveness, budget execution and risk exposure as EPI proxies, as opposed to time, cost and quality which were extensively discussed by past studies such as Saad (2017). The three proxies are all associated with the transaction cost theory. Findings revealed a positive and statistically significant relationship between the independent variables and the dependent variable, hence affirming the theoretical framework which posits that project implementation depends on the PE engaging in various transactions, which are approved after due consideration of the procurement plan. Therefore, the results of data analysis are in line with the transaction cost theory, which postulates that procurement planning unravels barriers that deter firms from engaging in efficient public procurement.

5.3.2 Practical implications of the study

Minnaar (2016) highlighted the need to cascade down national planning priorities to implementation levels, which inter alia includes provincial/regional administrations. It is thus imperative that regional administrations have rigorous planning mechanisms to enhance implementation of development projects. Therefore, the current study's findings of a positive and statistically significant relationship between procurement planning and project implementation, coupled with reliability of the data, have a practical implication on how procurement and project management practitioners shall view and execute their procurement functions. Moreover, findings from the study, as well as its emphasis on meticulous procurement planning are bound to help industry practitioners to maintain adequate alignment between the annual procurement plan and actual requirement of development projects, as postulated by Minnaar (2016).

5.4 CONCLUSIONS

In conclusion, procurement planning catalyses project implementation, in terms of effective budget execution, minimal risk exposure and the responsiveness of development projects to development needs in Omusati Region. Effective implementation of projects is enhanced through realistic risk management planning, as well as a combination of functions related to need identification and an accurate scheduling of project procurement activities. Secondly, the study has addressed the problem of a lack of an empirical study on procurement planning in decentralised public institutions of Namibia. However, procurement planning is comprehensive and has far-

reaching impacts, thus, there is a need for more studies on various aspects and impacts of procurement planning, in order to grow the local procurement knowledge base.

5.5 RECOMMENDATIONS

In light of the above findings, the study makes the following recommendations:

- Firstly, Omusati Regional Council should continue capacitating officials with requisite procurement knowledge and skills, in order to enhance project implementation and value for money.

- Secondly, routine assessment of the procurement planning function is recommended, in order to identify specific areas that need improvement and to expedite the implementation of development projects. Routine assessment of will ensure that procurement planning is undertaken pursuant to section 25 (4) (a) and regulation 8 (2) (d) of the Public Procurement Act 15 of 2015.
- Thirdly, the very high correlation between NI and PS is an appropriate call for the Regional Council to make sound decisions regarding investment of resources into procurement planning. It is imperative that functions related to the two variables are merged, to prevent wasteful investment of resources into each of the two activities, which might lead to duplication of work. PMU and User Departments should therefore be encouraged to collaborate in identifying procurement needs and scheduling procurement activities, in order to achieve the shared goal of

effective project implementation through sound procurement practices. Collaboration should be enhanced through the appointment of a committee of needs, pursuant to the public procurement guidelines. Collaboration is bound to prevent maverick spending, by ensuring that requisite resources identified at the need identification stage are equitably allocated to the roles defined and assigned at each phase of the procurement process.

- Fourthly, procurement risk management planning should be enhanced, in order to cushion project implementation from the negative impact of inevitable threats. Moreover, it is recommended that risk planning should be amplified, to address setbacks associated with the risk of disruption due to unexpected incidents such as pandemics, which might arise and necessitate abrupt suspension of work at the sites.

Overall, the two elements of procurement planning (procurement risk planning and a combination of need identification and procurement scheduling) should be heightened, in order to ensure effectual project implementation at the Omusati Regional Council.

5.6 AREAS FOR FURTHER RESEARCH

The dearth of studies on procurement planning indicates that procurement planning is still an emerging concept. Deficiency of procurement literature presents a fertile and largely untapped ground for new studies to emerge and intensify debate on the role and implications of procurement planning. Below are some of the specific areas on which future research should focus.

Firstly, the outbreak of COVID-19 has resulted in many obstructions in project implementation and an uncertain future for project procurement in Namibia, due to the ever-changing procurement atmosphere. Therefore, Namibia needs a dynamic procurement framework that is substantially responsive to shocks, in order to minimise the risk of interruptions on the implementation of development projects. However, it is noteworthy that the Public Procurement Act 15 of 2015 is a pre- COVID-19 era statute. Thus, it is not clear whether the general principles spelled out in the legislation are in tune with procurement demands and requirements of the COVID-19 era. Furthermore, the current guidelines on procurement planning were not deliberately tailored to enhance resilience of the procurement process to shocks associated with the unprecedented challenges related to COVID-19. Therefore, it is imperative that future research investigates the effectiveness of the current risk planning practices, in ensuring project continuity amidst the varying impacts of different COVID-19 variants on project implementation.

Secondly, some of the government Ministries and Agencies continue to have centralised internal procurement structures. All procurement activities are conducted at their Head Offices. Therefore, there is a need to investigate the extent to which procurement plans drafted at head Offices of Ministries and Agencies are responsive to the needs identified at their regional centres. Furthermore, it is imperative to investigate the inclusivity of centralised procurement functions, in order to determine the extent to which key project stakeholders are involved in project planning as per the Stakeholders theory.

Finally, reviewed studies have briefly assessed the influence that procurement planning exerts on public service delivery. However, there is a need to address the knowledge gap on how the emergence of procurement planning as a strategic tool for enhancing service delivery affects individual performances of procurement practitioners, in their drive to achieve key strategic policy goals of PEs.

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7. APPENDICES

APPENDIX 1: REQUEST FOR PERMISSION FROM OMUSATI REGIONAL COUNCIL

From:
Mennas M Aitana
P O Box 1114
Outapi
mennasaitana@gmail.com
Cell: +26481 3296564

RECEIVED IN REGISTRY
BY: JA
22 FEB 2021
TIME: 08:00
OMUSATI REGIONAL COUNCIL

To:
Mr Gervasius Kashindi
The Chief Regional Officer
Omusati Regional Council
Private Bag 523
Outapi

Date: 20 February 2021

Dear Mr Kashindi,

REQUEST FOR PERMISION TO CONDUCT RESEARCH

My name is Mennas Mwanyangapo Aitana (ID:90040400301). I am a final year Master of Business Administration (MBA-Management Strategy) student at the University of Namibia (UNAM).

Research (Business Project in Management Strategy) is one of the major requirements for the award of the above stated Degree. I therefore hereby request for permission to conduct research on **the impact of procurement planning on the implementation of Development Projects in Omusati Region,** with specific focus on Projects implemented by Omusati Regional Council.

Should permission be granted, a questionnaire with closed-ended questions shall be issued to a sample of Procurement Management Unit (PMU) members. The questionnaire will strictly be an academic data collection instrument and the researcher pledges honesty and integrity in dealing with the data. Confidentiality shall be upheld, to protect the privacy of participants. Furthermore, participation shall be voluntary and staff members will be free to withdraw from the study, should they feel uncomfortable to proceed.

Finally, a copy of the approved research paper will be shared with the Council.

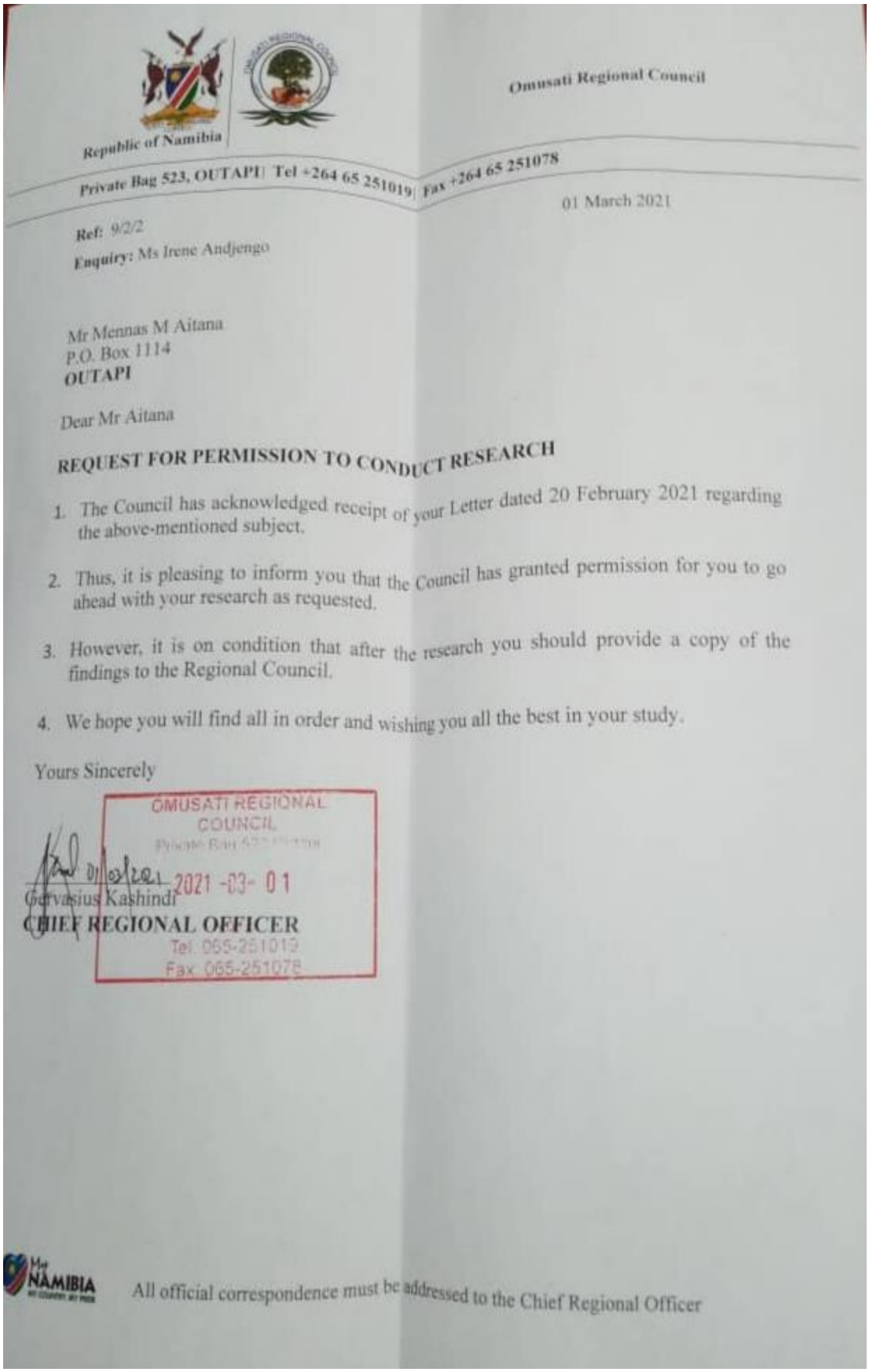
Looking forward to your written response.

Regards,

22/02/2021

Mennas M Aitana
STUDENT (Student No. 200942581)

APPENDIX 2: PERMISSION LETTER FROM OMUSATI REGIONAL COUNCIL



Republic of Namibia

Omusati Regional Council

Private Bag 523, OUTAPI| Tel +264 65 251019| Fax +264 65 251078

01 March 2021

Ref: 9/2/2
Enquiry: Ms Irene Andjengo

Mr Mennas M Aitana
P.O. Box 1114
OUTAPI

Dear Mr Aitana

REQUEST FOR PERMISSION TO CONDUCT RESEARCH

1. The Council has acknowledged receipt of your Letter dated 20 February 2021 regarding the above-mentioned subject.
2. Thus, it is pleasing to inform you that the Council has granted permission for you to go ahead with your research as requested.
3. However, it is on condition that after the research you should provide a copy of the findings to the Regional Council.
4. We hope you will find all in order and wishing you all the best in your study.

Yours Sincerely

OMUSATI REGIONAL COUNCIL
Private Bag 523 OUTAPI
2021 -03- 01

Gervasius Kashindi
CHIEF REGIONAL OFFICER
Tel: 065-251019
Fax: 065-251078

All official correspondence must be addressed to the Chief Regional Officer

APPENDIX 3: PERMISSION LETTER FROM THE UNIVERSITY OF NAMIBIA

NBS
NAMIBIA BUSINESS SCHOOL
UNIVERSITY OF NAMIBIA

26 October 2020

TO WHOM IT MAY CONCERN

Re: MBA Management Strategy , Student – Ms. Mennas Aitana Student Number-200942581

As part of our Masters Programme, students are expected to submit a research report after completion of their course-work. They need to explore in detail, some concepts and issues pertaining management strategies. To do that effectively, they need to conduct interviews and obtain practical examples.

Ms. Aitana has chosen your organization to approach for information. It is against this background that I wish to kindly request you to assist Ms. Aitana with the information she requires. Accept our assurance that the data will be used for academic purposes only. A copy of the completed document will be available at the Namibia Business School for perusal. Her research synopsis indicates that her topic touches on *"An assessment of the impact of procurement planning on project implementation at Omusati Regional Council"*.

Your kind assistance is highly appreciated.

Yours sincerely

NAMIBIA BUSINESS SCHOOL
NBS
26 OCT 2021
ACADEMIC SERVICES
UNIVERSITY OF NAMIBIA
Inspiring Minds & Shaping the Future

Greenfield Mwakipesile. Dr
Senior Research Co-Ordinator
Namibia Business School
University of Namibia
Tel: +246 61 413 500
Fax: +246 61 413 512
Email: mwakipg@nbs.edu.na

APPENDIX 4: QUESTIONNAIRE

AN ASSESSMENT OF THE IMPACT OF PROCUREMENT PLANNING ON PROJECT IMPLEMENTATION AT THE OMUSATI REGIONAL COUNCIL.

QUESTIONAIRE

Target Group: Members of the Procurement Management Unit (PMU) at the Omusati Regional Council.

Supervisor: Dr Asa Romeo Asa

Dear respondents,

My name is Mennas Mwanyangapo Aitana. I am a final year student, studying towards a Master of Business Administration (MBA)-Management Strategy Degree with the University of Namibia. I am currently conducting research under the supervision of Dr Asa Romeo Asa. The focus of the study is the role of procurement planning on the implementation of development projects at the Omusati Regional Council. The study is part of the requirements for the award of the above stated Degree. Therefore, this questionnaire is strictly an academic data collection instrument and the researcher pledges honesty, respect and integrity in dealing with the data collected. Participation is voluntary and one is free to withdraw from the study, should they become uncomfortable to proceed. Confidentiality shall be upheld, to protect the privacy of research participants. Should participants have any queries, they are at liberty to telephonically contact the researcher on +264813296564 or via email: mennasaitana@gmail.com.

SECTION A: RESPONDENTS' DEMOGRAPHY

1. Gender (*Kindly select one*)

Male	
Female	

2. Age group *(Kindly select one)*

20-35 years	
36-45 years	
46 years and above	

3. Occupation at the Omusati Regional Council (*Kindly select one*)

Administrative Officer	
Development Planner	
Liaison Officer	
Accountant	
Economist	
Other	

4. Years of experience in procurement

1-3		11 years and above	
4-6			
7-10			

SECTION B: THE IMPACT OF NEED IDENTIFICATION ON THE IMPLEMENTATION OF DEVELOPMENT PROJECTS.

Use the rating scale of 1-5, (where: 1 = Strongly Agree, 2 = Agree, 3 = No Opinion, 4 = Disagree, 5 = Strongly Disagree) to express your view of the impact of needs identification on Project implementation.

(For each statement, circle the number that matches your view most closely).

	Strongly Agree	**Agree**	**No opinion**	**Disagree**	**Strongly disagree**
1. Procurement need identification ensures that the procurement process focuses on the solution to the exact procurement need.	1	2	3	4	5

2. Procurement planning allows the Regional Council to spread out annual procurement activities consistent with the needs and available resources.	1	2	3	4	5
3. Need identification helps the Institution to determine requisite resources for efficient project implementation.	1	2	3	4	5
4. Needs analysis guides all subsequent procurement activities.	1	2	3	4	5
5. Procurement need identification allows user units to project their procurement requirements.	1	2	3	4	5
6. Needs assessment helps the Regional Council to procure the right quantity of products from suitable suppliers at reasonable costs.	1	2	3	4	5
7. Data on procurement needs is the basis upon which the Regional Council develops its annual procurement plan.	1	2	3	4	5
8. Needs analysis is vital in determining the expected outcomes of the procurement process.	1	2	3	4	5

SECTION C: THE IMPACT OF PROCUREMENT SCHEDULING ON THE IMPLEMENTATION OF DEVELOPMENT PROJECTS.

Use the rating scale of 1-5, (where: 1 = Strongly Agree, 2 = Agree, 3 = No Opinion, 4 = Disagree, 5 = Strongly Disagree) to express your view of the impact of procurement scheduling on project implementation.

(For each statement, circle the number that matches your view most closely).

	Strongly Agree	**Agree**	**No opinion**	**Disagree**	**Strongly disagree**
1. Effective procurement scheduling is a critical enabler of time management.	1	2	3	4	5
2. Procurement scheduling reduces maverick spending by defining and assigning roles for each facet of the procurement process.	1	2	3	4	5
3. Project activity scheduling allows for timely project completion.	1	2	3	4	5
4. Specifying the project duration informs bidders' Project activity schedules.	1	2	3	4	5
5. Scheduling of procurement activities can be associated with sound budget utilisation.	1	2	3	4	5
6. The procurement plan defines categories that are needed during all phases of the project life-cycle.	1	2	3	4	5
7. Listing project deliverables eases the allocation of resources to the project.	1	2	3	4	5

SECTION D: THE IMPACT OF RISK PLANNING ON PROJECT IMPLEMENTATION.

Use the rating scale of 1-5, (where: 1 = Strongly Agree, 2 = Agree, 3 = No Opinion, 4 = Disagree, 5 = Strongly Disagree) to express your view of the impact of risk planning on project implementation.

(For each statement, circle the number that matches your view most closely).

	Strongly Agree	**Agree**	**No opinion**	**Disagree**	**Strongly disagree**
1. Risk assessment helps the Regional Council to understand the impact of potential risks on project deliverables.	1	2	3	4	5
2. A Risk Management Plan (RMP) is a proactive instrument, which averts potential risks.	1	2	3	4	5
3. Procurement risk planning enables the Regional Council to promptly reconfigure procurement schedules in response to risk.	1	2	3	4	5
4. A procurement risk plan helps in minimizing procurement risks during the implementation of Capital projects.	1	2	3	4	5
5. A risk awareness culture in procurement eases risk identification.	1	2	3	4	5
6. Risk identification facilitates coordinated allocation of resources to minimize the impact of risk.	1	2	3	4	5
7. Constant risk monitoring leads to low-risk exposure.	1	2	3	4	5
8. It is imperative that the Regional Council develops a risk management plan for every Project.	1	2	3	4	5

SECTION D: EFFECTIVE PROJECT IMPLEMENTATION.

Use the rating scale of 1-5, (where: 1 = Strongly Agree, 2 = Agree, 3 = No Opinion, 4 = Disagree, 5 = Strongly Disagree) to express how you understand the importance of effective project implementation.

	Strongly Agree	**Agree**	**No opinion**	**Disagree**	**Strongly disagree**
1. Effective implementation of development projects is the most effectual way of responding to regional development needs.	1	2	3	4	5
2. Effective project implementation ensures optimal budget execution.	1	2	3	4	5
3. Projects optimally achieve intended objectives when there is minimal risk exposure.	1	2	3	4	5

Kindly return the questionnaire on or before **12 October 2021**.

THANK YOU FOR PARTICIPATING!

APPENDIX 5: DESCRIPTIVE STATISTICS

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
EPI1	85	1	5	3.61	1.346
EPI2	85	1	5	3.35	1.420
EPI3	85	1	5	2.72	1.394
NI1	85	1	5	3.12	1.392
NI2	85	1	5	3.05	1.405
NI3	85	1	5	2.98	1.397
NI4	85	1	5	3.16	1.550
NI5	85	1	5	2.92	1.433
NI6	85	1	5	3.36	1.463
NI7	85	1	5	3.12	1.475
NI8	85	1	5	3.33	1.475
PS1	85	1	5	3.48	1.368
PS2	85	1	5	3.55	1.410
PS3	85	1	5	3.58	1.276
PS4	85	1	5	3.60	1.347
PS5	85	1	5	3.64	1.396
PS6	85	1	5	3.93	1.110
PS7	85	1	5	3.55	1.286
RM1	85	1	5	3.45	1.376
RM2	85	1	5	3.46	1.410
RM3	85	1	5	3.47	1.221
RM4	85	1	5	3.69	1.310
RM5	85	1	5	3.55	1.402
RM6	85	1	5	3.67	1.383
RM7	85	1	5	3.47	1.287
RM8	85	1	5	3.44	1.384
Valid N (listwise)	85				

APPENDIX 6: CHI-SQUARE ANALYSIS

Age * Experience Cross tabulation

			Experience				
			1-3 years	4-6 years	7-10 years	11+ years	Total
Age	20-35 years	Count	17	7	0	0	24
		Expected Count	4.8	12.7	2.8	3.7	24.0
		% within Age	70.8%	29.2%	0.0%	0.0%	100.0%
	36-45 years	Count	0	38	10	2	50
		Expected Count	10.0	26.5	5.9	7.6	50.0
		% within Age	0.0%	76.0%	20.0%	4.0%	100.0%
	46+ years	Count	0	0	0	11	11
		Expected Count	2.2	5.8	1.3	1.7	11.0
		% within Age	0.0%	0.0%	0.0%	100.0%	100.0%
Total		Count	17	45	10	13	85
		Expected Count	17.0	45.0	10.0	13.0	85.0
		% within Age	20.0%	52.9%	11.8%	15.3%	100.0%

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	1.203	0.000
	Cramer's V	0.851	0.000
N of Valid Cases		85	

APPENDIX 7: REGRESSION ANALYSIS

Coefficients [a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	-0.349	0.205		-1.504	0.136		
	RM	0.101	0.045	0.827	7.231	0.018	0.988	1.003
	NIPS	0.385	0.047	0.962	8.148	0.000	0.988	1.003

a. Dependent Variable: EPI

APPENDIX 8: LANGUAGE EDITING CERTIFICATE

Dr.GM

The Rev. Dr. Greenfield Mwakipesile

ThD, MBA, HBS | mwakipg@outlook.com

CONTACT

PO Box 99539,
UNAM,
Namibia

LANGUAGE & COPY-EDITING CERTIFICATE

2nd February 2022

RE: LANGUAGE, COPYEDITING AND PROOFREADING OF MENNAS MWANYANGAPO AITANA's THESIS FOR THE MASTER OF BUSINESS ADMINISTRATION DEGREE OF THE NAMIBIA BUSINESS SCHOOL OF THE UNIVERSITY OF NAMIBIA

This certificate serves to confirm that I copyedited and proofread **MENNAS MWANYANGAPO AITANA's** Thesis for the **MASTER OF BUSINESS ADMINISTRATION DEGREE** entitled: **AN ASSESSMENT OF THE IMPACT OF PROCUREMENT PLANNING ON PROJECT IMPLEMENTATION AT THE OMUSATI REGIONAL COUNCIL**

I declare that I professionally copyedited and proofread the thesis and removed mistakes and errors in spelling, grammar, and punctuation. In some cases, I improved sentence construction without changing the content provided by the student. I also removed some typographical errors from the thesis and formatted the thesis so that it complies with the University of Namibia's guidelines.

I am a trained language and copy editor and have edited many Postgraduate Diploma, Masters' Thesis, Dissertations and Doctoral Dissertations for students studying with universities in Namibia, Zimbabwe, Eswatini, South Africa and abroad. I have also copy-edited company documents for companies in the region and abroad.

Please feel free to contact me should the need arise.

Yours Sincerely,

The Rev. Dr. Greenfield Mwakipesile

greenfield.mwakipesile

@mwakipg

+264813901701

Dr. Greenfield Mwakipesile