

**ASSESSMENT OF KNOWLEDGE MANAGEMENT STRATEGIES ON THE
PERFORMANCE OF KENYA MARINE AND FISHERIES RESEARCH INSTITUTE**

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DECLARATION

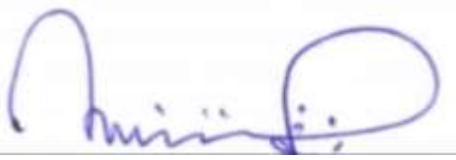
This research project is my original work and has not been submitted for Masters degree in any other university.

Signed:..... 

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This research project has been submitted for examination with my approval as the University supervisor

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DEDICATION

This project is dedicated to my entire family, for offering unwavering support throughout the period of study.



ACKNOWLEDGEMENT

It has been a long and winding path to the successful completion of this challenging course. I must thank the Almighty God for seeing me this far in my quest for knowledge.

Special mention goes to my Supervisor Dr. Jennifer Muriuki who was always available with her valued guidance. May God bless you.



ABSTRACT

Knowledge management, which has a high potential for problem-solving, decision-making, organizational performance improvements, and innovation, is essential to an organization's continuity and success in maneuvering global markets. Knowledge management operations are centered on helping the organization learn from its own and from others' experiences in order to carry out its goal, which emphasizes the business aspect of knowledge management. The purpose of this study was to assess the influence of knowledge management strategies on the performance of Kenya Marine and Fisheries Research Institute organisation. The study objectives were; to establish how knowledge acquisition influence the performance of Kenya Marine and Fisheries Research Institute, to establish how knowledge storage influence the performance of Kenya Marine and Fisheries Research Institute, to evaluate how knowledge sharing influences the performance of Kenya Marine and Fisheries Research Institute and finally to evaluate how knowledge expertise (Technology) influence the performance of Kenya Marine and Fisheries Research Institute. The resource-based view of the company (RBV), Knowledge-based Theory, Knowledge Spiral Theory (KST) and Theory of Organizational Epistemology (TOE) served as the study's main sources of inspiration. The study employed a descriptive survey research design. Top management 9 middle management 26 operational management 76 General staff 57 totaling 168 respondents used as the study's target population. The researcher sampled 168 respondents using Yamane formula (2007) formula arriving at a sample size of 118 that is; Top management 6 middle management 18 operational management 63 General staff 31. Data was gathered using questionnaires. Validity of the instrument was established through piloting of the research and guidance of experts. Cronbach's Alpha was used to compute reliability of the data. The credibility of data was determined by analyst triangulation through various specialists. To establish data dependability the researcher conducted external audit. The study employed a descriptive research design. Data was analyzed using descriptive statistics in the form of means, percentages, and frequencies with help of Statistical Package for Social Sciences v25 (SPSS V25) software. Results were displayed in form of pie chart and tables from which inferences and conclusions were drawn. The findings of the study revealed that knowledge sharing had the most significant influence on the performance of Kenya Marine and Fisheries Research Institute while knowledge acquisition had the least influence on performance of Kenya Marine and Fisheries Research Institute. The research finally concluded that knowledge management strategies had a significant effect on the performance of Kenya Marine and Fisheries Research Institute.

TABLE OF CONTENTS

Contents

DECLARATION.....	ii
DEDICATION	iii
ACKNOWLEDGEMENT	iv
ABSTRACT.....	v
LIST OF FIGURES.....	ix
LIST OF TABLES	x
LIST OF ABBREVIATIONS AND ACRONYMS.....	x
CHAPTER ONE	1
INTRODUCTION.....	1
1.0 Introduction.....	1
1.1 Background of the Study.....	1
1.2 Statement of the Problem.....	4
1.3 Purpose of the Study	5
1.4 Objectives of the Study	5
1.5 Research Questions	5
1.6 Significance of the study.....	6
1.7 Scope of the Study.....	6
1.8 Limitations of the Study.....	7
1.9 Delimitations of the Study.....	8
1.10 Assumptions of the Study	8
1.11 Operational Definition of Key Terms.	10
CHAPTER TWO.....	11
LITERATURE REVIEW.....	11
2.0 Introduction.....	11
2.1 Empirical Literature	11
2.2 Theoretical review.....	14
2.2.1 Resource-Based View (RBV) Theory.....	15

2.2.2 Knowledge-Based Theory	16
2.2.3 Knowledge Spiral Theory	18
2.2.4 Theory of Organizational Epistemology	18
2.3 Conceptual Framework	19
2.3.1 Knowledge Acquisition Strategy and Performance of Kenya Marine and Fisheries Research Institute.....	20
2.3.2 Knowledge Storage Strategy and Performance of Kenya Marine and Fisheries Research Institute.....	21
2.3.3 Knowledge Sharing Strategy and Performance of Kenya Marine and Fisheries Research Institute.....	22
2.3.4 Knowledge Expertise (Technology) Strategy and Performance of Kenya Marine and Fisheries Research Institute	24
2.4 Recap of Literature Review.....	25
CHAPTER THREE.....	29
RESEARCH METHODOLOGY AND DESIGN.....	29
3.0 Introduction	29
3.2 Research Design.....	30
3.3 Location of the Study	31
3.4 Target Population	31
3.5 Sampling Procedures and Sample Size	32
3.6 Data Collection Methods and Procedures	33
3.6 Validity and Reliability of Research Instruments	35
3.6.1 Validity of Research Instruments	35
3.6.2 Reliability of Research Instruments	36
3.8 Credibility of Data.....	36
3.9 Dependability of Data	37
3.10 Data Analysis and Presentation.....	37
3.11 Ethical Considerations.....	38
CHAPTER FOUR.....	39
DATA ANALYSIS, RESULTS AND DISCUSSIONS	39
4.0 Introduction	39
4.1 Response Rate	40
4.2.1 Gender	41

4.2.2 Age of Respondent	42
4.2.3 Respondent's Highest Level of Education	42
4.2.4 Respondent's Level in KMFRI	43
4.2.5 Respondent's Years of Experience.....	44
4.3 Effect of Knowledge Management Practices on Performance	44
4.3.1 Knowledge Acquisition and Performance.....	44
4.3.2 Knowledge Storage and Performance	48
4.3.3 Knowledge Sharing and Performance	50
4.3.4 Knowledge Expertise (Technology) and Performance.....	52
4.3.5 Organizational Performance.....	55
4.3.6 Regression Analysis	56
CHAPTER FIVE.....	58
SUMMARY OF THE FINDINGS, CONCLUSION AND RECOMMENDATIONS	58
5.0 Introduction	58
5.1 Summary of the Findings	59
5.2 Conclusion.....	60
5.3 Recommendations for Practice.....	60
5.5 Recommendations for Further Research	62
REFERENCES.....	63
APPENDICES.....	69
APPENDIX I: Consent Form.....	69
APPENDIX II: Questionnaire	70
Appendix III: Ethics Review Certificate	77
APPENDIX V: Research Licence from NACOSTI.....	79
APPENDIX VI: Field Entry Authorisation from KMFRI	80
APPENDIX VII: Kenya Marine and Fisheries Research Institute, Mombasa	81

LIST OF FIGURES

Figure 1 Conceptual Framework	Error! Bookmark not defined.
Figure 2 Gender of respondent	41



LIST OF TABLES

Table 1 Target Population	332
Table 2 Response Rate	41
Table 3 Age of Respondent	42
Table 4 Level of Education	43
Table 5 Level of Authority in KMFRI	44
Table 6 Respondents' Years of Experience.....	44
Table 7 Knowledge Acquisition and Performance.....	45
Table 8 Knowledge Acquisition and Performance on likert scale.....	46
Table 9 Knowledge Storage and Performance	48
Table 10 Knowledge Storage and Performance on likert scale.....	49
Table 11 Knowledge Sharing and Performance	51
Table 12 Knowledge Sharing and Performance on likert scale	52
Table 13 Knowledge Expertise (Technology) and Performance.....	53
Table 14 Knowledge Expertise (Technology) and Performance.....	54
Table 15 Organization Performance.....	56
Table 16 regression Model Summary.....	57
Table 17 coefficients	58

LIST OF ABBREVIATIONS AND ACRONYMS

AIMS:	Africa's Integrated Maritime Strategy
BDA:	Big Data Analytics
DCT:	Dynamic Capabilities Theory
HR:	Human Resources
ICT:	Information and Communication Technology
MTP III:	Third Medium-Term Plan
KBV:	Knowledge-based View
KMFRI:	Kenya Marine and Fisheries Research Institute
KM:	Knowledge Management
KMS:	Knowledge Management Strategies
KPI:	Key Performance Indicator
PM:	Performance Measurement
RBV:	Resource-based View
ROI:	Return on Investment
SECI:	Socialization, Externalization, Combination and Internalization.
SET:	Social Exchange Theory
SDGs:	Sustainable Development Goals
TQM:	Total Quality Management
UNGA:	United Nations General Assembly
USSD:	Unstructured Supplementary Service Data

CHAPTER ONE

INTRODUCTION

1.0 Introduction

Chapter one focused on background, statement of the problem, purpose, objectives, research questions, rationale and significance of the study. Similarly, it assess the scope, limitations, and delimitations, assumptions of the study and lastly operational definitions of key terms.

1.1 Background of the Study

The 1970s saw the evolution of Knowledge Management at the time industrialization cloaked the organization of business fabrics Geisler & Wickramasinghe (2015). Directly preceding World War II, management theorists came up with different approaches to outlive managerial hiccups and revamp individual and concerted performance in establishments Ferreira et al., (2018). KM is crucial in an establishment's wellbeing, being that it guarantees formation and promulgation of knowledge adeptly in an entity. For the purpose of corroborating that the establishment achieves its targets, it has to see to it that there are several actions in the establishment that allows for organizational knowledge to be available and within reach. Local as well as global studies have delineated the perception on KM applications. In the global realm, Nan & Huei (2016) researched on KM adeptness and institutional efficiency in Taiwanese public establishment and the moderator duty of an establishment's obligation. The research concluded that KM applications are vital in achieving organizational efficacy. Yuan & Chau (2015) researched the effects of KM potency in the business procedure in banks and hospitals in China. The research found out that the execution of KM being a branch of a company's game plan guarantees levels of high productivity in the

activities of an establishment. Khuram (2016) researched on the amalgamation of knowledge plan of action and KM undertaking on performance and organizational inventiveness of India's listed undertakings. The research confirmed that in order to certify endurance and rivalry in a dynamic environment, KM is of essence. KM endeavors are focused on retaining, analyzing, and organizing employees' expertise, with the crucial objective of making knowledge within easy reach to the users. Organizations obtain capabilities making it possible for them to compete and perform better through execution of these undertakings. Growing and taking possession of these capabilities depends on the KM strategies in organizations. For any organization to improve on productivity and efficiency, it is important for it to put plans in place that outlines how the organization will manage and centralize company information, data, and knowledge. Some scholars suggest that KM systems are vital for securing and maintaining organizational success; others assert that a company's KM system should strongly reflect its internal competitive strategy. The most successful of these strategies are closely aligned with company-wide goals and objectives.

Dodla & Jones (2023) postulates that knowledge management strategies aid and abet how an organization manages knowledge, data, and the use of information. Knowledge management networks are important constituents of an organization's comprehensive success. The mainstay of a favourable outcome and strategy execution sheds light on where an organization excels, survives, or yields to outside influences (Twum, 2021). Organizations depend on effective management and knowledge in all states of the business cycle (Mia & Chowdhury, 2021). There is a growing awareness of the importance of gathering, locating, capturing, and sharing collective knowledge and expertise. Societies are developing effective and efficient KM methods to address problems and benefit from opportunities (Tiwari, 2022), making KM increasingly vital. This review provides a current look at the exponential growth of literature and research on KM. In the local sphere,

Karani (2015) research on factors influencing KM initiatives on the execution of Kenyan mobile companies. The research posited that KM initiatives of Kenyan mobile telephone businesses are essential in their operational performance. Organizational culture, strategy and leadership were picked out by the study as hurdles of KM activities. Mungai (2018) performed his study on KM Practices of Kenya Bureau of Statistics. He posited that KEBS adopted knowledge dissemination, knowledge retrieval, knowledge storage, knowledge sharing and knowledge creation. Nancy (2016) conducted a study how Knowledge Management Practices affected performance of Kenya's selected global audit companies. He posited that knowledge application, knowledge sharing, knowledge acquisition and knowledge identification notably affected the performance of Kenya's audit companies.

Kenya Marine and Fisheries Research Institute (KMFRI)

Kenya Marine and Fisheries Research Institute (KMFRI) is a State Corporation came into existence in 1979 through Scientific and Technological Act, Cap 250, Kenya. This Act was abrogated by the Science, Innovation and Technological Act No. 28 of 2013 recognizing KMFRI as a countrywide research establishment in section 56, 4th scheme. KMFRI's mandate is to undertake research in "marine and freshwater fisheries, aquaculture, environmental and ecological studies, and marine research including chemical and physical oceanography", in order to provide scientific data and information for sustainable development of the Blue Economy. The vision of KMFRI is to be a Centre of excellence in innovative research in marine, fisheries and the Blue Economy for development while its mission is to generate and disseminate scientific information for sustainable development of the Blue Economy. The role of KMFRI is to contribute to the realization of national strategies of food and nutrition security, poverty alleviation, clean environment and creation of employment as provided for under Third Medium Term Plan (MTP III) of Vision 2030,

“Big Four Agenda”, National Oceans and Fisheries Policy 2008, Fisheries Management and Development Act 2016, Africa Agenda 2063, Africa’s Integrated Maritime Strategy (AIMS) 2050 and the Sustainable Development Goals (SDGs).

1.2 Statement of the Problem

Many authors openly acknowledge the challenge of quantifying the influence of knowledge management strategies on firm performance, despite the specific work done to link knowledge management strategies to performance. Present knowledge management research does not adequately acknowledge or provide a thorough grasp of the role of knowledge management strategies in enhancing company performance. The important challenge for establishments is not only to assess the effects of knowledge management strategies on performance but also to improve their capacity to create and use knowledge management strategies in order to increase value for their stakeholders. This has become considerably more challenging and tough to accomplish due to the immeasurable nature of information. It is essential to clearly identify the influence anticipated from knowledge management strategies. In an effort to share knowledge, it is increasingly important for organizations to construct an internal portal for employees to access different repositories from a single screen. The Public Sector has continued to offer knowledge-related services to the common citizen. In spite of the challenges related to knowledge management concomitant to the Kenya’s public sector, too few scholarly work relating to it are in existence. Research by Yusuf & Wanjau (2014), Muthee (2014), Sawe (2017), Charo (2018) and Kamau (2021) make up the list in Kenya. These studies were meant to inquire into the knowledge management and influence on Kenya’s key institutions. In this facet, the latter will be divergent from the former as none of these studies plainly laid emphasis on knowledge management and its effects on organizational performance in state corporations and in particular Kenya Marine and Fisheries Research Institute in Kenya. It is against this background that the study pursued to fill the

gap by examining the influence of knowledge management strategies on the performance of Kenya Marine and Fisheries Research Institute.

1.3 Purpose of the Study

The purpose of this research study project was to assess the influence of knowledge management strategies on the performance of Kenya Marine and Fisheries Research Institute.

1.4 Objectives of the Study

- i. To establish the influence of knowledge acquisition on the performance of Kenya Marine and Fisheries Research Institute.
- ii. To establish the influence of knowledge storage on the performance of Kenya Marine and Fisheries Research Institute
- iii. To evaluate the influence of knowledge sharing on the performance of Kenya Marine and Fisheries Research Institute
- iv. To evaluate the influence of knowledge expertise (Technology) on the performance of Kenya Marine and Fisheries Research Institute.

1.5 Research Questions

This research project attempted to bridge the knowledge gap by addressing the following Research questions:-

- i. How does knowledge acquisition influence on the performance of Kenya Marine and Fisheries Research Institute?
- ii. How does knowledge storage influence the performance Kenya Marine and Fisheries Research Institute?
- iii. How does knowledge sharing influence the performance of Kenya Marine and Fisheries Research Institute?

- iv. How does knowledge expertise (Technology) influence the performance of Kenya Marine and Fisheries Research Institute?

1.6 Significance of the study

Researchers and Academicians. The study will serve as a resource for researchers and academicians pursuing related research thus contributing to the body of knowledge.

Management. The study will be helpful to KMFRI management as it will provide documentation of the strategic leadership role in the implementation of knowledge management strategies. This will enable it to identify areas in which its strategic leadership needs to be strengthened in order to perform better.

Policy Makers. The study is vibrant in the creation of policies. Policy makers and implementers in the public sector can find this study useful for understanding the stages and analytical processes involved in developing and putting into practice knowledge management plans. In order to ensure that the strategic direction is accomplished and performance is improved, it enlightens areas that need to be clarified and redefined.

Community. The significantly contributes to society by generating new knowledge in particular through challenging existing theories and ideas. This new knowledge can lead to new discoveries, technologies, and innovations that can benefit society in various ways.

Government. The study can be used as a useful tool for changing formulae and using best practices to boost performance in government programs and operations.

1.7 Scope of the Study

The study focused on Kenya Marine and Fisheries Research Institute. This study analyzed data that was collected between from 28 March 2024 to 1 August 2024. The researcher decided on KMFRI as she is familiar with the organization and aware of the number of significant knowledge management strategic initiatives assumed by it in the recent past. The study only assessed

knowledge management strategies of acquisition, storage, sharing and expertise (technology) practices on Kenya Marine and Fisheries Research Institute. The study was guided by Resource-Based View (RBV), Knowledge-Based View (KBV), Dynamic Capabilities Theory (DCT) and Social Exchange Theory (SET) as the beacon in guiding the researcher. The sample of the employees based both at the headquarters in Mombasa and upcountry stations were the core source of information required in the study. Descriptive research design was used with the questionnaire method being the particular method applied. This study information was gathered for a period of two months by using descriptive research design to establish how Knowledge management strategies affect the performance at Kenya Marine and Fisheries Research Institute and provide bases for describing data for statistical observation.

1.8 Limitations of the Study

Kothari and Garg (2014) contend that a research is likely to encounter several limitations during the study. Several limitations faced this study. To meet the objectives, mitigation measures were put in place to ensure that the limitations did not negatively impact on final results. The study's scope was constrained to a short time period. The researcher dropped the questionnaires for respondents and left them to be filled when they had sufficient time. This however increased the study period making the researcher take a longer time to complete the study. To counter this challenge, the researcher reminded and encouraged them to take the shortest time possible and gave reasonable deadlines.

The researcher was required to have abundant of endurance and indulgence that the respondents may have eventful programs due to the position they hold in the management. For example Top Management staffs, Middle Management staffs, Operational Management staffs on KMFRI. To counter this limitation, the researcher sought permission from the respondents so as to have adequate time to conduct the study.

Since the research design based on questionnaires, Attitude and fear of victimization of respondents towards the researcher was another limiting factor because the study's depended on the willingness of KMFRI employees to participate. To counter this challenge the researcher tried to explain the value of the study to the respondents in order to reduce the negative attitudes. The researcher was keen to ensure that anonymity and confidentiality of the respondents was maintained at all time during the research; the names of the respondents were anonymous to enhance confidentiality.

1.9 Delimitations of the Study

According to Mugenda and Mugenda (2003), delimitation is setting boundaries of the study to make it manageable. First, the study was conducted in Mombasa County at Kenya Marine and Fisheries Research institute no any other institutions were considered. Secondly, the study was delimited to responses from only the staff members from KMFRI departments who were in the designated sample only. Third, there are many factors that influence knowledge management strategies on the performance of Kenya Marine and Fisheries Research Institute, this study only focused on the knowledge acquisition. Storage, sharing and expertise (technology) practices in Kenya Marine and Fisheries Research Institute only.

1.10 Assumptions of the Study

The study assumed that participants, limited to KMFRI employees, provided accurate and honest responses during surveys, minimizing response bias. It also assumed that the selected knowledge management strategies within KMFRI were adequately representative of its broader knowledge management landscape. Furthermore, the study assumed that knowledge management strategies used effectively reflect the multifaceted nature of KMFRI's performance and that there were no significant external events or factors during the study period that could significantly influence performance independently. Last but not least, the study made the assumption that the information

gathered adequately reflects the condition of knowledge management strategies and their influence on KMFRI performance during the time it was conducted.

1.11 Operational Definition of Key Terms

Knowledge Management: Knowledge management (KM) is the process of organizing, creating, using, and sharing collective knowledge within an organization.

Knowledge Management strategy: This is as an action taken by an organization to manage its knowledge.

Knowledge creation: Knowledge creation is the process of creating new knowledge and acts as the heart of an organization's competitive advantage. Knowledge creation serves as a building block in problem-solving. This knowledge may come from many sources, including employees within an organization or outside individuals that are brought in for knowledge or expertise on a specific subject. As knowledge is acquired, the next step is to understand what knowledge will be used for, how it will be applied and where it's applicable.

Organizational Performance: Organizational performance is the ability of an organization to effectively use resources and processes to achieve goals, improve the communication pipeline, and optimize results.

Tacit knowledge: Tacit knowledge refers to the vast, unspoken, unwritten warehouse of knowledge that each person holds, which is based upon observations, emotions, experiences, intuition, insights and internal information. Tacit knowledge is key to an individual's consciousness, and it is acquired primarily through relationships with other individuals. It requires shared activities and communication to be imparted between humans.

Explicit Knowledge: Explicit (or expressive) knowledge is information you can easily document and share. It's the kind of information that can be applied to knowledge management systems, or the structure of recording information.



CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter summarizes information about the influence of knowledge management strategies on organizational performance from previous studies and evaluates relevant literature. The related theories and conceptual framework are discussed in this chapter.

2.1 Empirical Literature

A literature review is a recapitulation of the hitherto issued efforts on a subject. It is a researched analysis of printed or unprinted works in particular disciplines of interest to the efforts of the investigator Ferreira (2015). It can be dubbed as a research paper or a part of it such as a volume, or a write-up. A literature review is focused on furnishing the investigator and the audiences with a grasp of the historical mastery on the topic under research. The empirical study of literature is a multifaceted area of investigation covering psychology, sociology, and philosophy of texts, the background inquiry of printed works. Assertions have it that an establishment can take pleasure in the tenable cutthroat edge if it implants a grip among its offerings Benn *et al* (2014). Heed is focused on knowledge management (KM) to revamp institutional efficiency. Quite a number of approaches have been investigated and put forward for ways of figuring learning for firms' competitive advantage. Zwain *et al* (2014) conducted an investigation on how knowledge management strategies influence academic performance in institutions of higher learning in Iraqi. They used survey and cross-sectional research design for testing the hypotheses by use of correlation and regression analysis methods. The results of the investigation were that there was substance of knowledge management to Iraqi institutions of higher learning. Abdel *et al* (2013) researched on the part knowledge management plays in refurbishing organizational performance in establishments in Egypt by use of questionnaires to collect data. The study cast about for an

understanding of adaptables pegged on implementing information governance idea. This was majorly to enhance ranked accomplishment and provide analysis tool that inspires corporations to observe their insight knowledge management capabilities. This research was geared towards acknowledging the gaps that were in place and recommend the conceivable approaches to spearhead authoritative execution. The outcome demonstrated that there is immense relationship between knowledge management strategies and organizational performance.

Abebe (2016) researched on the effect of knowledge management on viable competitive advantage among charitable establishments in Kenya. The study used a descriptive case study, primary and secondary data were gathered by use of piloting and structured questionnaires. The conclusion was that knowledge management has a strong positive relationship with feasible competitive advantage.

An investigation by Birasnav (2014) looked into the correlation between transformational and transactional leadership, knowledge management (KM) process, and organizational performance.

The sample of the research was services firms with a total of 119 respondents of human resource managers and general managers. Data was analyzed using exploratory factor analysis and hierarchical regression analysis. The research concluded that transformational leadership was strongly linked to knowledge management strategies and the performance of the firm.

Noruzi *et al* (2013) was after examining the link between transformational leadership and organizational performance. The research earmarked 106 Iranian manufacturing establishments with a target number of 280 respondents. Structural equation modeling was used to explore the with the results showing a positive and significance correlation between the variables under study.

Katsuro (2013) cast around for the influence of knowledge management on organizational performance. The investigation singled on a case study approach with a sample of 60 employees out of a population of 100. After stratifying the target population into departments, the procedure

of simple random sampling was applied to select representatives from each department clustered together to all up to a sample of 60 elements. The methods of data collection applied were questionnaires and interviews. The study concluded that knowledge management can be negatively affected in the presence of a culture that does not embrace learning and knowledge sharing. Aminga (2013) researched on how knowledge management strategies impacted organizational performance at hand-picked campuses of Kisii University. The respondents to the questionnaires were selected through stratified random sampling and interview respondents were purposively selected. The research concluded that knowledge management policies have a healthy and positive effect on organizational performance.

Villar *et al* (2014) researched on the role of knowledge management practices on export intensity in Small-Medium Enterprises in a mature and global, low-tech industry. A quantitative study with structural equation modeling was done on a sample of 157 Italian and Spanish manufacturing firms. The study deduced that there was a significance effect on high-powered aptitudes on export which supported that knowledge management execution is significant but it's not important to augmenting exports procedures which calls for the requirement for potent abilities in the reconstruction of the aforementioned knowledge. Ahmed *et al* (2015) research practically fixated on the influence of knowledge management strategies on organizational performance. The banking sector in Pakistan was the target population. The study techniques employed were survey design, questionnaires and descriptive statistics. The investigation concluded that the firm can only provide quality services to its clients, utilize its resources efficiently and gain more profit through knowledge management strategies.

Nnabuike & Ojukwu (2015) investigated the extent to which knowledge management impacts the performance of hand-picked commercial banks in Awka Nigeria. The inquiry was precisely set

forth to find out the presence of significant relationship between knowledge identification and organizational performance. Consequently, it explored the degree to which knowledge acquisition affects the performance of an organization. The research engaged a descriptive research design. The primary instrument used for the collection of data was the questionnaire. Pearson's product moment correlation was employed to analyze the data. The discovery disclosed that knowledge identification positively and significantly influences the performance of an organization.

Ha *et al* (2016) researched on the influence of knowledge management on performance of a firm. The investigation used explanatory research design with a target population being a census of 133 bank branch managers within the three towns; Nakuru, Eldoret, Kisumu. A five-point Likert scale with structured questionnaire was used to collect data. The data was analyzed quantitatively using descriptive statistics and multiple regression models. The results of the study indicated that knowledge management is significant in improving the organizational performance.

2.2 Theoretical review

Theoretical Framework is the design or guide for a research, as posited Grant & Osanloo, (2014).

This is a framework pegged on an extant theory in a field of inquiry that is linked and/or mirrors the postulation of a study. It is an outline that is often 'borrowed' by the researcher to construct his/her own house or research inquiry. A theory is a group of propositions or rules that describe the fundamentals and details of a phenomenon, particularly one that has been validated or is commonly accepted to make predictions about a phenomenon that occurs in nature. Adom, Dickson & Hussein (2018) hypothesized on Theoretical and Conceptual Framework that it offers immense returns to a research work. It dispenses the structure in bringing into light the ways a researcher defines his/her study philosophically, geologically, methodology and analytically Grant & Osanloo, (2014). The theoretical framework supports and guides researchers in establishing and exploring formal theories into their studies as a guide Ravitch and Carl (2016). This aligns their

studies on scholarly and academically lines. The theoretical framework serves as the focus for the research and it is linked to the research problem under study. The researcher's choice of research design and data analysis plan is steered by the theoretical framework. It also steers the type of data to be put together for a defined study as argued by Grant & Phene (2021). Among the theories discussed in this study are the Resource-Based View (RBV), Knowledge-Based View (KBV), Dynamic Capabilities Theory (DCT) and Social Exchange Theory (SET).

2.2.1 Resource-Based View (RBV) Theory

The resource-based view of the firm (RBV), first proposed by Birger Wernerfelt (1984), has gained a lot of support in the business literature. Jay Barney (1991) and other researchers later updated and improved the RBV. As opined by Pankaj (2010), Resource Based View (RBV) takes an 'inside-out' view or firm-specific perspective on why organizations succeed or fail in the market place. A fundamental element of the resource-based theory is that a firm's resources and skills affect its capacity to obtain a competitive advantage. Chatterjee (2021) study deduced that RBV theory is useful and relevant for explaining an organization cross-functional capabilities even in the post-COVID-19 period and that there is a positive moderating impact of knowledge management strategies on organization performance.

With the use of valuable resources, a firm can develop and/or put into action plans to improve efficiency and effectiveness, which also allow it to seize opportunities and/or minimize environmental hazards. The idea of KM is tied to the RBV hypothesis on grounds that knowledge is a distinct and an unmatched asset assisting establishment gain an edge over others.

A key idea for bettering our understanding of the outsourcing decision is the resource-based perspective. The evaluation of organizational capacities, which connects outsourcing to organizational performance and, ultimately, competitive advantage, can be aided by the resource-based view in particular. The resource-based concept can be applied to outsourcing to evaluate an

organization's capabilities to those of suppliers and rivals. Resources and capabilities are regarded as valuable when a company can seize opportunities and fend against threats. Because of these resources, the corporation ought to be able to satisfy the demands of the business environment. The rarity criteria are linked to the number of competitors who own a valued resource. It goes without saying that a valuable resource that many competitors share is a strong candidate for outsourcing because it is unlikely to give one competitor a competitive edge. A valuable item that sets you apart from both current and potential competitors will undoubtedly provide you an edge. Unique and valuable resources can give a company a competitive edge and should be developed organically. Many proponents of the resource-based perspective contend that an organization's resources and capabilities are what give it a competitive edge. Thus, organizational internal resources support competitive advantage. For instance, firms may pool resources in creative ways across organizational boundaries to outperform competitors.

The resource based view (RBV) in this study was very crucial because in knowledge management resources and capabilities were important factors of sustainable competitive advantage and superior organizational performance and they possess certain special characteristics. They were valuable, increasing efficiency and effectiveness, rare, imperfectly imitable and non-substitutable.

2.2.2 Knowledge-Based Theory

The KBT is globally welcome explaining the part knowledge plays in the accomplishment of company objectives, mostly entailing the obtaining and retaining competitive advantage. KBT evolved from the RBV Theory. KBT was initially promoted by Penrose (1959) and later expanded by others (Wernerfelt 1984, Barney 1991, Conner 1991). This offshoot was founded on the understanding that information is a crucial, exclusive resource that aids an organization in differentiating itself from its rivals Demsetz, & Grant (2017).

Today's fecundity is based on an organization's potential to produce further knowledge and learn from mistakes Tzortzaki & Mihiotis (2014). The fresh insights are known as intangible assets as a whole and are for company that created them. According to various studies, each firm's intellectual capital plays a crucial role in its overall success Clarke & Inkinen (2015). Therefore, in order to facilitate the creation and administration of intellectual capital, organizations should work to establish knowledge management systems. The KBV of the company has garnered a lot of attention because it shows that academia is aware of the fundamental economic changes brought on by the accumulation of knowledge over the past 20 years and its availability. The productive paradigm is undergoing a fundamental transformation (Carneiro, 2015).

It is widely accepted that the KBV of the company is an expansion of the RBV of the company. We may rationally assume that the capability development method will have an effect on the firm's KBV given that the capabilities experienced that extension (Malerba and Orsenigo, 2000). Dynamic capabilities have the capacity to reconfigure, reroute, transform, shape, and integrate critical information, outside resources, and strategic and complementary assets. The KBV of the firm is the logical continuation of the RBV of the firm since it allows for the incorporation of the temporal expansion of the firm's resources and abilities that support the competitive advantage Peteraf *et al* (2013). Business managers must work to successfully integrate the knowledge they have acquired from a variety of stakeholders, such as institutions, customers, rivals, and suppliers, as well as focus on the tacit, priceless, and particular knowledge that is crucial to preserving relationships with the most valuable external sources.

The theory is pertinent to this study since In accordance with KBV, KM capabilities are the primary responsible factors for the achievement of sustainable competitive advantage. These include all knowledge acquisition, storage, sharing, and expertise, which transform individual to group and,

finally, to organizational knowledge. KM capabilities affect performance with two effects, direct and indirect, which affect the KMFRI performance in a similar way with the Institution's specific assets.

2.2.3 Knowledge Spiral Theory

Developed by Nonaka and Takeuchi (1995), the Knowledge Spiral Theory pivots on the knowledge twists taking cognizant on the metamorphosis of tacit knowledge into explicit knowledge, bearing on the employees of an establishment, group of the organization and the organizational learning and innovation (Dakri, 2014). The theory established four modes of knowledge conversion from tacit knowledge to tacit knowledge - a process of socialization; from tacit knowledge to explicit knowledge - process of externalization; from explicit knowledge to explicit knowledge - a process of combination and from explicit knowledge to tacit knowledge - a process of internalization (Dakir, 2018). Hence, the acronym coined for this conversion is (SECI) model for the Socialization, Externalization, Combination, and Internalization.

This study adopted the knowledge spiral of Nonaka and Takeuchi (1995), using this theoretical perspective the study was able to explore the knowledge transfer and creation process of KMFRI organization. The result of this study indicated institutional knowledge flow from acquisition and storage can be obtained through the workers' mutual interaction and sharing, thereby strengthening the organization and its individual expertise skills. This model provided a systemic picture of the organization's practices purposing to grow its own knowledge capital, thus enabling to highlight the strengths and weaknesses of specific processes or to verify their effectiveness related to the KMFRI performance.

2.2.4 Theory of Organizational Epistemology

Developed by Von Krogh and Roos (1995), the theory of organizational epistemology was one of the first theory on KM that made a distinction of the individual knowledge and the social

knowledge. The theory stated clearly that knowledge vested on a particular employee of the establishment as well as the social level of that particular employee in an establishment. The theory elucidated knowledge as all that is in the knowledge of a particular employee. TOE dispenses a clear concept on the tacit knowledge, not easy to hypothesize out of someone and make more concrete as opposed to the rational stance where the knowledge is regarded as an abstraction in an establishment. A strong need to maintain a link between knowledge objects and those who are knowledgeable about them such as the experts and experienced users is reinforced on the TOE. There is a belief that KM implementation calls for a connection between those knowledgeable about the activities and the functions in the organization and the knowledge, between the knowledge and those individuals in the organization who wish to know about them, and knowers and the need or wish to know based on the theory of epistemology.

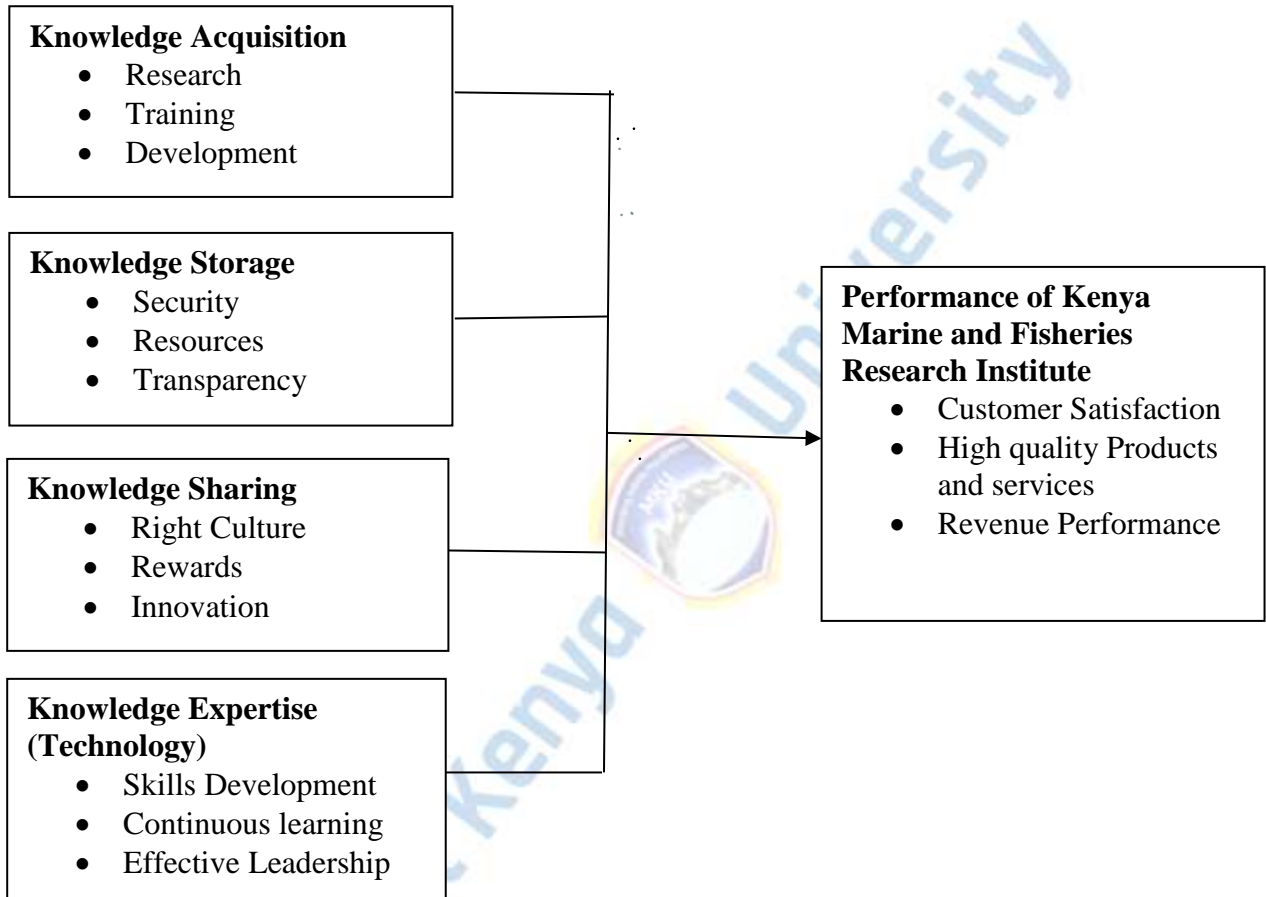
TOE was of vital importance in the research study as it dispenses the KM practices basis, differentiates the concept of the knowledge based on the individual and organizational viewpoints. The unearthing of the various types of the knowledge, engagements appearing between knowledge sets and articles were brought up with an important basis on the administration of KM practices.

2.3 Conceptual Framework

A conceptual framework is a rendition of the link between variables, or the characteristics or properties of a study. It is used to understand a research problem and guide the development and analysis of the research. It serves as a roadmap to conceptualize and structure the work by providing an outline that connects different ideas, concepts, and theories within the field of study. A conceptual framework pictorially or verbally depicts presumed relationships among the study variables.

In figure one below shows a conceptual model of the knowledge management strategies (independent variables) influencing performance (dependent variable) of Kenya Marine and Fisheries Research Institute

Figure 1 Conceptual Framework



Source: Researcher (2024)

2.3.1 Knowledge Acquisition Strategy and Performance of Kenya Marine and Fisheries Research Institute

Knowledge acquisition is the undertaking of acquiring, assimilating, and integrating new knowledge and information. It calls for active seeking and gaining knowledge via varied means such as learning experiences, reading and training, research, training. Knowledge acquisition (KA) is the first of the knowledge management processes, and was approached as a concept in the literature in the mid-1930s, when Bertol Brecht considered, for the first time, that knowledge can

be traded. Ancient scholars such as Plato and Aristotle used the term knowledge long ago. Abdoulaye & Chennupati (2019) posits that knowledge acquisition and usability of the website had a major direct impact on tacit knowledge creation, and had indirect effects on both tacit and explicit knowledge creation through explicit knowledge sharing. Alyt & Hameleers (2021) in their study on Knowledge acquisition in times of the 2020 Coronavirus Pandemic concluded that relying on a four-wave panel survey fielded in the Netherlands, people's knowledge became more accurate over the course of the crisis. Empiricism argues that knowledge is created on an ongoing basis from experience (Habermas, 2015). The knowledge in place and capabilities of many a firms are often times not applicable when entering new markets or environment, thus the need to acquire new knowledge on the basis of required behavioural change aimed at survival and effectiveness. Kenya Marine and Fisheries Research Institute acquires and provides scientific data and information to the Government and the general public for sustainable development of the Blue Economy.

2.3.2 Knowledge Storage Strategy and Performance of Kenya Marine and Fisheries Research Institute

Knowledge storage makes use of technical infrastructure such as contemporary informational hardware and software and human processes to pinpoint the knowledge in an establishment. Knowledge is consequently coded and indexed for future use. Knowledge can be stored in a number of storage media namely; human mind, organization, document, and computer. The knowledge is stored in physical memory systems and informally retained as rules, beliefs and values associated with the organizational culture and structure (Argote et al., 2003). Storing knowledge means how the knowledge is stored during the organizational memory formation stage. Talamante *et al* (2019) research concluded that storage technologies can be used to select knowledge management tools and strategies for M-SMEs. Azlan &Yahya (2018) posited that there is a correlation between

organization's ability to store knowledge and organizational performance. Storing knowledge can effectively protect organization from distraction from turn overs issues and also help in solving problems Sajjad (2018). KMFRI is home of the Kenya Aquatica Journal. Kenya Aquatica is the Scientific Journal of the Kenya Marine and Fisheries Research Institute (KMFRI) used for storing knowledge for dissemination. The Aim of the Journal is to provide an avenue for KMFRI researchers and partners to disseminate knowledge generated from research conducted in the aquatic environment of Kenya and resources therein and adjacent to it. This is in line with KMFRI's mandate to undertake research in marine and freshwater fisheries, aquaculture, environmental and ecological studies, and marine research including chemical and physical oceanography.

2.3.3 Knowledge Sharing Strategy and Performance of Kenya Marine and Fisheries Research Institute

Knowledge sharing means the exchange of employees' knowledge, skills, and experiences. It makes sure that the knowledge within an organization is available for employees whenever they need it, and its benefits include retaining intellectual assets and improving productivity. Knowledge sharing is a reciprocation of ideas and information impacting on the way teams learn in organizations Zablith, F., *et al* (2016). The importance of organizational culture is pegged on its ability to have control on employees' knowledge sharing behavior as well as an indirect effect through influencing managers' attitudes toward knowledge sharing. A culture focusing attention on trust and innovation is a breeding ground for knowledge sharing. Spheres of emphasis of knowledge sharing are organizational context, interpersonal and team characteristics, cultural characteristics, individual characteristics, and motivational factors. Francesco *et al* (2023) on 'the influence of motivations to share knowledge in preventing knowledge sabotage occurrences' concluded that top management must put strategies in place to support and motivate their employees in knowledge-sharing initiatives. Wang *et al* (2014) posits that knowledge sharing has

been recognized as a pillar in the success of Knowledge Management. An empirically tested motivational model, Technological Forecasting and Social Change, Previous studies have identified three elements that have a critical impact on knowledge sharing: a knowledge-sharing culture, information technology (IT), and employee motivation (Jones *et al.*, 2006). Knowledge residing in the minds of people has no value until it is utilized and shared among other employees of an organization, as Davenport et al. (2019) rightly stressed that “knowledge is created invisibly in the human brain and only right organizational climate can persuade people to create, reveal, share and use it.” It is the responsibility of organizations to provide a natural and friendly environment that may encourage employees to share their ideas and knowledge. An organization with an IT capacity is a breeding ground for knowledge sharing. Rumanti *et al* (2019) argues that knowledge sharing is a mechanism for organizations to expand judiciously. Research on knowledge-sharing types has increased in the 21st century as it is a crucial organizational endeavour Ahmad & Karim (2019). Recent findings show that explicit knowledge alone is insufficient for organizational endeavors, as tacit dimensions of expert knowledge have become increasingly important (Döringer, 2021). Kenya Marine and Fisheries Research Institute generates and disseminates scientific information to the general public for sustainable development of the Blue Economy. Fish farmers desirous of information on pond constructions and the best fish and feeds acquire such information from KMFRI. Within KMFRI, knowledge is in codified databases, employees’ heads or other informal mechanisms. Getting access to the required knowledge offers the opportunity for employees to obtain and apply it for business results as required. Knowledge access also facilitates knowledge transfer within the organization. This means employees in one location can easily solve business problems.

2.3.4 Knowledge Expertise (Technology) Strategy and Performance of Kenya Marine and Fisheries Research Institute

Expertise is a special skill or knowledge that is acquired by training, study, or practice. The fundamental facets necessitating the use of information technology include: information security, computer technical support, business software development and database and network management. According to Marek (2018), knowledge expertise is more often than not analyzed from the viewpoint of its structure (i.e. the data at one's disposal, the acquired information, types of exact knowledges) and the act of its acquisition and realization. As we navigate in today's world it should not be lost to us that we are increasingly reliant on technology and its advancement. Since technology life cycles have a tendency to shorten in the twenty-first century, many of the 1990s' breakthroughs will be forgotten very soon (if they haven't already). This is why the idea of 'technology waves' has caught the interest of decision-makers at different levels, including sectoral, national, and worldwide. The sixth "technological wave," in which thermonuclear energy, photonics, micromechanics, membrane and quantum technologies, and nanotechnology are becoming increasingly significant, is upon humanity. Even Nevertheless, well-known (old) fourth-wave technologies that are resource- and energy-intensive must be gradually upgraded in order to increase their effectiveness, switch to alternative energy sources, and lessen their detrimental effects on the environment.

On 30th June 2023, His Excellency the President Dr. William Samoei Ruto unveiled an expanded array of eCitizen services that marked Kenya's watershed moment in the pursuit of digital transformation. In order to enable citizens to access 5,084 government services and information online, the eCitizen platform's Unstructured Supplementary Service Data (USSD) code *2222# was introduced. This significant development in Kenya's digital transformation intends to improve citizens' access to and use of government services. Following the launch, His Excellency the

President directed that all government departments onboard the remaining services onto the eCitizen platform within 90 days from the date of the launch. KMFRI Management has embraced technology in its entirety and in support of Kenya Kwanza's development agenda has embarked on the following initiatives:- environmental and climate change initiatives (carbon dioxide reduction, carbon trading, and community livelihoods), communities' support (Wasini coral reef restoration, Dabaso Creek conservation group); micro, small, and medium enterprises (aquarium installations, fish and seaweed farming) and digital economy (including development of TakaConnect and EFIMIS).

KMFRI integrated Enterprise Resource Planning (ERP) system in headquarters and all its stations in 2022 which was a big leap in technology as all staff have been trained in the use of ERP in support of the President's directive of 'Paperless Government.' ERP is the procedure for gathering and managing business data from numerous departments using specialist software. It provides businesses with an integrated, frequently real-time view of their core business operations through a single, centralized system. Organizations may implement enterprise resource planning if the right technology and deployment approach are used.

2.4 Recap of Literature Review

This report sought to establish a link between knowledge management strategies and performance of Kenya Marine and Fisheries Research Institute by examining recent studies on the subject. It was nearly impossible to examine all of the knowledge management strategies and performance material that was not accessible due to the area's current scope and in particular because of the brief study period. However, the study examined certain important concepts from both knowledge management strategies and performance assessment with regard to the issue of converting information into improved performance. The approach included discussions about the development

of performance measurements as well as illustrations of knowledge and knowledge management strategies. Overall, knowledge management strategies may be seen as a managerial tactic that motivate managers to use and develop organizational knowledge over time in order to obtain a competitive advantage. However, the most crucial problem to be solved is how a company can assess a knowledge management strategy program aimed at enhancing performance. The review of the literature showed that some authors found it challenging to establish a connection between knowledge management strategies and company performance. This challenge has been greatly exacerbated by the knowledge's ethereal and immeasurable character. Another factor contributing to this issue, according to Marr *et al* (2013), is the difficulty in comprehending the causal connection between knowledge management strategies and increased organizational performance. Consequently, a comprehensive framework must address both of these issues, which are rarely raised in current research. In this particular instance, it is crucial to conduct further research on performance indicators that might be used in knowledge organizations. More research is needed to better integrate artificial intelligence (AI), support remote work, cope with increasing information overload, formulate key KM competencies and training approaches, as well as leverage KM to enhance innovation (in addition to improving efficiency).

In the research carried out by Noruzi *et al.*, (2013) to ascertain the link between transformational leadership, organizational learning, knowledge management, organizational innovation and organizational performance among Iranian manufacturing firms the results show that there exists a healthy relationship between transformational leadership, knowledge management, and organizational performance. The results also show that there exists a positive correlation between transformational leadership and organizational learning. The research recommends future studies of other regions and corporate sectors.

Brasnav (2013) surveyed the divergent links between transactional and transformational leadership, knowledge management strategies and organizational performance. The study results postulate that transformational leadership has strong and positive effects on KM strategies and organizational performance after controlling the effects of transactional leadership. This research delved on one firm in Indonesia while there are more in Indonesia and in the globe which may bring about different results owing to the diverse environments. Further Donate & de Pablo (2015) studied the role of organizational knowledge-oriented leadership in knowledge management (KM) capabilities that look for ways of achieving remodeling. The turnout indicated that, the actuality of this type of leadership stirs the development and use of KM exploration (i.e., creation) and exploitation (i.e., storage, transfer, and application) practices although KM practices themselves are essential for innovation purposes. Owing to this outcome and the use of KM practices, the organization can ameliorate its performance in product reorganization. The study further recommends future research to focus on a broader range of technology industries and target different cultural contexts, countries or geographical areas to validate the results for a full spectrum of culture and geographies. Additionally, quite a number of research has been carried out on knowledge management and organizational performance. In spite of this fact, very few of them have been carried out on State Corporations especially in Kenya. This study will seek to fill these research gaps.



CHAPTER THREE

RESEARCH METHODOLOGY AND DESIGN

3.0 Introduction

This chapter identifies and establishes how knowledge management strategies affect the performance of the Kenya Marine and Fisheries Research Institute. The research methodology and design outlined in this chapter covers the data gathering, data analysis, and research design.

3.1 Research methodology

Research methods are all those techniques, plan, and strategy or structure that are used to carry out a research by showing how data would be collected effectively and efficiently (Prakashan, 2003). In other words, research method refers to the plan or procedure for gathering information, portraying when, from whom and in what situation the information will be obtained (Kothari, 2006). Mixed method was used in this study, that is, quantitative and qualitative methods were adopted. Since the study intended to ask specific questions about knowledge management strategies, this methodology was necessary to quantify these data and to analyze it using statistics in an unbiased, objective manner. In this case, data was collected using questionnaires. After the data were collected, data cleaning was done to improve the quality of the responses. They were coded and entered in the computer for analysis using the Statistical Package for Social Sciences (SPSS) version 25. Qualitative data were analyzed qualitatively using content analysis based on analysis, meanings and implications emanating from respondents' information and documented data. As observed by Gray (2004), qualitative data provide rich descriptions and Simple descriptive statistics analyzed quantitative data. The statistics used included frequency counts, means and percentages. As Martin and Acuna (2002) and Orodho (2009b) observe, SPSS version

is able to handle large amounts of data, and given its wide spectrum of statistical procedures purposefully designed for social sciences, it is also quite efficient. The results of data analysis were presented using frequency distribution tables and bar graphs.

3.2 Research Design

The researcher used descriptive research design for the reason that it can collect both quantitative and qualitative data. Questionnaires were used to gather quantitative information about how knowledge management strategies affect the performance of Kenya Marine and Fisheries Research Institute. By use of descriptive research, patterns can be picked out in the attributes to fundamentally put in place everything one needs to understand in a group excluding why something has occurred Sharma (2019). The aim of descriptive research is to describe an occurrence and its attributes. The method lays emphasis on what rather than how or why there was an occurrence. Data is collected qualitatively and more often than not analyzed quantitatively, using frequencies, percentages, averages, or other statistical analyses to determine relationships as posited Nassaji (2015). The nature and scope of a problem is explored and documented by descriptive research design in order to identify trends and patterns, thereby providing the basis for subsequent research. The findings of descriptive research can help inform decision-making, policy development, and program planning. Descriptive research design is used to predict future occurrences as posited by Tegan & Julia (2023). According to Creswell (2017), the descriptive research design is a study that describes the characteristics of a population or phenomenon being studied. It is more often than not referred to as a form of causal study as a result. Denscombe (2014) posits that a study's focus and data collection are governed by the research design. Descriptive research design will assist in the prediction of knowledge management strategies and the performance Kenya Marine and Fisheries Research Institute, the analysis of different trends, and the formulation of hypotheses that can direct

future actions. It will make it simpler to assess how knowledge management strategies affect the performance of the Kenya Marine and Fisheries Research Institute by supplying meaningful and comprehensive elements of the research topic's real-world experiences.

3.3 Location of the Study

The study was conducted at the Kenya Marine and Fisheries Research Institute in Mombasa County the coastal region of Kenya, its geographical coordinates are 4° 3' 0" South, 39° 42' 0" East. The choice of the study site was guided by the notion that the KMFRI generates and disseminate scientific knowledge and information for sustainable development of the Blue economy through conducting research in marine and freshwater fisheries, aquaculture, environmental and ecological studies, and marine research, including chemical and physical oceanography. The County neighboring Kwale county in South west ,Kilifi county in north, and Indian Ocean in east . It is divided into four sub counties: namely Mvita, Kisauni, Changamwe and Likoni. The Mombasa County was selected because it holds the Kenya Marine and Fisheries Research Institute headquarters.

3.4 Target Population

The target population is the group of individuals that the agency targets to undertake research in and draw conclusions from. In cost-effectiveness analysis, attributes of the target population and any subgroups should be described clearly Louise Barnsbee (2018). Mugenda and Mugenda (2013) define target population as the whole group a researcher is interested in or the group about which the researcher wishes to draw conclusion. The definition of the population is crucial since it aids in choosing the right participants for the study. The target population of Kenya Marine and Fisheries Research Institute will be 168 and the sample population will be 118 arrived at using the Yamane (2007) formula below:-

$$n = \frac{N}{(1 + (e)^2)}$$

$$= \frac{168}{(1 + 168(0.05)^2)} = 118$$

Where;

$$n = N / (1 + Ne^2)$$

N- Total Population

e- Level of error

n- Sample size

Table 1 Target Population

Category	Target Population	Sample Population
Top Management	9	6
Middle Management	26	18
Operational Management	76	63
General Staff	57	31
TOTAL	168	118

Source: Research 2024

3.5 Sampling Procedures and Sample Size

In this investigation, simple random sampling was used. For a number of reasons, simple random sampling was a crucial technique for a study that aimed to identify and establish how knowledge management practices affected the performance of Kenya Marine and Fisheries Research Institute (KMFRI). Every eligible unit within the population of KMFRI personnel had an equal and independent chance of being picked hence, easy random sample. By doing so, the chance of bias in participant selection was reduced and the sample guaranteed to be representative of the whole population. It also ensured equal change and enhanced the validity, generalizability, and fairness of the research study .

In order to determine the sample population for this study, a 95% confidence level at a 10% confidence interval was used. Ryan (2013) asserts that the size of a sample was reduce level of

uncertainty regarding the true prevalence, hence the researcher utilized a confidence level of 30%. A population is referred to as finite if its members can be counted. Kothari (2013) makes a hint that the technique the researcher would use in the sample is sampling design. Between 10% - 30% of the target population, according to Mugenda & Mugenda (2013), is a good representation. The number of KMFRI employees who took part in the study were determined using the Cooper and Schindler's formula, which was also used to establish the sample size for KMFRI employees. Pilot testing was done to not only improve the insights generated from the project but also the process my team used to conduct research. The reflective and iterative nature of pilot testing actually accelerated the development of my skills as a researcher.

3.6 Data Collection Methods and Procedures

According to Kabir (2016) data collection is the procedure of assembling and quantifying information on variables of interest, in an established systematic fashion that enables one to answer stated research questions, test hypotheses, and evaluate outcomes. The researcher obtained data using questionnaires. Designing questionnaires was a necessary step in creating the research instruments for this research project, which aimed to ascertain how knowledge management strategies affected the performance of the Kenya Marine and Fisheries Research Institute. Data was obtained through self-administration by the researcher and the research assistants. The questionnaires included a mix of structured questions to gather quantitative data on specific knowledge management practices and their perceived influence on the performance of Kenya Marine and Fisheries Research Institute. To guarantee lucidity, pertinence, and design with the research intents, pre-testing the instruments on a small diverse sample was of essence as it assisted refine them for ideal data collection. Pilot testing was done on fifty (50) respondents who do not constitute the sample. This made certain uniform understanding of the research tool among

field personnel and helps identify any flaws or weaknesses in the study design. Cooper & Schindler (2014) laid emphasis on the significance of pilot tests in gauging validity and reliability of research instruments thereby accommodating initial data that is of value so as to pick a probability sample. To obtain a thorough understanding of the relationship between knowledge management strategies and organizational performance, the study also included proven scales for assessing knowledge management maturity and performance indicators customized to Kenya Marine and Fisheries Research Institute setting.

The researcher obtained an introductory letter from Institutional Scientific Ethics and Research Committee (ISERC) of Mount Kenya University's School of Postgraduate Studies, as well as an Authorization Letter and Research Permit from the National Commission for Science, Technology, and Innovation (NACOSTI). This helped in carrying out the study without many challenges. The researcher personally visited the sampled respondents, introduced herself to the KMFRI staffs and explained the purpose of the study. She advised on how the questionnaires should be completed independently by the respondents. They also were assured that the information being solicited was for the academic purposes only. It was stressed to them that they should not write their names on any part of the data collection instruments. These above steps were taken to assure respondents of the confidentiality of information given and also ensure that they gave honest responses that relates to knowledge management strategies on the performance of Kenya marine and fisheries research institute. The researcher primarily relied on primary sources of data.

Arrangements were also made with the responded group on the most convenient date and time to administer the questionnaire. With the help of two, well competent research assistants (RA), questionnaires were administered as agreed with the sampled study participants. During the data collection, the respondents were given adequate time to complete the questionnaires before they

are collected by the two research assistants. The questionnaires were then sorted and arranged in preparation for coding, data entry and analysis.

In each department, the researcher did not leave the department without courteously informing the respondent about the progress of data collection in that particular department, appreciating the respondents for facilitating data collection and then agreeing on any further arrangements in cases where questionnaires were not ready by the time of exiting.

3.6 Validity and Reliability of Research Instruments

3.6.1 Validity of Research Instruments

Validity according to Drost (2014) is the scope to which a measure sufficiently represents the underlying construct that it is supposed to measure. The term construct refers to the skill, knowledge, attribute or attitude that the researcher is investigating. It is a means of pledging measurement quality, certifying prognosticated impetus, and enabling generalization. Taherdoost (2016) in his research posited that validity of questionnaire as a significant research instrument tool and various types of validity were discussed with the goal of validity improving the skills and knowledge among researchers. For instance if a researcher wanted to measure compassion, it is vital to know if the measure would accurately measure compassion or empathy because the two terms are closely related. Some of the constructs under investigation might be imaginary (they don't exist in reality) it is important to develop a scale that would consistently and precisely measure the intended unobservable construct.

The researcher made sure that all of the research assistants who participated in the study received a briefing on the procedure for gathering data. By looking at evidence of information from various sources of data, validity was proven. Creswell's guidelines were followed by this research for instrument validation. Expressly, the validity of this study's conceptual framework was evaluated

by analyzing the comprehensive correlation coefficient among all variables in regards to performance.

3.6.2 Reliability of Research Instruments

Reliability refers to how deliberately or routinely a test measures a certain characteristic. An instrument is considered to be reliable when it is consistent and is capable of providing similar (or near similar) results if the same conditions are applied in future, posited Edwin (2019). The test is unreliable in cases where there are significant differences in the results when the test is repeated. On preparing tests or questionnaires, the researcher tried to contrive questions, statements, and tasks in a way that wasn't influenced by the mood or concentration of participants. Cronbach's Alpha was used to measure the intramural constancy of the study's tool. As a result, the research was put in a benchmark of 0.7 to gauge palatability. Reliability was attested by scores exceeding 0.7, while scores below this threshold were indicated as potential unreliable in the measurement of instrument's reliability. The researcher seek information from a variety of sources, including questionnaires and other written materials in a quest to obtain validity.

3.8 Credibility of Data

Credibility is a measure of the certainty value of qualitative research, or whether the study's outcomes are precise and accurate. Data credibility refers to how complete and accurate a data set is. It is determined by the quality of the information gathered rather than the quantity of data gathered. To some degree, it relies on the credibility of the researchers themselves, as well as their research methods. Triangulation, prolonged engagement with data, persistent observation, negative case analysis, member checks, and referential adequacy are all procedures that can be used to increase the credibility of qualitative studies. In this study, the credibility of qualitative data was

determined by analyst triangulation through various specialists. It involved utilizing other specialists to review the findings. This was helpful to illuminate blind spots in the analysis process.

3.9 Dependability of Data

Dependability is used to quantify or validate the consistency and reliability of the study's results. Data dependability warrants consistency and repeatability in research findings, and is measured against the standard by which research is conducted, analyzed, and presented. It starts by trailing the specific methods used for data collection, analysis and interpretation and providing adequate contextual information about each piece, so that the study could theoretically be replicated by other researchers and generate consistent results. An inquiry audit performed by an outside person is one tool used to examine the dependability of a qualitative study. Alternatively, screening parameters can be used to coagulate research dependability. To establish data dependability of the study the researcher conducted external audit. An external researcher was used to examine the process of data collection, data analysis and the results of the research study. This was done to confirm the accuracy of the findings and to ensure the findings are supported by the data collected.

3.10 Data Analysis and Presentation

Kothari (2014) depicts data analysis as the processing of raw data into inferences that one can draw meaning from. The Statistical Package for Social Sciences v25 (SPSS) was be used to evaluate the data gathered for this investigation. This is because it enabled deeper digging into data, making it a much more effective tool than spreadsheets, databases or standard multi-dimensional tools for analysts. Furthermore, SPSS Statistics outshined in making sense of complex patterns and associations, thus enabling researcher to draw conclusions and make predictions. Descriptive statistics in the form of means, percentages, and frequencies was used to assess the quantitative data collected on the variables, and the results were displayed in the form of pie charts, graphs, and

tables. To meaningfully explain the distribution of scores, the researcher employed descriptive statistics. The researcher made meanings and interpretation of the collected data, and subsequently draw conclusions from the data analysis. The study was based on regression analysis model. The study utilized a multiple linear regression model to determine the correlation between the independent and the dependent variables. This analytical model is as below:

$$Y = \beta_0 + \beta_{1t}X_{1t} + \beta_{2t}X_{2t} + \beta_{3t}X_{3t} + \beta_{4t}X_{4t} + \varepsilon \text{ whereby;}$$

Y = Firm Performance

β_0 = Constant Term

β_1 = Beta coefficients

X1 = Knowledge Acquisition

X2 = Knowledge Storage

X3 = Knowledge Sharing

X4 = Knowledge Expertise (Technology)

ε = Error Term

β_1 β_4 = regression coefficients of the independent variables

3.11 Ethical Considerations

Research models are based on ethics. Ethics is the guiding principles when dealing with human aspects in any inquiry (Bryman, 2015). A good inquiry should be developed in a way that the respondents do not suffer any discomfort, harassment, physical harm, or loss of privacy posited Bryman (2015). During the study, the researcher made sure that integrity is maintained during the process of collecting data while upholding anonymity, objectivity, and confidentiality throughout the research study. The participants were provided with a consent form to sign to voluntarily take part in the study. The researcher also got Authorization Letter as permission to collect data from Mount Kenya University and Research Permit from the National Commission for Science, Technology, and Innovation (NACOSTI) before data collection.

Finally, the researcher eluded plagiarism by citing all sources of information that were used in the research.



CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSIONS

4.0 Introduction

The main objective of this research study was to assess the influence of knowledge management strategies on the performance of Kenya Marine and Fisheries Research Institute. This chapter

therefore, presents the data, analyses them and discusses the research findings in order to answer the four objectives of the study which were to: to determine the influence of knowledge acquisition on the performance of Kenya Marine and Fisheries Research Institute, to explore the influence of knowledge storage on the performance of Kenya Marine and Fisheries Research Institute, to investigate the influence of knowledge sharing on the performance of Kenya Marine and Fisheries Research Institute, to assess the influence of knowledge expertise (Technology) on the performance of Kenya Marine and Fisheries Research Institute.

The chapter presents the results of the data analysis. First, the description of the basic information derived from the analysis is undertaken for each variable through the descriptive statistics.

4.1 Response Rate

The study's sample was 118 employees of Kenya Marine and Fisheries Research Institute. As a result, a total of 118 questionnaires given out to the respondents. All of them responded making the response rate 100%. This return rate was excellent for testing and analysis and prototypical and agree with Mugenda and Mugenda (2003) precondition that a return rate of 50% is sufficient for scrutiny and reporting; a rate of 60% is good and a response rate of 70% and over is excellent. Consequently, the study's response rate was exceptionally high and impressive Table 2 below, dispenses the response rate as 100% of the sample population.

Table 2 Response Rate

Respondents	Questionnaire			
	Given	%	Returned	%
Respondents	118	100	118	100
total	118	100	118	100

Source: Primary data (2024)

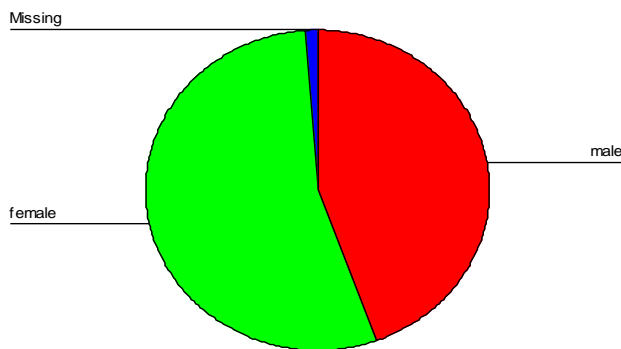
4.2 Background Characteristics

Five items were evaluated under background characteristics of the respondents. They include gender, age, and level of education, position and years of experience.

4.2.1 Gender

Data analyzed noted respondent's gender in the organization, a summary of which is represented by figure 2 below

Figure 1 Gender of respondent



Source: Primary data (2024)

Figure 2 provides a summary of an analysis of the respondents' gender. Of the 118 respondents, 48(40.6%) were males while 69 (58.4%) were females. One (0.85%) respondent failed to specify their sex. In the course of the study the investigator targeted on achieving 100% gender parity, all in all, from the figures presented it shows the number of males were fewer compared to those of females a clear indication that there is more employment of females than males in Kenya Marine and Fisheries Research Institute.

4.2.2 Age of Respondent

From the analyzed data it shows the age distribution of the respondent which is summarized in the table 3 below:-

Table 3 Age of Respondent

Age of Respondent	Frequency (f)	Percentage (%)
20-25 yrs	53	44.9
26-30 yrs	34	28.8
31-35 yrs	21	17.8
Above 36 yrs	10	8.5
Total	118	100

Source: Author (2024)

Table 3 summarizes the age of the respondents of which, 53 respondents (44.9%) are between the ages of 20 and 25 years, 34 respondents (28.8%) are aged between 26 and 30 years while 21 respondents (17.8%) are aged between 31 and 35 years and 10 respondents (8.5%) are above 36 years.. From the above table, it is perceivable that a big number of respondents were youth who are the most appropriate team to target in this investigation as knowledge management is largely predisposed to technology and technological growth in an establishment and youth are considered to be the most knowledgeable on matters technology.

4.2.3 Respondent's Highest Level of Education

Data analyzed shows the various levels as shown in Table 4 below

Table 4 Level of Education

Level	Frequency (f)	Percentage (%)
Diploma	28	23.7
Bachelors	14	11.9
Masters	10	8.5
PhD	16	13.5
Others	50	42.4
Total	118	100

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Source: Author (2024)

In table 4 above, 28 respondents (23.7%) had diplomas, 14 respondents (11.9%) had bachelor's degrees, 10 respondents (8.5%) had master's degrees, 16 respondents (13.5%) had PhDs and 50 respondents (Others) (42.4%) had varied craft certificates and KCE certificates. From the figures above it can be seen that majority of the respondents had craft certificates (Others) while the minority of respondents were holders of Master's degrees. This was an indication that KMFRI needed to make more efforts on the aspect of knowledge acquisition strategy so that more and more employees acquire off-the-job training.

4.2.4 Respondent's Level in KMFRI

The surveyed data depict the level where the respondents were drawn from in the organization, the summary is provided below in table 5

Table 5 Level of Authority in KMFRI

Level	Frequency (f)	Percentage (%)
Top Level	4	3.4
Middle Level	17	14.4
Operational Level	38	32.2
General Staff	59	50.0
Total	118	100

Source: Author (2024)

From the above table, 4 respondents (3.4%) were drawn from Top Level Management, 17 respondents (14.4%) were drawn from Middle Level Management, 38 respondents (32.2%) were drawn from Operational Level Management and 59 respondents (50.0%) were drawn from the general staff. It is therefore deduced from the foregoing that the level of general staff had the largest respondents compared operational, middle and top level. The general staff possess varied professional and technical knowhow thus provided the required information.

4.2.5 Respondent's Years of Experience

Data analyzed indicated the years of experience of the respondents as summarized in table 5 below;

Table 6 Respondents' Years of Experience

Years of Experience	Frequency (f)	Percentage (%)
Less than 3 years	10	8.5
3-5 years	24	20.3
6-10 years	32	27.1
More than 10 years	52	44.1
Total	118	100

Source: Author (2024)

From table 5 above, 10 (8.5%) respondents had less than 3 years work experience in the KMFRI while 24(20.3%) respondents had work experience ranging between 3-5 years. 32 (27.1%) respondents had work experience of between 6-10 years and 52(44.1%) respondents had work experience of more than 10 years. It is a clear indication from the above table 4.6 that the highest number of respondents had work experience ranging more than 10 years and thus had adequate knowledge pertaining to knowledge management practices practiced in Kenya Marine and Fisheries Research Institute over the years.

4.3 Effect of Knowledge Management Practices on Performance

4.3.1 Knowledge Acquisition and Performance

The first objective of the study was to establish the influence of knowledge acquisition on the performance of Kenya Marine and Fisheries Research Institute. . The feedback on the most common knowledge acquisition strategies on performance KMFRI is as shown in table 6 below;

Table 7: Knowledge acquisition strategies on performance of KMFRI

knowledge acquisition			
	Frequency	Percent	Valid Percent
Research	41	34.7	34.1
Training	38	32.2	31.1

Development	39	33.1	34.8
Total	118	100.0	100.0

Source: Primary Data 2024

The data in Table 6 indicated that all the knowledge acquisition strategies raise performance KMFRI were positively rated. Provision of research was rated highly by the respondents, (34.7%) followed by knowledge development (33.1%). The least rated strategy by the responded was the training (33.1%).

The data suggests a varied adoption of knowledge acquisition strategies among managers within KMFRI. While knowledge acquisition through research and development are relatively more prevalent, knowledge acquired through training was less commonly utilized. To enhance knowledge acquisition comprehensively, there is a need for more consistent trainings and seminars and improve collaboration among workers to improve knowledge sharing. Furthermore, training and resources can be provided to KMFRI management team to facilitate the implementation of these knowledge acquisition strategies effectively. A well-rounded approach, encompassing all these strategies, can significantly contribute to improved knowledge practices and, consequently, enhanced performance of Kenya marine and fisheries research institute. The response provided through the likert scale is as presented in table 7 below;

Table 8: Knowledge Acquisition and Performance

Statements	Strongly disagreed	%	Disagree	%	Moderate	%	Agree	%	Strongly Agree	%	Total	Mean
KMFRI Management supports training of its employees	0	0	4	3.39	23	19.49	31	26.27	60	5.08	118	4.25

on knowledge management for increased performance													
Workers get a good scope of new knowledge through external sources namely; educational courses, seminars and conferences for competence	0	0	10	8.47	28	23.73	38	32.20	42	35.59	118	3.95	
There is exchange of knowledge amongst workers leading to knowledge acquisition for better working environment for performance	2	1.69	5	4.24	17	14.41	23	19.49	71	60.17	118	4.32	
Workers depend on written sources of knowledge namely:- documented sources, instructions organizational procedures and previously implemented projects for succession management	2	1.69	6	5.08	16	13.56	44	37.29	50	42.37	118	4.20	
Employees share knowledge during formal and informal encounters for improved collaboration between departments for	0	0	11	9.32	1	0.85	36	30.51	70	59.32	118	4.40	

increased performance												
KMFRI leadership motivates/rewards its workers to engage in formal education systems to achieve higher levels of education for improved performance	0	0	7	5.93	15	12.71	43	36.44	53	44.91	118	4.20

Source: Research Finding (2024)

It was confirmed through the study results of the influence of knowledge acquisition that increased performance stemmed on KMFRI management support of training with a mean of 4.25. From the results of acquiring of new knowledge the respondents alluded to the fact that knowledge through external sources through educational courses, seminars and conferences, positively influenced competence in performance of duties as explained with a mean of 3.95. Knowledge acquisition through exchange of knowledge amongst employees resulted to better working environment for performance as supported by mean of 4.32. Knowledge sources from documented sources, instructions organizational procedures and previously implemented projects positively influenced succession management by a mean of 4.20. Knowledge acquisition through sharing of knowledge amongst employees was a way of knowledge acquisition that improves collaboration between departments for improved performance as adduced by a mean of 4.40. Motivation from the management of Kenya Marine and Fisheries Research Institute to its employees to scale greater heights of knowledge influences employees to increase knowledge by mean of 4.20.

4.3.2 Knowledge Storage and Performance

The second objective of the study was to establish the influence of knowledge storage on the performance of Kenya Marine and Fisheries Research Institute. The feedback on the most common knowledge acquisition strategies on performance KMFRI is as shown below;

Table 9: Knowledge storage on performance of KMFRI

Knowledge storage			
	Frequency	Percent	Valid Percent
Security	42	35.59	35.59
Resources	36	30.51	30.51
Transparency	40	33.90	33.90
Total	118	100.0	100.0

Source: Primary Data 2024

From the table 8 above, in the context of Kenya Marine and Fisheries Research Institute, the study's data sheds light on the diverse knowledge storage strategies employed within organization. Notably, 35.59% of respondents highlighted the prevalence of security as a key storage factor. Information security encouraged employees to store knowledge for future use which played a significant role in stimulating knowledge management and encouraging performance of the institution. Moreover, 30.51% of responded emphasized the prominence of resources as a storage strategy. In Kenya Marine and Fisheries Research Institute, knowledge can be done through record the lessons learned from projects and Reporting then documenting lessons additionally, the study revealed that the highest number of respondents, 33.90%, identified storage of knowledge in a transparent way as a strategy employed by KMFRI. This finding underscores the critical role of knowledge storage strategies in improving performance of Kenya marine and fisheries research institute In addition, the provided Likert scale data in Table 4.3 offers insights into the perceptions

of respondents regarding various knowledge storage have on the performance Kenya Marine and Fisheries Research Institute

Table 10: Knowledge Storage and Performance of KMFRI

Statements	Strongly disagree	%	Disagree	%	Moderate	%	Agree	%	Strongly Agree	%	Total	Mean
KMFRI encourages employees to store knowledge for future use	0	0	4	33.90	13	11.02	46	38.98	55	46.61	118	4.29
Workers record the lessons learned from projects for future use by other workers	0	0	6	5.08	9	7.63	49	41.53	54	45.76	118	3.86
Knowledge storing on lessons learned are consistently publicized throughout KMFRI	3	2.54	5	4.24	20	16.95	39	33.05	51	43.22	118	4.08
Reporting and documenting lessons learned is a requirement in KMFRI	0	0	7	5.93	16	13.56	47	39.83	48	40.68	118	4.15
When documenting lessons learned for storing knowledge, officers use a structured format made available by the KMFRI management.	3	27.27	4	3.39	8	6.78	34	28.81	69	58.47	118	4.35
Knowledge stored is secured using	0	0	5	4.24	23	19.49	46	38.98	44	37.29	118	4.09

strong firewalls which are allowed to particular individuals														
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Source: Research Finding (2024)

The findings of the study on knowledge sharing revealed that a culture of storing knowledge for future use is embedded in the organization as shown by a mean of 4.29. Each employee is required to record the lessons learned from projects the results of which are used by other staff on new projects and this is supported by a mean of 3.86. Knowledge storing on lessons learned are consistently publicized throughout KMFRI as further supported by a mean of 4.08. A structured format is made available for reporting, documenting and storing lessons learned and is supported by a mean of 4.15. Security of knowledge is of paramount importance as alluded by the respondents and this is done by use of strong firewalls, the mandate of which is bestowed on particular individuals as supported by a mean of 4.09.

4.3.3 Knowledge Sharing and Performance

The third objective of the study was to evaluate the influence of knowledge sharing on the performance of Kenya Marine and Fisheries Research Institute. The feedback on the most common knowledge sharing strategies on performance KMFRI is as shown below;

Table 11: Knowledge sharing on performance of KMFRI

Knowledge sharing			
	Frequency	Percent	Valid Percent
Right culture	40	33.90	33.90
Reward	43	36.44	36.44
Innovation	35	29.66	29.66
Total	118	100.0	100.0

The data in Table 4.3 indicated that all the knowledge sharing strategies raise performance KMFRI were positively rated. Offering rewards of the was rated highly by the respondents, (36.44%) followed by right culture (33.90%). The least rated strategy by the responded was the innovation (29.66%).

The data suggests a varied acceptance of knowledge sharing mechanisms among managers within the peripheries KMFRI to improve the performance of the institution. While rewarding and right culture are relatively more prevalent, knowledge shared through innovation was less commonly utilized. To improve knowledge sharing comprehensively, there is a need for management makes efforts to sensitize employees on the need of sharing lessons learned for minimized mistakes in future. Furthermore, Employees should structured format made available by KMFRI to facilitate the implementation of these knowledge sharing strategies effectively. A comprehensive approach, encompassing all these strategies, can significantly contribute to improved knowledge sharing practices and, subsequently enhancing performance of Kenya marine and fisheries research institute. The response provided through the likert scale is as presented below;

Table 12: Knowledge Sharing and Performance

Statement	Strongly disagree	%	disagree	%	moderate	%	agree	%	Strongly agree	%	total	mean
In KMFRI knowledge sharing improves sustained performance	0	0	10	8.47	20	16.95	42	35.93	46	38.98	118	4.05
KMFRI encourages new knowledge creation and sharing conscious to need	0	0	14	11.86	16	13.56	32	27.12	56	47.46	118	4.10
The management makes efforts to sensitize	0	0	13	11.02	16	13.56	16	13.56	73	61.86	118	4.13

employees on the need of sharing lessons learned for minimized mistakes in future												
Preparing reports on lessons learned for future use in KMFRI is a requirement	0	0	4	3.39	27	22.88	59	50	28	23.73	118	3.94
Employees use structured format made available by KMFRI for knowledge sharing	0	0	0	0	14	11.86	28	23.73	76	64.41	118	4.64
KMFRI shares knowledge with its customers and stakeholders	0	0	4	3.39	11	9.32	30	25.42	73	61.86	118	4.46

Source: Research Finding (2024)

Results from the study on the above parameter of knowledge sharing had it that knowledge sharing sustains improved performance as shown by the mean of 4.05. Moreover, by a mean of 4.10 the respondents' views were that KMFRI encourages employees to create and share new knowledge and be conscious to need. 4.13 views from the respondents alluded that sharing lessons learnt places employees on a good footing as they will not repeat mistakes done in prior projects leading to minimized mistakes in future for improved performance. Employees are required to prepare reports for sharing with others as shown by mean of 3.94. Employees use structured format made available by KMFRI for knowledge sharing with others as shown by mean of 4.64. Knowledge sharing of KMFRI products with external customers and stakeholders raises confidence levels and awareness thereby placing KMFRI's on the global image and competitive advantage as shown by a mean of 4.46.

4.3.4 Knowledge Expertise (Technology) and Performance

The fourth objective of the study was to evaluate the influence of knowledge expertise (Technology) on the performance of Kenya Marine and Fisheries Research Institute. The feedback

on the most common knowledge Expertise (Technology) strategies on performance KMFRI is as shown in table 12 below;

Table 13: Knowledge Expertise (Technology) and Performance

Knowledge Expertise (Technology)			
	Frequency	Percent	Valid Percent
Skills development	39	33.05	33.05
Continuous learning	35	29.66	29.66
Effective leadership	44	37.29	37.29
Total	118	100.0	100.0

Continuous learning, reported at 29.66%, reflects a moderate utilization of this strategy. While it is a common engagement method, its relatively lower frequency suggests room for improvement, emphasizing the need for additional continuous learning to enhance knowledge expertise. Effective leadership emerged as the most frequently used strategy; constituting 37.29% of the responses indicate a substantial emphasis on effective leadership. Offering relevant and sensible leadership is crucial for keeping workers informed, involved, and supportive of the institution's initiatives, making it a pivotal strategy in achieving expatriate. Skills development, with a frequency of 33.05%, signified proper skills development as a knowledge expertise strategy of staffs in various institutional-related tasks. This strategy empowers workers, fostering a sense of ownership and shared responsibility within the organization

The relatively high percentage implies a proactive approach to engaging stakeholders and leveraging their skills and resource. Consultation, reported at 18.3%, is a vital but less frequently employed strategy. Involving stakeholders in decision-making processes ensures diverse perspectives are considered. While the percentage is lower than other strategies, its significance

lies in the quality of input received, making it essential for critical decisions that impact the school community.

The table below shows feedback received on various elements on knowledge expertise (Technology). The response provided through the Likert scale is as presented below;

Table 14: Knowledge Expertise (Technology) and Performance

Statements	Strongly disagree	%	Disagree	%	Moderate	%	Agree	%	Strongly Agree	%	Total	Mean
There is top management support in IT skills training and development	0	0	13		25		30		50		118	3.99
In KMFRI, services and processes are embedded with IT applications for increased performance	3		5		16		33		61		118	4.19
Employees are provided with computers to perform their jobs and ERP system has been put in place	0		4		13		40		61		118	4.34
Official and unofficial WhatsApp platforms for faster communication	0		10		19		35		54		118	4.13
Official internal communication is through intranet and every employee is assigned a corporate email for efficiency	0		0		4		35		79		118	4.64
KMFRI staff have been trained on Enterprise Resource Planning (ERP) for better coordination of processes for increased performance	0		1		12		60		45		118	4.26

Source: Research Finding (2024)

The reaction from the respondents on the effect of knowledge expertise (Technology) was that top management support for employees to acquire IT skills has led to improved productivity as performance as evidenced by mean of 3.99. IT tools of work are significant for effective application of knowledge as depicted by mean of 4.34. Respondents deduced that platforms for official and unofficial communication resulting in a culture of belongingness and feeling part of the organization leading to improved performance as evidenced by a mean of 4.13. An internet service to employees has improved communication by a mean of 4.64 leading to improved performance. Training on Enterprise Resource Planning has let to better coordination of processes for increased performance as shown by a mean of 4.26.

4.3.5 Organizational Performance

The knowledge management strategies employed by KMFRI significantly influences the overall performance and attainments of the organization institution. The table below shows feedback of respondents regarding Performance of Kenya Marine and Fisheries Research Institution various departments within KMFRI.

Table 15: Organization Performance

Statements	Strongly disagree	%	Disagree	%	Moderate	%	Agree	%	Strongly agree	%	Total	Mean
Knowledge acquisition through training has resulted in	0	0	5	4.23	14	11.86	46	38.98	53	44.92	118	4.25

better goods and services												
Knowledge storage has increased customer satisfaction	0	0	8	6.78	20	16.95	67	56.78	23	1949	118	3.89
Knowledge sharing has led good customer experience to increased productivity	0	0	4	3.39	19	16.10	61	51.69	34	28.81	118	4.10
Through knowledge expertise (Technology) there has been an increase in the speed of response to market behavior	0	0	7	5.93	16	13.56	37	31.36	58	49.15	118	4.24

Source: Research Finding (2024)

The respondents' view on knowledge acquisition was in agreement that knowledge acquisition through training has led to improved goods and services as shown by mean of 4.25. Consequently, knowledge has increased customer satisfaction by a mean of 3.89. Knowledge sharing has led to good customer experience in thus competitive advantage as depicted by the mean of 4.10. Through knowledge expertise (Technology) there is marked increase in the response to market behavior evidenced by a mean of 4.24.

4.3.6 Regression Analysis

Table 16: Model Summary

Model	R	R Square	Adjusted R Square	Error of the Estimate
1	.788a	.621	.604	.06210

Source: Research Finding (2024)

Results from regression analysis are presented in Table 15 above. The outcome disclosed R² of 0.621 and important adaptable all at 5% level of significance. It is evident that 62.1% convert into dependent variable (performance of Kenya Marine and Fisheries Research Institute) can be attributed to changes in the independent variables namely, knowledge acquisition, knowledge storage, and knowledge sharing and knowledge expertise (Technology).

Table 17: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	
	B	Std. Error	Beta			
1	Constant	1.445	0.453		3.190	.002
	Knowledge Acquisition	0.421	0.145	.297	2.903	.003
	Knowledge Storage	0.486	0.159	.131	3.057	.004
	Knowledge Sharing	0.532	0.197	.014	2.701	.005
	Knowledge Expertise (Technology)	0.499	0.174	-.212	-2.868	.001

Source: Research Finding (2024)

The following regression equation was established from the data in table 4.12

$$Y = 1.445 + 0.421*1 + 0.486*2 + 0.532*3 + 0.499*4$$

The above equation constructed supported that clenching knowledge acquisition, knowledge storage, knowledge sharing and knowledge expertise (Technology) to a constant zero, performance would be at 1.445. Deductions from table 4.12 show that knowledge acquisition had a significant coefficient (B= 0.421, p value=0.003). The results infer that knowledge storage had a positive significant effect on performance with a coefficient (B= 0.486, p value=0.004). The findings revealed that knowledge sharing had a significant coefficient (B= 0.532, p value=0.005). This gathered that knowledge sharing had positive significant effect on performance. The study finding

further revealed that knowledge expertise (Technology) had a significant coefficient ($B= 0.499$, p value= 0.001). This implies that knowledge application had positive significant effect on performance. In summary, the knowledge management strategy with the most significant influence on performance was knowledge sharing while knowledge acquisition had the least influence on performance of Kenya Marine and Fisheries Research Institute.

CHAPTER FIVE

SUMMARY OF THE FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

In this chapter, an attempt is made to give a summary of the research findings, conclusions and recommendations. This chapter further presents suggestions for further research. The main purpose of this study was to investigate the influence of Knowledge Management Strategies on the performance of Kenya Marine and Fisheries Research Institute. The study investigated the effect

of Knowledge Acquisition, Knowledge Storage, Knowledge Sharing and Knowledge Expertise (Technology) on performance of Kenya Marine and Fisheries Research Institute.

5.1 Summary of the Findings

Data collection tool in this study was the structured questionnaire. The collected data was scrubbed, encrypted and expertly arranged in a mode that eased analysis using the Statistical Package for Social Sciences (SPSS v25). Descriptive statistics was used to analyse quantitative data by way of mean, standard deviation and coefficients. In order to investigate the stability of the model and the influence of knowledge management on the performance of Kenya Marine and Fisheries Research Institute, the study carried out an Analysis of Variance (ANOVA). This research sampled a total of 118 respondents from Kenya Marine and Fisheries Research Institute. The target population comprised the top level management, middle-level, operation and the general staff members sourced across all departments. The general objective this research was to inquire into the influence of knowledge management strategies on the performance of Kenya Marine and Fisheries Research Institute. The specific objectives of the study were; (i) To determine the influence of knowledge acquisition on the performance of Kenya Marine and Fisheries Research Institute, (ii) To explore the influence of knowledge storage on the performance of Kenya Marine and Fisheries Research Institute (iii) To investigate the influence of knowledge sharing on the performance of Kenya Marine and Fisheries Research Institute and (iv) To assess the influence of knowledge expertise (Technology) on the performance of Kenya Marine and Fisheries Research Institute. The findings of this study revealed that knowledge sharing had the most significant influence on the performance of Kenya Marine and Fisheries Research Institute while knowledge acquisition had the least influence on performance of Kenya Marine and Fisheries Research Institute.

5.2 Conclusion

Hinged on the findings of this study, knowledge management strategies are pointers to realizing the performance of Kenya Marine and Fisheries Research Institute. The research deduced that knowledge sharing had the highest positivity influence on the performance of Kenya Marine and Fisheries Research Institute. Knowledge storage and knowledge expertise ranked second in the influence on the performance of Kenya Marine and Fisheries Research Institute while knowledge expertise (Technology) had the least influence on the performance of Kenya Marine and Fisheries Research Institute. Despite anything to the contrary, all the study variables were significant ($p < 0.05$). The research deduced that the combination of the knowledge management strategies influenced the performance of Kenya Marine and Fisheries Research Institute. The research finally concludes that knowledge management strategies had a significant effect on the performance of Kenya Marine and Fisheries Research Institute. The study found out that the Kenya Marine and Fisheries Research Institute had adopted attributes of knowledge management strategies.

5.3 Recommendations for Practice

The findings of this study have policy premises on the performance of Kenya Marine and Fisheries Research Institute. As underpinned by the results of this study, the most contributor and a value addition in organizational performance is knowledge. The following are recommendations based on the findings of this study geared towards the enhancement of the level of Knowledge Management in Kenya Marine and Fisheries Research Institute; Management of Kenya Marine and Fisheries Research Institute ought to be cognizant with the best method of executing an all-inclusive Knowledge Management comprising of acquisition, storage, sharing, and expertise. These corresponding and harmonious strategies should not be considered in seclusion but rather should be linked to grip, capitalize and succor the performance of Kenya Marine and Fisheries

Research Institute. Management of Kenya Marine and Fisheries Research Institute should ameliorate on knowledge acquisition in the organization as it ranked the least in the study. Knowledge storage and knowledge sharing strategies should be applied to a higher extent as they have high influence on organizational performance. The study further recommends that KMFRI management up-scales efforts to bolster up the character of knowledge in corporate favourable outcome, enlightening on this endeavor and more significantly, prodding them to participate in on-the-job training and learning, in addition to acquiring and sharing knowledge. Managers should emphasize understanding of human skills and those of other employees required for tasks in order to develop their expertise for effective internal communication. The study further recommends that managers should emboss knowledge safety in terms safeguarding data within their establishments with a view to intensifying knowledge safety in the organizations. Managers should construct organizational blueprint in order to modelling new knowledge, converse and convey through functional boundaries. Simultaneously, lapses and blunder should frequently be examined on knowledge. The study further recommends that managers exploit the substantive capacities to brace knowledge application activities. Establishments should utilize the technology to plot where specific types of knowledge can be accessed, and by that means expedite the exertion and sharing of knowledge. Internet connectivity should be undertaken to enable employees in different locations to hold virtual meetings. The study recommends that state corporations base their performance on knowledge creation. Managers of organizations should frequently examine knowledge for inaccuracy and flaws. The study also advocates for management of research institutions coin a standardized reward system for sharing knowledge.

5.5 Recommendations for Further Research

Since research explores original information, this study has not delved exhaustively on knowledge management strategies owing to the high-spirited alterations in state agencies at this moment in time and the state of vigor in management. It is against this backdrop that propositions for more study have been made. Further research on the effects of knowledge management practices on organizational performance should be undertaken in different state agencies to establish whether the same results will be obtained. This study recommends that an exhaustive research be undertaken on State Corporations' challenges in the course of practicing knowledge management. The challenges may encompass macroeconomic factors such as anarchy, interest rates, inadequate funding, industrial action and socio-historical perspective. A study on the link between knowledge management in the public sector and adoption of new technologies should be conducted since technological breakthroughs in the public sector are powerful barometers of performance. Studies could also be done by use of other models. This research also suggests that further studies be carried out on other factors outside of this study which influence the performance of State Corporations, Public and Private organizations such as Knowledge Capture, Knowledge Objectives, Knowledge Identification among others in order to further explore this area of study.

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APPENDICES

APPENDIX I: Consent Form

TITLE OF STUDY

ASSESSMENT KNOWLEDGE MANAGEMENT STRATEGIES ON THE PERFORMANCE OF KENYA MARINE AND FISHERIES RESEARCH INSTITUTE

Dear Participant,

I invite you to participate in a research study entitled “*Assessment of Knowledge Management Strategies on the Performance of Kenya Marine and Fisheries Research Institute*”. I am currently enrolled in the *Postgraduate program* at Mount Kenya University and am in the process of writing my Master’s project. The purpose of the research is to determine whether Knowledge Management Strategies influence the performance of Kenya Marine and Fisheries Research institute.

The enclosed questionnaire has been designed to collect information on Knowledge Management Strategies and their influence on the performance of Kenya Marine and Fisheries Research Institute.

Your participation in this research project is completely voluntary. You may decline altogether, or leave blank any questions you don’t wish to answer. There are no known risks to participation beyond those encountered in everyday life. Your responses will remain confidential and anonymous. Data from this research will be kept under lock and key and reported only as a collective combined total. No one other than the researchers will know your individual answers to this questionnaire. There are no direct benefits to you for participating in this research. However, you may find it interesting to talk about the issues addressed in the research and it may be beneficial to the field and to future clients or individuals who have experienced similar concerns

If you agree to participate in this project, please answer the questions on the questionnaire as best you can. It should take approximately 5 (five) minutes to complete. Please return the questionnaire as soon as possible to enable me complete the project report.

If you have any questions about this project, feel free to contact *the INVESTIGATOR, Ms Josephine Mbithe Kioko 0713936169 or the SUPERVISOR Dr. Jenniffer Muriuki 0727661520*). If you have questions about your rights as a research participant, please be in touch with the Chairman, Mount Kenya University, Ethical Review Committee, P.O Box 342-01000, Thika.

Thank you for your assistance in this important endeavor.

CONSENT

I have read and I understand the provided information and have had the opportunity to ask questions. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason and without cost. I understand that I will be given a copy of this consent form. I voluntarily agree to take part in this study.

Participant's signature _____ Date _____

Investigator's signature _____ Date _____

APPENDIX II: Questionnaire

My name is Josephine Mbithe Kioko, conducting research on the INFLUENCE OF KNOWLEDGE MANAGEMENT STRATEGIES ON THE PERFORMANCE OF KENYA MARINE AND FISHERIES RESEARCH INSTITUTE. I am pleased to notify you that you have been chosen to be a respondent in this survey. I would like to request your participation in filling out the questionnaire, which forms part of the study process. Please provide the most accurate and correct answers to questions. Your right to privacy will be adhered to and therefore, your response will be kept completely confidential and anonymous. The responses are meant and will be used for academic purposes only. Please tick the appropriate box [] to answer the following questions.

Section A: Background Details

1. What is your level in the organization?

- a. Top-Level Management []
- b. Middle-level Management []
- c. Lower-level Management []

2. What is your Age?

- a. Between 20 to 25 []
- b. Between 26 to 30 []
- c. Between 31 to 35 []
- d. Above 36 years []

3. Indicate the Gender, where M stands for Male and F Female

- a. M
- b. F

4. Indicate the highest level of education you have attained?

- a. Diploma
- b. Bachelors
- c. Masters
- d. Doctorate
- e. Others (Please specify)_____

5. For how long have you been working in this organization? (Years of experience)

- a. Less than 3 years
- b. 3 – 5 years
- c. 6 – 10 years
- d. More than 10 years



Section B: Knowledge Management Strategies

1. Knowledge acquisition strategies and performance of Kenya Marine and Fisheries Research Institute

Tick the most appropriate response from the options provided below.

- a. Tick the most common knowledge acquisition strategies used in your organization

Research

Training

Development

- b. Rate to what extent you agree with the following statements the knowledge acquisition strategies influencing performance of Kenya Marine and Fisheries Research Institute?

Knowledge Acquisition and Performance

Statements	Strongly disagree	Disagree	Moderate	Agree	Strongly Agree	Total	Mean
KMFRI Management supports training of its employees on knowledge management for increased performance							
Workers get a good scope of new knowledge through external sources namely; educational courses, seminars and conferences for competence							
There is exchange of knowledge amongst workers leading to knowledge acquisition for better working environment for performance							
Workers depend on written sources of knowledge namely;-documented sources, instructions organizational procedures and previously implemented projects for succession management							
Employees share knowledge during formal and informal encounters for improved collaboration between departments for increased performance							
KMFRI leadership motivates/rewards its workers to engage in formal education systems to achieve higher levels of education for improved performance							

2 Knowledge storage strategies and performance of Kenya Marine and Fisheries Research Institute

Tick the most appropriate response from the options provided below.

- a. Tick the most common knowledge storage strategies used in your organization

Security []

Resources []

Transparency []

- b. Rate to what extent you agree with the following statements the knowledge storage strategies influencing performance of Kenya Marine and Fisheries Research Institute?

Knowledge Storage and Performance

Statements	Strongly disagree	Disagree	Moderate	Agree	Strongly Agree	Total	Mean
KMFRI encourages employees to store knowledge for future use							
Workers record the lessons learned from projects for future use by other workers							
Knowledge storing on lessons learned are consistently publicized throughout KMFRI							
Reporting and documenting lessons learned is a requirement in KMFRI							
When documenting lessons learned for storing knowledge, officers use a structured format made available by the KMFRI management.							
Knowledge stored is secured using strong firewalls which are allowed to particular individuals							

3 Knowledge sharing strategies and performance of Kenya Marine and Fisheries Research Institute

Tick the most appropriate response from the options provided below.

- a. Tick the most common knowledge sharing strategies used in your organization

Right culture []

Reward []

Innovation []

- b. Rate to what extent you agree with the following statements the knowledge sharing strategies influencing performance of Kenya Marine and Fisheries Research Institute?

Knowledge Sharing and Performance

Statements	Strongly disagree	Disagree	Moderate	Agree	Strongly Agree	Total	Mean
In KMFRI knowledge sharing improves sustained performance							
KMFRI encourages new knowledge creation and sharing conscious to need							
The management makes efforts to sensitize employees on the need of sharing lessons learned for minimized mistakes in future							
Preparing reports on lessons learned for future use in KMFRI is a requirement							
Employees use structured format made available by KMFRI for knowledge sharing							
KMFRI shares knowledge with its customers and stakeholders							

4 Knowledge expertise (technology) strategies and performance of Kenya Marine and Fisheries Research Institute

Tick the most appropriate response from the options provided below.

- a. Tick the most common knowledge expertise (technology) strategies used in your organization

Skills development []

Continuous learning []

Effective leadership []

- b. Rate to what extent you agree with the following statements the knowledge expertise (technology) strategies influencing performance of Kenya Marine and Fisheries Research Institute?

Knowledge Expertise (Technology) and Performance

Statements	Strongly disagree	Disagree	Moderate	Agree	Strongly Agree	Total	Mean
There is top management support in IT skills training and development							
In KMFRI, services and processes are embedded with IT applications for increased performance							
Employees are provided with computers to perform their jobs and ERP system has been put in place							
Official and unofficial WhatsApp platforms for faster communication							
Official internal communication is through intranet and every employee is assigned a corporate email for efficiency							
KMFRI staff have been trained on Enterprise Resource Planning (ERP) for better coordination of processes for increased performance							

Section C: Performance of Kenya Marine And Fisheries Research Institute

7. How is the organization's performance based on each of the following aspects?

Scale

1= strong disagree, 2= disagree, 3= moderate, 4= Agree, 5= strongly agree

Statements on Performance	Strongly disagree	Disagree	Moderate	Agree	Strongly Agree	Total	Mean
Knowledge acquisition through training has resulted in better goods and services							

Knowledge storage has increased customer satisfaction							
Knowledge sharing has led good customer experience to increased productivity							
Through knowledge expertise (Technology) there has been an increase in the speed of response to market behavior							



Appendix III: Ethics Review Certificate



Mount Kenya University

REF: MKU/ISERC/3658
TO: JOSEPHINE MBITHE KIOKO
REG: MBA/2022/31226

Date: 25 April 2024

Dear Sir/Madam,

RE: INFLUENCE OF KNOWLEDGE MANAGEMENT STRATEGIES ON THE PERFORMANCE OF KENYA MARINE AND FISHERIES RESEARCH INSTITUTE

This is to inform you that **Mount Kenya University** has reviewed and approved your above research proposal. Your application approval number is **2702**. The approval period is **25/04/2024 - 24/04/2025**.

This approval is subject to compliance with the following requirements;

- i. Only approved documents including informed consents, study instruments, MTA will be used
- ii. All changes including amendments, deviations and violations are submitted for review and approval by **Mount Kenya University**
- iii. Death and life-threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to **Mount Kenya University** within 72 hours of notification
- iv. Any changes, anticipated or otherwise that may increase the risks or affect the safety or welfare of study participants and others or affect the integrity of the research must be reported to **Mount Kenya University** within 72 hours
- v. Clearance for export of biological specimens must be obtained from relevant institutions
- vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal
- vii. Submission of an executive summary report within 90 days upon completion of the study to **Mount Kenya University**

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) <https://research-portal.nacosti.go.ke> and also obtain other clearances needed.

Yours sincerely,



The Chairman
Mount Kenya University
Ethics Review Committee
P.O. Box 342 - 0100, Thika

Dr. Alfred Owino, PhD
Chairman, Mount Kenya University ISERC

Main Campus, General Kago Road, P.O. Box 342-01000 Thika.
Cell: +254 709 153 000 | +254 709 153 200
Email: info@mku.ac.ke, Web: www.mku.ac.ke
Chartered and ISO 9001 : 2015 Certified Institution.
Unlocking Infinite Possibilities

APPENDIX IV: Letter of Introduction from MKU



DIRECTORATE OF GRADUATE STUDIES

MBA/2022/31226

25th April, 2024

*"National Commission for Science Technology & Innovation (NACOSTI)
Off Waiyaki Way, Upper Kabete,
P.O Box 30623- 00100
NAIROBI, KENYA*

Dear Sir/Madam,

RE: JOSEPHINE MBITHE KIOKO - REGISTRATION NO. MBA/2022/3126

The purpose of this letter is to introduce the above named student who is pursuing **Master of Business Administration** in the department of **Accounting and Finance** in the school **Business and Economics**.

The title of the research is "**Influence of Knowledge Management Strategies on the Performance of Kenya Marine and Fisheries Research Institute.**" It has been cleared by the University's Ethics Review Committee (Certificate attached) and now has to proceed to the field to collect data. between May, 2024 and July, 2024.


Any assistance accorded to the student will be highly appreciated.


Thank you.


Dr. Samuel M. Karengi, PhD
Director, Graduate Studies
Etc.

Mount Kenya University
Box 342 - 01000, THIKA
Office of the Director,
Graduate Studies


APPENDIX V: Research Licence from NACOSTI


REPUBLIC OF KENYA


**NATIONAL COMMISSION FOR
SCIENCE, TECHNOLOGY & INNOVATION**

Ref No: **874508** Date of Issue: **14/May/2024**


RESEARCH LICENSE




This is to Certify that Ms.. Josephine Mbithe Jidei of Mount Kenya University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Mombasa on the topic: INFLUENCE OF KNOWLEDGE MANAGEMENT STRATEGIES ON THE PERFORMANCE OF KENYA MARINE AND FISHERIES RESEARCH INSTITUTE for the period ending : 14/May/2025.

License No: **NACOSTI/P/24/35325**

874508
Applicant Identification Number


Director General
**NATIONAL COMMISSION FOR
SCIENCE, TECHNOLOGY &
INNOVATION**

Verification QR Code



NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

See overleaf for conditions

APPENDIX VI: Field Entry Authorisation from KMFRI



Please address your reply to: CHIEF EXECUTIVE OFFICER

HEADQUARTERS
P.O. Box 81651-80100,
Mombasa, KENYA
Tel +254 (020) 8021560/1
0712003853
director@kmfri.go.ke

REF: KMF/PER/0903/VOL.IV/71

DATE: 14TH MAY 2024

Josephine Mbithe
KMFRI
MOMBASA

RE: REQUEST TO CONDUCT RESEARCH STUDY IN YOUR ORGANIZATION

Reference is kindly made to your letter dated 14TH May 2024 on the above subject matter.

The purpose of this letter is therefore to inform you that your request has been approved.

We wish you well during your research.

A handwritten signature in blue ink, appearing to read 'Irene Githaiga', is written over a light blue background.

Dr. Irene Githaiga, CHRP

FOR: CHIEF EXECUTIVE OFFICER-KMFRI

APPENDIX VII: Kenya Marine and Fisheries Research Institute, Mombasa

