PLANNING PRACTICES AND PERFORMANCE OF RESIDENTIAL HOUSING CONSTRUCTION PROJECTS IN WESTLANDS SUB-COUNTY, NAIROBI COUNTY, KENYA

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DECLARATION

This research thesis is my original work and has not been presented to any other university or institution of higher learning for any academic award. This document has duly cited and acknowledged all work from scholars and sources.

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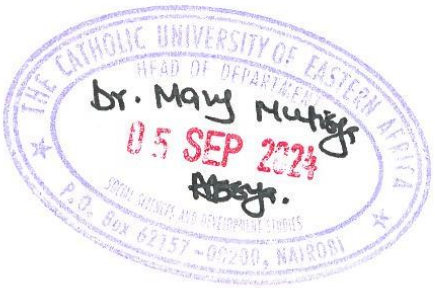
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DEDICATION

This research project is dedicated to my parents, who allowed me to study and ensured I had sufficient financial and study materials.

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TABLE OF CONTENTS

DECLARATION ..... **ii**

DEDICATION ..... **iii**

ACKNOWLEDGEMENT ..... **iv**

LIST OF TABLES ..... **viii**

LIST OF FIGURES ..... **x**

ABBREVIATIONS AND ACRONYMS ..... **xi**

ABSTRACT ..... **xii**

CHAPTER ONE **1**

INTRODUCTION **1**

1.1 Background of the Study 1

1.2 Statement of the Problem 11

1.3 Research Objectives 13

1.3.1 Specific Objectives 13

1.3.2 Research Questions 14

1.4 Research Assumptions 14

1.5 Justification of the Study 14

1.6 Significance of the Study 15

1.7 Scope and Delimitation of the Study 16

1.8 Limitations of the Study 16

1.9 Operational Definition of Key Terms 17

CHAPTER TWO **18**

LITERATURE REVIEW **18**

2.1 Introduction 18

2.2 Theoretical Framework 18

2.2.1 Project Management Competency Theory 18

2.2.2 Stakeholder Theory 20

2.2.3 Theory of constraints 21

2.3 Empirical Review 23

2.3.1 Influence of Stakeholder Participation on Performance of Residential Housing Construction Projects 23

2.3.2 Influence of Supervision on Performance of Residential Housing Construction Projects 27

2.3.3 Influence of Budget on Performance of Residential Housing Construction Projects 30

2.3.4 Influence of Time Management on Performance of Residential Housing Construction Projects 32
2.4 Research Gaps 36
2.5 Conceptual Framework 39
CHAPTER THREE 40
RESEARCH METHODOLOGY 40
3.1 Introduction 40
3.2 Research Design 40
3.3 Target Population 40
3.4 Sampling Technique and Sample Size 41
3.4.1 Sampling Technique 41
3.4.2 Sample Size 41
3.5 Data Collection Instrument 42
3.6 Validity Test 43
3.7 Pilot Testing 43
3.8 Validity of the Instrument 44
3.9 Reliability of the Instrument 44
3.10 Data Analysis Procedures 44
3.11 Ethical Considerations 46
CHAPTER FOUR 47
RESULTS AND FINDINGS 47
4.1 Introduction 47
4.2 Questionnaire Return Rate 47
4.3 Demographic Information 48
4.3.1 Gender of Respondents 48
4.3.2 Age Group of Respondents 48
4.3.3 Respondents Education Level 49
4.3.4 Profession of Respondent 50
4.3.5 Years of Work Experience 50
4.4 Descriptive Statistics 51
4.4.1 Stakeholder Participation on Performance of Residential Housing Construction Projects 51
4.4.2 Supervision on Performance of Residential Housing Construction Projects 55
4.4.3 Budget Allocation on Performance of Residential Housing Construction Projects . 58
4.4.4 Time Management on Performance of Residential Housing Construction Projects 61

4.4.5 Performance of Residential Housing Construction Projects 64
4.5 Multiple Linear Regression 65
4.6 Interpretation of Findings 67
CHAPTER FIVE 69
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS 69
5.0 Introduction 69
5.1 Summary of the Research Study 69
5.1.1 Stakeholder Participation and Performance of Residential Housing Construction Projects 69
5.1.2 Supervision and Performance of Residential Housing Construction Projects 69
5.1.3 Budget Allocation and Performance of Residential Housing Construction Projects 70
5.1.4 Time Management and Performance of Residential Housing Construction Projects 70
5.2 Conclusion 70
5.3 Recommendations of the Study 71
5.3.1 Stakeholder Participation 71
5.3.2 Supervision 72
5.3.3 Budget Allocation 72
5.3.4 Time Management 72
5.4 Recommendations for Further Studies 72
REFERENCES 73
APPENDIX I: RESEARCH QUESTIONAIRE 81
APPENDIX II: LETTER OF INTRODUCTION 88
APPENDIX III: NACOSTI LETTER 89
APPENDIX IV: CONSENT FORM 91
APPENDIX V: ANTIPLAGIARISM CERTIFICATE 92

LIST OF TABLES

Table 3.1: Target Population....41
Table 3.2: Sample Size....42
Table 3.3: Reliability Test Results....44
Table 4.1: Response Rate....47
Table 4.2: Work Experience....50
Table 4.3: Descriptive Statistics of Stakeholder Participation in Performance of Residential Housing Construction Projects....51
Table 4.4: Summary of Stakeholder Participation and Performance of Residential Housing Construction Projects....53
Table 4.5: ANOVA for Stakeholder Participation and Performance of Residential Housing Construction Projects....53
Table 4.6: Regression Coefficients between Stakeholder Participation and Performance of Residential Housing Construction Projects....54
Table 4.7: Descriptive Statistics of Supervision on Performance of Residential Housing Construction Projects....55
Table 4.8: Model Summary for Supervision and Performance of Residential Housing Construction Projects....56
Table 4.9: ANOVA for Supervision and Performance of Residential Housing Construction Projects....57
Table 4.10: Regression Coefficients between Supervision and Performance of Residential Housing Construction Projects....57
Table 4.11: Descriptive Statistics of Budget Allocation on Performance of Residential Housing Construction Projects....58
Table 4.12 Summary for Budget Allocation and Performance of Residential Housing Construction Projects....59
Table 4.13: ANOVA for Budget Allocation....60
Table 4.14: Regression Coefficients between Budget Allocation and Performance of Residential Housing Construction Projects....60
Table 4.15: Descriptive Statistics of Time Management on Performance of Residential Housing Construction Projects....61
Table 4.16: Summary of Time Management and Performance of Residential Housing Construction Projects....62

Table 4.17: ANOVA for Time Management and Performance of Residential Housing Construction Projects 63
Table 4.18: Regression Coefficients between Time Management and Performance of Residential Housing Construction Projects 63
Table 4.19: Descriptive Statistics of Performance of Residential Housing Construction Projects 64
Table 4.20: Multiple Linear Regression Analysis 65
Table 4.21: ANOVA for Stakeholder Participation, Supervision, Budget Allocation and Time Management 65
Table 4.22: Regression Coefficients for Stakeholder Participation, Supervision, Budget, Time Management and Performance 66

LIST OF FIGURES

Figure 2.1: Conceptual Framework 39
Figure 4.1: Gender of Respondents 48
Figure 4.2: Age Group of Respondents 48
Figure 4.3: Education Level 49
Figure 4.4: Profession of Respondents 50

ABBREVIATIONS AND ACRONYMS

ABT: Alternative Building Technologies

ASEAN: Association of Southeastern Asian Nations

EAC: East African Countries

CPS: Construction Project Supervision

IT: Information Technology

KII: Key Informant Interviews

KNBS: Kenya National Bureau of Statistics

NCA: National Construction Authority

NEMA: National Environment Management Authority

RBT: Resource-based theory

SPSS: Statistical Package for Social Science

ABSTRACT

According to United Nations statistics, 3 billion people live in urban slums due to urbanization and population growth. World Economic Forum projects that by the year 2050, more than a third of the population across the globe will reside in urban areas. Design, planning, maintenance, and management of residential houses and the residential environment have a long-term effect on the prosperity, quality of life, health, and happiness of individuals and communities. The general objective of this study was to examine planning practices and performance of residential housing construction projects in Westland's sub-county in Nairobi County, Kenya. Specific objectives were to establish the role of stakeholder participation, supervision, budget, and time management's impact on the performance of residential housing construction projects in Westlands Sub-County, Nairobi County, Kenya. Westlands Sub-County was ideal for the study as it is the most affluent neighborhood in Nairobi County with all kinds of residential units, from single rooms to houses with their own compounds. Project management competency, stakeholder theory, and constraint theory formed the study's theoretical basis. The study applied descriptive research designs. The study targeted 256 respondents made up of project managers, project architects, engineers, and developers of 64 private ongoing residential housing projects in Westland Sub-County. A samples size made up of 156 respondents were selected through stratified random sampling. Primary data was collected through the use of structured questionnaires. Statistical Package for Social Science (SPSS, Version 25.0) was used to analyze quantitative data. The study generated descriptive statistics; multiple regression was used to explain relationship between study variables. Tables and graphs were used to present results of data analysis. Study findings revealed positive relationship between independent and dependent variables. Time management revealed the strongest positive relationship ($r=0.68$) on performance of residential construction housing projects, followed by supervision ($r=0.672$), then stakeholder participation ($r=0.66$) and finally budget allocation ($r=0.546$). All the independent variables revealed p-value<0.01 thus statistically significant to explain relationship with the dependent variable. The study recommends inclusion of stakeholders in every stage of a projects, their opinion count however should be filtered to avoid mix up. On supervision, the study recommended the need for continuous learning and training for project supervisor to cope with the ever-changing construction environment. On budget, the study recommended the need to do proper costing that put into account inflation of construction materials from time to time, timely review of budgets should be done for any emerging issues within the construction space. Finally, on time management the study recommended the need for setting achievable targets and assigning them time frame for completion. Time of completion of a project must take into consideration the prevailing economic and political environment. The study further recommended that future researchers should not only be limited to surveyors, engineers, and project managers but explore other players involved in project planning and implementation of residential housing projects.

CHAPTER ONE

INTRODUCTION

This chapter covers the study background, problem statement, research objectives, significance of the study, scope and study organization.

1.1 Background of the Study

According to most projections, by the end of this century, the world population will have reached 11 billion (Department of Economic and Social Affairs, 2017). A massive increase in today's population of 3.5 billion people is expected to bring about changes in global urbanization.

World Economic Forum (2016) projects that by the year 2050 more than a third of worlds' population will be residents of urban areas. To meet the rapid growth, urban housing is required. The 750 major cities in the world are projected to require more than 260 million houses by 2030. Currently, in a report published by the United Nations (UN) indicate that 3 billion people live in urban slums due to urbanization and population growth (Walker & Goubran, 2020). In terms of design, planning, maintenance, and management of the built assets, the built environment has a long-term effect on prosperity, quality of life, health, and happiness of individuals and communities.

There are various factors that interact when it comes to the construction industry. In the wake of the new millennium, there has been a need to have every sector moving towards sustainability. The construction industry and construction project delivery and its management could achieve sustainability if economic, social, and environmental factors are integrated into the project delivery practices, procedures, and standards (Silvius, 2017).

Despite the construction industry having an outstanding effect on the design and building construction procedure, it plays key role in achievement of various sustainable development

goals (SDGs). One significant illustration is waste production during house construction and demolition. This calls for proper planning practices that will minimize waste production and maximize recycling to effect efficient use of resource and decrease the adverse effects on the environment (Galvez-Martos, Styles, & Zeschmar-Lahl, 2018). The housing construction sector is a major partner in the collective effort made towards achieving sustainable development by 2030 by delivering sustainable projects. The housing construction majorly aligns with goal 9: sustainable cities and communities.

Housing construction practices vary from continent to continent and from one country to another. These variations are always informed by the policies in those countries, cultures, and levels of development. In European countries, the affordability of houses is always at the center of performance Murcia & Lora, 2021). Development of policies around social housing have taken the stage to address affordability and thus raising the question of quality and performance of the industry (Murcia & Lora, 2021).

Countries such as the Netherlands have tried to minimize building regulatory constraints and tried to privatize the quality control of construction (Meijer & Visscher, 2017). There has been the withdrawal of technical requirements from the regulations and several constructions have been exempted from quality control, affecting performance. While addressing regulations, there has been a sense of incorporating sustainable performance into new requirements on energy. The rise in concerns about climate change has led to most European countries adopting sustainable demands in building and reducing emissions to increase sustainable quality and performance (Visscher, Meijer, & Itard, 2016).

Time is a major factor that determines how construction projects perform or can be delivered. An organization can use time management to accomplish goals by using a set of procedures,

guidelines, instruments, techniques, and systems (Adeyinka, 2012). For success and efficiency, needs and benefits must be at the same time (Sahito, 2017).

Delivery of contracts and execution, scheduling of events, meeting targets, and having materials delivered on time are significant when it comes to performance. The goal and expectation of any construction project should be to deliver the desired level of quality of a project within the stipulated timeframe and cost (Fewings & Henjewele, 2019). The site managers must ensure that the required resources, including large materials, are delivered to the specific locations on time (Kim, 2018). Since construction industry mostly relies on one-off projects, suppliers, contractors, and subcontractors are needed for each new project. (Seth, Pokharel, & Al Sayed, 2018).

Total cost of construction should normally be the total of the following costs: labor, materials, equipment, site management costs, materials and overhead. However, other costs will arise during construction (Kim & Nguyen, 2018). Leasehold costs impact negatively on stakeholders in the construction industry. Budgeting and financial management ensure these costs are available and contribute to project success (Kim & Nguyen, 2018). A budget is a management tool used as a strategy to achieve the goals defined as the goal or vision of the project (Al Sulamy, 2022).

Construction-related transportation makes up between 17% and 22% of urban freight transportation, according to reports from Belgium, Great Britain, and Sweden (Guerlain, Renault, & Ferrero, 2019), and sometimes these costs can go up to 30%. Thus, logistics for cities also apply to logistics for construction. In order to prevent construction from being hindered by missed or delayed material delivery, deliveries to and retrievals from construction sites should be planned and handled in a way to minimize influence on urban transportation system (Dubois et. al, 2019).

The performance of the Asian housing market has been greatly affected by the planning practices and policies in that region. Planning practices determine quality by involving different professionals such as architects and designers. One of the largest in the world, the Saudi Arabian construction sector made substantial contribution to creation of megaprojects (Alsulamy, 2015). However, it has been noted that there has been a recurring failure within these projects, which affects pre-determined schedules of project accomplishment (Alsulamy, 2022). Construction industry develops some issues that are between individuals involved in the construction project. In Saudi Arabia, failure of project performance and delivery have been credited to cost overrun and total abandonment. The major stakeholders involved in the projects; government officials and contractors failed in project deliveries (Al Sulamy, 2022).

Stakeholder engagement is the process that ensures all groups, individuals or organizations affected by a project participate in planning and decision-making processes for incorporation of their needs and expectations (Talley, 2016). According to (Einur, 2016), early integration and collaboration in construction projects in New Zealand is considered an important factor for efficiency and effectiveness. Heravi (2015) also emphasizes that projects can lead to poor performance if all stakeholders are not included from the beginning. To overcome this poor performance, all stakeholders need to be assessed at the beginning of the project, perhaps using an integrated approach to project delivery. Mwanaumo (2018) acknowledges that collaboration with stakeholders can lead to sustainable development and ultimately improve project development.

Sub-Saharan Africa has the largest concentration of people living in urban low-income settlements. (Alaazi & Aganah, 2020). In South Africa, 12.5 million households are living in slums with no access to decent housing as per NHBRC (2020). Estimates done showed that South Africa was lacking averagely 2.2 million housing units (Adetooto, Windapo, & Pomponi, 2022). The estimated Cape Metropolitan MSDF report for 2018 showed that Cape

Town needs 500, 000 residential houses in a period of 20 years from 2012 (City of Cape Town, 2018). There is still a need to prioritize the development of housing solutions that are affordable and sustainable in urban areas.

According to the South African government and several academics, alternative building technologies (ABTs) is the clear path towards constructing sustainable, quicker, and affordable and better-quality housing (Dosumu & Aigbavboa, 2019). Alternative building technology is described as any equipment, tool, machinery, skill and knowledge aside from the conventional ones that assist to expedite the delivery of housing without sacrificing the caliber and strength of any built structures (Tshivhasa & Mbanga, 2018). Factoring in environmental concerns, ABTs can also be classified as non-conventional building methodologies that utilize environmentally friendly building and economically valuable materials for affordable housing.

The Nigerian construction has in recent times been characterized with a dramatical rise in investment in smart building and increased use of technology to enhance productivity and performance (Oyewole, Araloyin, & Oyewole, 2019). Integrating smart building technology is essential in addressing the serious issue that is associated with construction time delays, low productivity rates, a lack of technological advances awareness, and environmental issues that impede development of less and developing countries (Ejidike, Mewomo, & Anugwo, 2022).

The weak systems in the construction sector in African countries have fallen easily when it comes to unprecedented events such as COVID-19. For instance, (Kabiru & Yahaya, 2020) postulated that the Covid-19 had harmed and dented the performance of the Nigerian construction industry. Covid-19 prevented site work, and it affected the bill of quantities, law of contract and project completion. The sector was completely disrupted in terms of project abandonment, inflated price of construction materials and shortage or work force (Osuizugbo,

2020). In this situation, the relevant stakeholders are supposed to have conversation and efficient communication for lasting solution (Yadeta & Pandey, 2020).

Due to weak institutions and inadequacy social welfare programs, the pandemic in Nigeria has been particularly severe (Ozili, 2020). The pandemic resulted to a tremendous negative performance of construction projects (Bailey, Bouchardie, & Madalena, 2020).

In the last few years, the construction sector in Zambia has expanded significantly and quickly. In the previous 12 years, a 17.5% annual growth rate in the industry was projected. This exponential growth has been credited on the realization that infrastructure and construction play a greater role in generating quality social-economic development in the country and for achieving sustainable economic development (Mambwe, Mwanaumo, & Phiri, 2020). The development of infrastructure and construction industry is one of the priorities held in high projects among developing countries like Zambia as they continue to emerge to the frustrations of various stakeholders and project managers.

Project failure in Zambia is caused by poor delivery time, cost overruns, and failure to meet specifications which is usually linked to stakeholder engagement (Mambwe, Mwanaumo, & Nsefu, 2021). Projects involving the construction of roads are more likely to succeed for organizations that actively involve their key stakeholders.

The East Africa Community (EAC) has experienced a rapid urbanization which has resulted to a huge housing deficit (Mwesigye, 2019). For most residents in the region owning a house is a pipe dream. Certain barriers have been the reason to why EAC countries are unable to get alleviated from this crisis, amongst them; the prohibitive cost of urban land, lack of affordable housing finance, rising construction costs, weak tenure security and the prevalence of slums (Bah & Geh, 2018). Recently, the housing deficit in Uganda was about 1.7 million and by 2030,

its estimated that it will be around 3million (Bank of Uganda, 2019)**.** An estimated 700,000 house units are needed in Kigali and 4 million in South Sudan (Mwesigye, 2019).

The EAC countries housing supply shortage is majorly constrained by inadequacy of accessibility to accessing long term financing. Different regulations and policies have affected the housing sector within EAC countries. For instance, The Landlord and Tenant Bill 2018 was approved by Uganda's parliament with the goal of regulating the relationship between tenants and landlords. The government also made a move to include funding in the 2019–2020 budget to help the Security Interest in Movable Property Act become law.

The South Sudanese government has given the go-ahead for the establishment of the South Sudan Microfinance Development Facility (SSMDF) and the Housing Finance Bank. The Urbanization and Rural Settlement Sector Strategic Plan 2018–2024 was created by the government of Rwanda. The focus of the plan is to integrate human settlement planning and coordination, creating green and productive urban and rural settlements and accessibility to affordable housing.

President Uhuru Kenyatta unveiled The Big 4 Agenda in late 2017, which prioritized actions to be taken between 2017 and 2022 on four areas known as the four pillars. Manufacturing, Affordably Priced Housing, Food & Nutrition Security, and Universal Health Care were the pillars. The government intends to build 500,000 affordable homes under the Affordable Housing Pillar, supporting over 300,000 jobs and contributing 14% to GDP (Kenya Association of Manufacturers, 2020). The Buy Kenya Build Kenya (BKBK) policy mandates that at least 70% of the building materials used in housing projects come from within Kenya. However, the Ministry of Transport and Infrastructure (MTID) still reports on collapsed structures and credits them to poor supervision and poor construction procedures (Githenya & Ngugi, 2014).

Nairobi County and especially Westlands Sub-County has seen a growth in the number of construction projects. Westland is approximately 6 km northwest and can be reached via Chiromo Road. The region is surrounded by middle-income communities such as Parklands, Riverside, Spring Valley and Kileleshwa (Cytonn, 2019). In the past, Westlands was a residential area, but as time went on and zoning regulations were relaxed, both commercial and residential areas emerged in the area (Cytonn, 2019).

High-rise apartments dominate the area due to the developed infrastructure, security, and world-class housing in the area. Some of the residential areas are One West Park, Skyview Garden, Brookside Terraces, Victoria Heights etc. (Cytonn, 2019). Construction projects contribute to macroeconomic growth, so it is important to ensure that they are carried out better and more appropriately so that they can be finished on schedule, on budget, and with high quality. Therefore, it is crucial to investigate and conduct research into the variables that influence project completion at planning, execution phases of commercial projects within Westlands, Nairobi.

Cost, schedule, objectives, requirements, and scope are all factors that contribute to a project's success. Performance outcomes are also influenced by the leader's personal skills and competencies, in addition to their knowledge of the project's limitations (Ahmed, 2017). Operational security, stakeholder goals, customer satisfaction, user satisfaction, and learning and usage are the five main factors that contribute to project success and performance. Buildings that perform well are evaluated using budgeted cost, cost of completion, overall project quality and time needed to complete the project. Project performance factors, learning from projects, user and customer satisfaction, conducting well-organized and supported commissioning programs, and achieving project stakeholder goals are all necessary for successful project effectiveness (Viswanathan, Tripathi, & Jha, 2019).

This is accomplished by increasing housing demand, which reflects the global population growth. Building developers are constantly thinking of fresh ways to incorporate the newest technology and design to stand out and compete successfully in a fast-paced market. The number of units sold by the developer over a specific time can in some cases be used to gauge how well a construction project is performing. To deliver successful residential projects, where project performance considers cost, completion time, and satisfaction as key indicators, clients count on professionalism, project management expertise, and contractors of project managers (Alias, Zawawi, & Aris, 2014).

In project management planning, every project aspect is monitored, managed with stakeholders encouraged to meet project deadlines while adhering to performance, quality, and financial constraints. Project management is "the application of knowledge, skills, tools, and techniques to project activities" to meet the set project targets (PMI, 2004). To ensure project is on track, being carried out within time and budget scope and as intended, project performance evaluations include assessing project success.

Whether they serve as comparison points for project success or failure is one of the factors included (PMI, 2017). Performance markers were defined as a group of standards or benchmarks by PMBOK (2017) that can be used to assess the effectiveness of home construction. Toor et al. (2017) advise an accompanying caveat for estimating execution. Ahadzieet al. (2018) identified 15 project performances for various housing projects and grouped them into the following groups: consumer loyalty, generally budget cost and time limit, environmental influence and quality standard.

Sanvido et al. (2016) based on participant perspectives (contractual worker, customer, client or expert) proposed the accompanying guidelines for project 6 achievement estimation. The project's completion on schedule and within budget, as well as its determination of quality, as

well as user and customer satisfaction, satisfying style, item attractiveness, security, and minimal or no complaints, were the key indicators.

The creation of a project plan by project managers aids in ensuring the success of their projects. To assist with layout, the project plan should include the project's scope, timeline, cost as well as a number of workers, tasks, tools, and materials that must be used. Risk factors ought to be considered, measured through contingency plans, managed when they arise, and escalated to your team via communication strategies. Project planning should come before project execution (Project Management Institute, 2016).

Project planning includes the work done to establish and hone goals, assess the project's overall scope, and identify ways to execute necessary actions for project goals. To have well-evaluated and analyzed steps in the project execution, project management for the construction of residential projects should include definition, initiation, and evaluation in the planning stage. Therefore, planning aids in determining what must be done, when, how, by whom, and with what, ensuring that necessary conditions are met, and ensuring a smooth project start (Frefer, Haleema, & Mahmoud, 2018).

Project planning is a process that determines project's goals and scope using deadlines, strategies, goals, methods, and tactics to accomplish those goals, and involving stakeholders by maintaining constant communication with them. Following good management practices should be a part of your project plan (Zid, Kasim, & Soomro, 2020). The project manager carries out these tasks, such as planning, execution, project initiation, monitoring and evaluation, and communication systems, to guarantee project success. When used with the proper timing, quality, and initial budget, these procedures are significant because they foster project success.

Engagement of stakeholders, oversight, project planning, and time management are important practices that have an impact on project performance. Stakeholder involvement, supervision, project planning, and time management are practices that will have a big impact on whether a project succeeds, and the individuals in charge of carrying it out are expected to be proficient in all these areas from the beginning to the end (Dwivedula, 2019).

1.2 Statement of the Problem

Stakeholders' participation in projects are fundamental for their success because stakeholders simply know the needs of a projects and the acceptable results (Nyaribo, 2023). Most housing projects in Kenya have well laid strategic plans when they kick off but mid-way they fail. The respective stakeholders fail to deliver the fundamental approaches towards completion of projects.

Putting up any residential building in Nairobi requires the involvement and approvals of various stakeholders during planning. They include the National Construction Authority (NCA), the county government of Nairobi, the local community and quantity surveyors. Most private developers upon getting permits from the National Construction Authority and the county government proceed to start construction without involving the neighboring community. For instance, residents of Lavington in Westlands Sub County managed to obtain a court order to stop construction of 512 housing units by Metricon Developers (Muhindi, 2023). A number of residential and commercial housing projects in Nairobi are marked for demolition by NCA and the county government due to a number of compliance concerns. Key concern is lack of stakeholder involvement when these projects are initiated which results to demolitions leaving households homeless and landlords suffering losses.

Residential housing projects are multiphase with several activities to be coordinated at the same time to ensure success. Project supervision is needed to ensure that the right quality and

quantity of material and labor is devoted to a project for good outcomes. In project planning supervision is designed as the control mechanisms for all activities from the start to the end of the projects. Lack of supervision or poor supervision has led to poor project outputs (Nyaribo, 2023). Few studies have focused on the supervisory role in project planning for residential housing in Nairobi County despite supervision being a key factor to the performance of these projects.

Ragui & Onchieku (2019) examined the effect of strategic leadership on performance of housing co-operatives in Nairobi County. The study did not focus on supervisory roles in leadership. It only discussed the type of leadership and how they affected performance. Mwakio (2020) examined the influence of management practices on performance of housing projects in Mombasa County. The scope in Mombasa and Nairobi may be a little different hence a need to have a study in Nairobi County is necessary.

According to the Nairobi Metropolitan Area Residential Report by Cytonn (2023) Westlands Sub County was ranked as the top performing Upper Mid End suburb in Nairobi. The Sub County recorded an average total return of 6.4% which was attributed to its high rental yield of about 5.9%. With completion of the Nairobi Express way, presence of social amenities and vibrant commercial activities in the sub county rental returns are projected to maintain a rising trajectory. However, the rising cost of construction materials, labor and construction logistics calls for proper project planning to tap the profits of a residential housing investment (Ronoh, 2020).

Most residential housing projects in Nairobi experience cost and time overrun due to poor planning and project management practices (Ronoh,2020). The average cost of constructing a residential house in Nairobi remains very high. In 2021 the average cost of residential housing construction per square foot was Ksh 4,960 and in 2022 it rose by 5% to Ksh 5,210 (Cytonn,

2023). This was attributed to inflationary pressure as a result of supply chain disruption caused by factors like the Russian Ukraine War and weakening of the Shilling against the Dollar. Inflationary pressure is expected to continue increasing the cost of supply or residential houses while at the same time, demand for housing in high end suburbs like Westlands is declining because of the hard economic times that majority of Kenyans are facing. This calls for a balanced budgeting during project planning that will ensure residential housing projects deliver units that are able to attract demand due to their affordability.

Various studies have been conducted, but they fail to contextualize the situation in residential construction projects. Most studies have focused on commercial projects. Antipa and Paul (2019) studied the impact of participation of stakeholders on construction of road projects in Nakuru County. Despite greater insights, it was not on residential construction projects. Other studies have only focused on project managers. Most studies have also used one methodology that is the quantitative approach. This study is going to involve all the stakeholders who are engaged in construction, and it is going to have a mixed methodology where qualitative studies will also be deployed. This will give more information, especially in the residential construction space in Nairobi, Kenya.

1.3 Research Objectives

The general objective of this study was to establish the effects of planning practices on performance of housing construction projects in Westlands Sub-County, Nairobi County, Kenya.

1.3.1 Specific Objectives

i. To establish the role of stakeholder participation on performance of residential housing construction projects in Westlands Sub-County, Nairobi County, Kenya.
ii. To find out the role of supervision on performance of residential housing construction projects in Westlands Sub-County, Nairobi County, Kenya.

iii. To investigate the role of budget on performance of residential housing construction projects in Westlands Sub-County, Nairobi County, Kenya.
iv. To determine the effect of time management on performance of residential housing construction projects in Westlands Sub-County, Nairobi County, Kenya.

1.3.2 Research Questions

i. What is the role of stakeholder participation on performance of residential housing construction projects in Westlands Sub-County, Nairobi County, Kenya?
ii. What is the role supervision on performance of residential housing construction projects in Westlands Sub-County, Nairobi County, Kenya?
iii. What is the role of budgeting factors on performance of residential housing construction projects in Westlands Sub-County, Nairobi County, Kenya?
iv. What is the effect of time management on performance of residential housing construction projects in Westlands Sub-County, Nairobi County, Kenya?

1.4 Research Assumptions

The researcher assumed that respondents who took part in the study upheld honestly and gave error free responses. It is assumed that this research was done within the correct timing and that respondents has good knowledge on housing projects. Sample that took part in the study is assumed to have been from the target population and that they responded to the questions objectively. The study assumed that the participants gave factual and honest answers to the interviewers. The study also assumed that the responses gave a hint on what happens in the extensive construction market, despite it relying on a small portion of construction sites.

1.5 Justification of the Study

The demand for housing in major towns and urban centers in Kenya is rapidly growing. Kenyan leaving in residential houses look into many factors before deciding on units to rent, lease or buy. Two major factors influencing the decision to rent or buy a residential house is the cost

and environment. Developers of residential houses aim at maximizing profits from their investment through construction of housing units able to attract demand. This calls for proper project planning practices in order to deliver outputs that will appeal to consumers.

Nairobi City County is faced by many challenges related to planning of residential houses construction. Nairobi residents have witnessed many cases of residential housing demotion due to substandard buildings, building build without necessary approvals, buildings erected on public or riparian lands among other planning concerns, which hinder performance of residential housing projects. Many studies on construction projects focus on road construction, affordable housing and other projects undertaken by the government. Residential housing projects being fundamental to expansion real estate sector, this study sought to fill the gaps and add to existing literature in this area.

1.6 Significance of the Study

Study findings will improve the knowledge of project managers and officials in charge of managing residential housing projects in Westlands sub-county Nairobi. By improving outcomes of house building experience, the survey will help Westlands constructors determine planning practices and home-building performance in this sub-county. The study will aid in the development of fresh policies and the improvement of the current ones. Additionally, it will promote better management and adoption of best practices for project execution. The National Building Authority (NCA) will utilize the findings of this study to identify potential planning considerations for housing projects to create more useful housing plans. To better manage projects and meet their needs, governments, homebuilders, sponsors, and stakeholders will benefit from a wealth of resource knowledge. This study is useful to academics because it supports conceptual frameworks for residential performance theory and planning practice. Recommendations of this study will enhance existing project planning practices and promote best practices which boost efficiency to achieve the desired result.

1.7 Scope and Delimitation of the Study

The research was limited to planning practices and implementation of housing projects in Westlands sub-county in Nairobi County, Kenya. Residential housing projects that were selected for the study were those being constructed by private developers since they form a big percentage the County residential housing projects. Specific objectives of this study include stakeholder engagement, budget, time management and supervision of project and how they affect performance. Primary data utilized by the study was collected from engineers, surveyors, project managers and architects. This area was chosen because of its attractive nature to investors and a booming housing construction in the area. The study was conducted in Westlands in the year 2023, it covered five wards of Westland's which include Parklands, Kitisuru, Kangemi, Mountain View and Karura were considered. The study took a period of three month that is August to October 2023, data collection was however done in August and September.

1.8 Limitations of the Study

Limitations refer to elements beyond researcher's control that may compromise the overall success of a research project. Major limitation was the secretive nature of the housing construction industry. Getting respondents to spare time from their busy schedule and take part in the study was a challenge, some were unwilling to offer information needed for the success of the study due to confidently concerns. Respondents were reluctant to reveal critical information relating to project management, performance, and planning practices they use fearing that such critical information might reach their competitors in the industry. The researcher used introduction letter from the university to identify himself as a student collecting data for academic research. Researcher further assured respondent of non-disclosure of their responses to third parties without their consent. The researcher ensured adherence to high levels of ethical considerations during the entire data collection process.

1.9 Operational Definition of Key Terms

Construction Projects	Gathering building infrastructures to be used in building/structural construction.
Stakeholder Participation	Sharing of a mutual understanding and involvement of the project process development.
Project Management	Knowledge and skills application together with tools needed to chieve specific requirements of a particular project.
Project Performance	This is the project overall measure which determines if the completion of the project meets the scope requirement, schedule, cost, and objectives.
Project Planning	Milestones, timetables, equipment, a budget, and a workforce are all specified during the estimation or specification process. It outlines the estimation of the project's time, effort, cost, and human resource requirements.
Project Planning Practices	These are the components needed for a successful project implementation.
Time Management	It is defined as the time that is spent and the progress that is made over a project.
Supervision	Ongoing process performed by the head supervisors who oversees the performance of an individual and provides continuous, documented personal consultation instruction and guidance, with a focus to the competencies and skills of the person supervised.
Budget	A budget is a financial measure of future operations outlined in the business plan. It is a detailed plan that lists income and expenses for the upcoming financial period.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter expounds theoretical foundation of this study by exploring various literatures relevant to the research topic and identifies research gaps that the study will aim at addressing. The chapter entails theoretical framework, empirical literature review, research gaps and conceptual framework.

2.2 Theoretical Framework

The study was anchored on three theories; project management competency theory, stakeholder theory and theory of constraints. The main theory upon which the study was anchored is the Project Management Competency Theory as it spells out project management needed for a successful project implementation.

2.2.1 Project Management Competency Theory

The growing concern over human contribution in project management forms the foundation of the project management competency theory. This theory is a build up from works of different authors and institution concerned with project management practices. Institutions such as the Project Management Institute (PMI) and Association for Project Management (APM) have made several publications on framework of project management core competencies (Rezende & Blackwell, 2019). The PMI framework holds that a project manager's ability is accessed based on personal competencies, knowledge and performance. Association for Project Management (APM) framework on the other hand assess a project manager's ability based on 32 competencies that focus majorly on technical aspects.

Authors and academic articles that have contributed to the buildup of this theory through assessing competencies in project management include; McBer Competency framework

(1980), Inward Personality Inventory, Myers-Briggs Type Indicator (MBTI) and Multifactor Leadership Questionnaire (MLQ). McClelland & McBer's (1980) developed the theory of intelligence, according to them competence is the essential characteristic of a person associated with performance and/or performance according to a standard used in a job or situation. Since then, various skills have emerged from different organizations practicing project management.

Crawford (2007) proposes a performance model which integrates performance, knowledge, skills, and important behaviors and points out that it is difficult to develop and measure the final behavior through education. He argues that the two most important management systems (PMBOK) deal only with intellectual competence, while the third model (Australian National Standards for Competence) draws on knowledge with main focus based on performance.

Research by Jacobides (2012) established that a project manager "does not need to have the necessary resources or do all the work that needs to be done to facilitate and implement the changes they make to the projects". Oguulana & Bach (2012) confirmed that skills include knowledge, skills, attitudes and behaviors.

Nicholas (2011) proposed a construction-based performance model for construction managers in which management behaviors were evaluated and nine PM performance indicators were developed, including team building, leadership, decision making, integration and fairness, learning, understanding, and practice, personal effectiveness, and external audit. In the situation of project management, project implementation is assumed to be successful if the project team and project manager have the necessary resources for the project.

Project management competency theory was used to explain competencies such as technical skills and knowledge, decision making and leadership skills that a project manager or project team should have for a successful project implementation.

2.2.2 Stakeholder Theory

This theory was put forward by Freeman, Parmar & Wicks (2004). The theory is seen as a form of capitalism that places an emphasis on connections with stakeholders, including suppliers, communities, businesses and their clients, and others who have helped the organization. Stakeholder theory, according to Hill and Jones (2012), can aid in gaining the public's trust. The interrelationships between businesses, the micro and macro worlds, and how they impact organizational activities are the topics of stakeholder theory. Contractors, employees, governments, consumers, communities, and suppliers are just a few of the many parties involved in each project. Other proponents of this theory, including Arkin and Skitmore (2008), emphasize the value of including organizational stakeholders and taking their interests into account. Project success is ensured by taking stakeholder concerns into account. This theory considers the inputs of various kinds of organizational stakeholders. Stakeholder management is a management technique.

The association's stakeholders are characterized by attribute components and case veracity. Describe the association's stakeholders considering the desired outcome. Theory is important to comprehending the interests of Key stakeholders given the aspired goal of advancing projects with little disruption. A stakeholder survey assists in identifying the project's key stakeholders and determining their specific interests in the project's level of work quality. In this sense, stakeholder research seems to be a good way to address the various inherent problems with calibrated scorecards as key management tools. Stakeholder theory, according to Wyatt and Baird (2018), is responsible for the development of CSR. They contend that an association's performance and survival through the accomplishment of non-financial goals is in the context of legitimate concerns for its stakeholders. We advise you to think about how any company's management, specifically, thinks about the entire group of stakeholders in one of three ways: regularizing, instrumental, or obvious.

From a standardization standpoint, it is advised that businesses consider the interests of all parties involved, not just their clients and shareholders. Companies should figure out the structure of their entire CSR activities in a way that ensures consistency across stakeholder groups in accordance with the viewpoints. An important viewpoint supports an organization's focus on enhancing financial execution by acknowledging that the organization's main objective is financial performance. To do this, the business should only highlight its CSR traits, particularly better financial management.

The stakeholder theory measures how fairly a partnership treats its stakeholders; as a result, it is pertinent to the company's social responsibilities. The explicit perspective advises that its stakeholders, their qualities, and their relative influence can predict an organization's behavior (Kartam, 2018). The quality of work produced when conducting construction projects can be improved by project management by examining and involving different stakeholders, such as contractors. The benefit of the stakeholder theory is that it aids in identifying what matters.

This theory was significant in evaluating the level of involvement of various stakeholders and their contribution toward success of residential housing construction projects. As the theory explains the need of stakeholders being involved in projects, it also emphasizes on a balance between stakeholders' interest and organizational/ projects goals.

2.2.3 Theory of constraints

The idea of constraint was first put forth by Goldratt in 1990. Organizations can continue to achieve the objectives they set by using the Theory of Constraints. According to this philosophy, a manageable system is constrained in some ways, which prevents it from fully achieving all its objectives. Count on there always being at least one constraint. A focused process is needed to identify current restrictions and enable organizational restructuring around them. We identify at least one constraint that restricts the rate of goal attainment in this theory

of constraints. We must build a buffer to safeguard the synchronization of the process that safeguards and safeguards the entire project. Theory contributes to meeting the project's objectives by making sure of this. By concentrating on the areas of weakness that serve as organizational bottlenecks, this theory of constraints links all the processes that have an impact on an organization's performance. Three concepts that are related make up this theory. They are procedures for performance evaluation, planning, and logical reasoning.

Using systematic thinking with constraint management presumptions, it shows how managers can effectively manage organizations (Gupta & Kohli, 2010). Organizational thought, organizational behavior, and organizational methodology are the three principal areas of change that are the focus of the theory of constraint-based management philosophy (Gupta & Boyd, 2008). Requirements and constraints in many work situations (that are necessary for construction projects) 16 complicate project management (Lau & Kong, 2006). Therefore, managing constraints is necessary for efficient project management. According to Jacob and McClelland (2001), most ventures are challenging to manage because they are complex and demand three distinct and incompatible commitments: H. Concept, Budget, and Content. The three constraints of time, cost, and scope are commonly used as measures of project performance in project management.

Executives view the triple restriction as a crucial condition for the performance of the company. These three components can be rationalized to improve the quality and outcome. The three constraints of task scope, cost, and time each have unique impact of how well forms perform. However, given the connections this component has, one must eventually have an impact on the other two. The triple constraint theory, states that; the most common assessment and monitoring practices could perform poorly from an organizational standpoint, was the focus of this study.

Project delays are frequent in the construction sector, which not only burdens the contractor but also incurs in-quantifiable costs for the city (Ondari & Gekara, 2013). Another factor that determines whether a project succeeds is its cost and quality (Nwachukwu & Emoh, 2011). Project performance, the dependent variable, is therefore informed by this theory. It describes the project implementation steps, including the time, cost, and quality that this study addresses.

2.3 Empirical Review

Literature presented in this part is in connection to the study's variables. It covers contrasting research on planning techniques and housing construction project performance from various writers. Participation of stakeholders, oversight, money allocation, and time management on project performance are the studied variables.

This section analyzes prior research or published publications with the aim of identifying knowledge gaps. This section examines previous research on organizational value drivers and how the construction industry has performed over time. The review aims to ascertain effects of or influences on performance of construction sector, including corporate profit, market share, client portfolio, and revenue, of organizational value drivers such as organization structure, strong design, cash flow, and technology. The key points of these investigations are presented, together with the newly discovered research gaps.

2.3.1 Influence of Stakeholder Participation on Performance of Residential Housing Construction Projects

Throughout project management process, planning is equally crucial. Participants share their ideas and emotions about the desired situation during this participatory process. They serve as both an example of what it should be like and a blueprint for how to get there (Chikati, 2009). Further information will be discussed after this stage, which is crucial. Budgets, the use of resources, work schedules, evaluations, and phase-out strategies are just a few of the specifics covered (Mulwa, 2008). Stakeholders are both organizations and individuals who actively

participate in projects or have interests that can be positively or negatively impacted during execution or upon project completion (such as clients, sponsors, implementing organizations, or the public).

Stakeholders have power to affect project outcomes, team members, and more. Stakeholder participation in project implementation is crucial for project management. During the phase of implementation, a project manager enables the coordination of personnel, accurate risk assessment, and effective resource utilization to carry out a predetermined project plan. Any person, group, or organization inside or outside of a construction project who will be impacted by the project's results is referred to as a stakeholder. Also, it may influence or contribute to success and performance. The successful completion of any project is highly contingent on the participation from stakeholders.

Engagement of stakeholders results in responsive connections, positive development, and long-term growth, all of which are crucial for the effective planning and implementation of a project. The project gains acceptance, ownership, and social and environmental sustainability through effective stakeholder participation. The frequency, intensity, and structure of stakeholder engagement should correspond to the stakeholder's level of concern, the project's scope, impact, and threat. The approach and strategy necessary for participation will be determined by how the interests and rights of various stakeholders are affected by the project.

Reinhardt and Demirkesen (2021) investigates effects of engagement of stakeholders and performance of the government projects in Poland. The study used a descriptive research approach. A total of 13 government projects made up the target population. The study used project managers and other support staff as the observation unit. The study deployed questionnaires as research instruments. Findings revealed that the involvement of stakeholders was one significant segment that influenced the project performance. Findings from the research concluded that a positive relationship existed and notable association between how

these government projects perform and stakeholder involvement. Regression results revealed a positive relationship between performance and stakeholder involvement.

Through stakeholder participation, decision-making units are presented with numerous options to choose from when dealing with policy formulation. The study recommended the active involvement of stakeholders in the implementation processes of a project. Furthermore, consultations with stakeholders need to be carried out before changing the board of management. Ambwe, Mwanaumo and Nsefu (2021) investigated effects of engaging stakeholders on performance of construction projects in Lusaka district, Zambia. The project aimed mainly at evaluating how engagement of stakeholders impacted the performance of road construction projects, specifically the L400 road project of Lusaka District. To achieve this, the study assessed the relationship between engagement of stakeholders and three metrics of performance: project schedule, cost, and specifications. Findings evidenced existence of a positive correlation between project specifications and stakeholder engagement. On another hand, there existed a strong and negative correlation between project cost and stakeholder engagement.

Mwanza, Namusonge and Makokha (2020) examined the effect of practices by project stakeholders on the overall performance of construction projects in Kakamega county, Kenya. Using a mixed research approach, the study incorporated a descriptive survey as well as correlation. The study targeted a population of 1761 participants: 925 childhood development education managers, 765 modern stall managers, 62 county polytechnics managers and 9 county modern market managers. The research adopted a stratified sampling technique to arrive at the desired sample of 326 respondents. Questionnaires were designed to suit the 5 Likert scale and they had both close and open-ended questions and the study participants filled in their responses in the spaces provided.

Secondary data was collected from multiple sources. 32 respondents were used in conducting the pilot study. The Cronbach's Alpha was utilized in measuring reliability while a team of experts selected from the project management field under the study area was used to test validity of study instruments. The study opined that the performance of projects that focus on construction in Kakamega County, Kenya, was positively influenced by the practices of project stakeholders. The study concluded that clear strategies in the construction sector should be formulated by stakeholders in order to guide decision making.

Kinoti & Omondi (2020) studied participation of stakeholders and their impact on performance of road constructions in Kilifi County in Kenya. Target respondents were 150 selected from different parts of the constituencies where the construction of roads was mainly focused on Kilifi County. The study focused on 10 project managers who were participating in road construction projects. The study adopted descriptive research design and SPSS was employed for data analysis. They revealed that participation of stakeholders at all levels, including project identification, implementation, planning, as well as monitoring greatly influenced the performance of projects that focus on road construction in Kilifi County.

The researchers concluded that to enhance effectiveness, efficiency and cooperation, the stakeholders were moderately involved in the planning of projects in road construction. They recommended that stakeholders should be sensitized on significance of their participation in the life cycle of projects by project management teams to realize maximum performance.

Antipa and Paul (2019) with a focus on Nakuru county in Kenya, studied impacts of participation of stakeholders on performance of road projects. The study used descriptive study methods and convergent design. The study employed close and open-ended questionnaires in data collection. The research utilized simple random and systematic sampling determine a sample size and desired respondents. Key informant Interviews (KIIs) were conducted ion 400

respondents made up of project directors, engineers, supervisors, and members of public. SPSS was used in data analysis. The study used uni-variate analysis together with multiple logistic regression to establish the nexus between explanatory and the outcome variables. The research found out that stakeholder's involvement and relations were very significant at each project execution level, and greatly affected the adequacy, quality of projects and the manner of execution.

2.3.2 Influence of Supervision on Performance of Residential Housing Construction Projects

Project management supervision ensures that all applicable local laws, approved plans, specifications, contract documents, and building code requirements are considered. It is the procedure used to carry out inspections at the project site (Zhang, 2015). Before any work is done, good project practices should be established in a project procedure or project handbook so that all parties involved in the project can use due diligence standards, methods, and tools to complete the work.

Construction project supervision (CPS) is a form or process of ensuring that a project is developed in line with the contract papers, authorized plans, building codes, specifications, building code standards, and ordinances and applicable local rules and regulations. For everyone involved to use the same standards of conduct tools and techniques to complete their work diligently, it is a good idea to create a project manual or project procedures manual before work begins. In a construction project, a supervisor performs crucial dual duties. The supervisor's main responsibility is to be the client's point of contact and ensure that everything proceeds as planned. They work closely together while simultaneously giving contractors the necessary direction.

Buba and Tanko (2017) examined how leadership in a project and quality performance of construction projects are related in Nigeria. They identified had 3 key groups of respondents among which 43 questionnaires were distributed.; quantity surveyors, builders and architects who work in project management. Analysis of both inferential and descriptive statistics was done using SPSS. The independent variables, including leadership styles like facilitating, delegating, coaching and directing were subjected to a Likert scale. The scale measured extent to which achievement of projects as per the dependent variables. According to the study most managers in charge of projects in Nigeria use the directing style. The directing leadership style was observed to have the highest impact on quality performance among the other leadership styles because it led to the achievement of the highest aesthetic quality as well as functional building that served the project purpose.

Administration and Paul', (2020) studied effects of leadership styles by managers on performance of organization in selected Banks, in Machakos county, Kenya. To select respondents, a purposive sampling research technique was used. The researchers employed structured questionnaires to collect data from 60 study participants. The study formulated one hypothesis and used inferential statistical tool for data analysis. The association between leadership style dimension and organizational performance was examined using the Pearson product moment correlation. The study highlighted that positive as well as negative correlation between organizational performance and leadership style dimension. According to the study, the leadership style dimension jointly predicted organizational performance. For better performance, transformation leadership style should be adopted. However, the study had a small sampling size and thus not good enough to satisfactorily give feedback on embracing various leadership styles.

Inganda and Mulyungi (2018) investigated effect of leadership styles used in projects and the performance of the projects while focusing on Fair construction company based in Rwanda.

The study sought to investigate if authoritarian, authoritative, permissive, and democratic leadership styles applied by lead project consultants influenced performance projects that focus on construction in Rwanda. The study used a target population of 116 Fair construction employees whose contract period had ended at fair construction company. To select the sample, the study employed stratified sampling method. Data collection was carried out using questionnaires.

The study conducted a pilot before the actual data collection. Construct and content validation were applied in the testing research instrument validity while data analysis was done using SPSS. The study found out that autocratic leadership delays completion of road projects because of high turnover of key personnel, staff low morale, lack of work commitment and poor relations with contractors which is caused to an extent by conflicting instructions from project managers. Furthermore, project managers are not straight forward in answering questions on design errors and missing items in Bill of Quantitates.

Due to their high ranking from respondents under 40 years who made up 67% of the participants, the study recommended the use of both trans-formative leadership and democratic leadership in construction projects. This is because the participants did not want to be micromanaged and needed enough liberty to carry out tasks as guided by the project managers. Another recommendation was that before being deployed to construction projects, the senior staffs should be at least holders of postgraduate diploma in project management.

Ragui & Onchieku (2019) studied the influence that strategic leadership had on the performance of housing co-operative societies in Nairobi County. Self-administered questionnaires were used in primary data collection. From a target population of 407 housing co-operatives, a sample of 40 was chosen. Multiple regression analysis was deployed in the study. Findings revealed a positive relationship between performance and effective

communication of the strategic direction. Also, human capital had a positive effect on performance and sustaining a corporate culture positively affected performance. The researchers observed that organizational flexibility equally had a positive effect on performance. The recommendation drawn was that in order to enhance competitiveness in the sector, leaders should engage in leadership training courses with a focus on acquiring the skills necessary in creating better policies. Furthermore, change management through organizational flexibility should be regarded as key factor that can improve performance of housing co-operatives.

2.3.3 Influence of Budget on Performance of Residential Housing Construction Projects

More than 80% of costs are determined early in the design process, so early planning and forecasting skills help make good decisions. Financial planning can be used effectively to evaluate the project budget. Budgeting focuses on establishing estimates before the facts, a plan that shows how these estimates should be used in various areas or elements of the project, and overseeing the process to ensure that the design of individual items can be built within the cost plan. A budget is a financial measure of future operations outlined in the business plan. It is a detailed plan that lists income and expenses for the upcoming financial period.

Obi, Arif, and Kulonda (2017) examined impacts of basic cost management on housing projects in Nigeria. Using literature review, this study reveals 13 factors that influence real estate use and success, including cost management. Exploratory analysis was conducted to determine the drivers' social context. Results were optimized using standard deviation (ISM). The study divided the participants into three groups: housing projects, consulting groups and contractors. The total sample size is 249 people. The findings showed the main drivers of success in the real estate industry are attitude management, effective knowledge, a stable work environment, good teamwork, adequate solutions to financial problems and good income. However, since

this study was conducted in large numbers, the data obtained are limited. This study will use a qualitative approach through FGD, KII and IDI interviews.

Aggor (2017) examines relationship between budget and project performance in the construction industry in Ghana. The research is based on iron triangle theory, accident causation theory, management science and management theory. This study focused on identifying differences in performance, time, security, location conflicts and environmental impacts in the Greater Accra region of Ghana. It established a non-significant positive relationship between explanatory variables and the project budget. However, this study was conducted in Ghana, which may have other differences compared to Kenya.

This study is also comprehensive and does not provide further information because the current study will only focus on project managers for a detailed understanding. Current research will focus on project managers, engineers, project architects and developers. Ndavi and James (2019) examine planning practices and construction efficiency in the urban and suburban areas of Nairobi, Kenya. This study focused on 125 construction projects; data was collected by questionnaires from 125 project managers. The results showed that the project completed successfully had enough budget allocation from start to the end of the project. This work is for project managers only. The project manager alone cannot determine the success of the project; therefore, this research will involve other stakeholders, including surveyors and engineers.

Mwakio (2020) examine the impact of management practices on housing development in Kenya, focusing on Mombasa County. Descriptive learning design was used. This study sampled 116 participants. Data is collected only from closed surveys. The study generated descriptive statistics with correlation and regression coefficients computed using SPSS version 25. This study shows that group capacity, financial support, project planning and risk planning are powerful, effective and effective for affordable housing implementation. Consequently, the

implementation of the project's implementation and proper budgeting and involvement of all stakeholders in the development of the project are essential for project to be successful. However, this study is limited to Mombasa County, which may have different characteristics from Nairobi County. This work is also multifaceted, and the present work will address it using mixed methods.

2.3.4 Influence of Time Management on Performance of Residential Housing Construction Projects

The progress and length of time spent on project activities and tasks is known as timekeeping in project performance. Effective project planning, scheduling, monitoring, and control are necessary for effective time management. This is crucial because it enables you to divide projects, assign tasks, and finish them on schedule. To meet deadlines and enable quick collaboration, project teams working on projects are expected to be tight-knit and well-organized.

Project time management process includes the following components: activity definition, activity sequencing, activity length estimation, project schedule formulation, resource estimation, and schedule management. Findings on the effect of time management techniques on project performance was conducted by Lloyd (2013). Sponsors and project managers who participated in the study on projects that were not finished on time served as respondents. Keep in mind that in this study, features are defined as the project's prior plans at each time point, based on the revised outlook and current certainty. This was also thought to be logical in the study because project constraints and goals may change as the process is being implemented. In some situations, it is both impossible and extremely difficult to notice plan deviations. In this introduction, we can state that: Careful planning is necessary to ensure that controls are feasible. Controls quickly lose their value if nonconformity cannot be detected and corrected right away.

Time management is the intentional planning and control of the limited time allotted to tasks related to a particular project, with the goal of maximizing effectiveness, efficiency, and productivity. Prior to being expanded to comprise personal activities as well as a variety of processes, techniques, tools, and methods, time management was initially only thought to be significant for business and professional endeavors. Time management is crucial for project development as it determines the duration and scope of the project. For the following reasons, time management is important in management: Time is a limited resource that cannot be recovered once it has been used up or accumulated. Time cannot therefore be set aside for later use. It is lost forever if you do not use it.

A project's main goal is to accomplish specific objectives within time, budget, and scope constraints. To guarantee project success, these factors must also be carefully planned and managed. Before obtaining a detailed schedule, project time management starts by determining the necessary project duration and its milestones during the planning stage (Hazar, 2014). Late delivery is one of the most frequent issues affecting projects, accounting for nearly 47% of all problems, according to Romel & Gilberto (2016). Poor project time management is to blame for this. All of the project's stakeholders are impacted by the results of delays. According to the study, putting more effort into planning and managing a project increases the chances of being completed on schedule, within the set budget, and in accordance with its original scope.

Nasir, Nawi and Radzuan (2016) studied the relationship between time management in construction industry and project management performance in Malaysia. The study used a desktop review method going through literature on the industry with a focus on issues in construction that affect general time performance of projects with a keen focus on process involved for project management. The study found that, in general, project management and guaranteeing a seamless process from execution to completion depend heavily on knowledge, commitment, and teamwork. Their study recommended that there is requirement for strength

between team members and project managers while conducting the project in order to realize good time performance.

Amoah and Nkosazana (2023) studied management strategies in intervening construction contract disputes in South Africa. The study used Quantitative research design. Structured questionnaires comprising close-ended questions were circulated to professionals in construction industry in South Africa through Survey Monkey platform. Target population of the study comprised project managers, construction managers, architects, risk managers and quantity surveyors in South Africa. The study used convenience sampling to arrive at the sample.

The study settled for convenience because the professionals were easily accessible to the researcher. 84 questionnaires were distributed with 58 being fully answered and returned. The study revealed that ambiguous definitions of the contract parties were a major source of contract-related disputes. The study highlighted some of the ambiguous definitions including; lack of informative specifications of the jobs done and unique milestones, inadequate of well outlined arrangements concerning the estimation of contractual penalties in case of failure to achieve set deadlines, lack of provisions that regulate changes documenting the project during the construction stage, lack of provisions on matters of rules of performing extra and replacement workers and their compensation, and huge amounts of contractual penalties accrued on the contractor's side. To effectively manage these disputes, parties involved should implement strategies such as setting up contingency plans, reducing uncertainties in project phases, ensuring construction guarantee and payment guarantee, extending time claims and developing retention and escalation clauses in the contract.

Eigbe, Oghomwen and Ihensekhie (2022) studied factors influencing project performance, an evaluation on factors and investigated the effect of these factors with a view to assist owners,

contractors, and consultants to overcome problems related to performance and in turn add quality on construction project performance. Study was conducted in the Federal Capital Territory Abuja, in Nigeria. Cross-sectional questionnaire survey was used for this study. A purposive sampling technique to arrive at 100 respondents with the target of professionals: architects, contractors, clients, engineers and builders. Data was analyzed using percentiles and frequencies to rank results. Findings showed that increase of design changes, material prices and inconsistencies in contract document affect performance.

Among three leading factors which influence construction projects performance were: inadequate resources, slow decision-making processes, and constraints of time that is required to implement variation orders. Quality factors that had an impact on project performance were availability of competent human capital, failure to involve managers in decision making and insufficient coordination. Further the study revealed regular staff development, proper motivation of staff and the right staff attitudes on the project influenced performance.

Bitamba and An (2020) studied factors affecting performance of projects focused on construction in Congo. This study adopted structured questionnaires in collection of data. The study purposively selected 100 main stakeholders participating in construction projects: contractors, owners, and consultants. The questionnaire was ranked on Likert's scale of five ordinal measurers. The study found out that the most outstanding factors that affected construction projects in DRC were contractor productivity, design, scheduling, contract and client management. The design-related factors were mostly affected by the skill and experience of the design team, while the client-related factors were impacted by delays in payment and delivery of materials to the construction site.

2.4 Research Gaps

The study by Demirksen and Reihardt (2021) focused on the effect of involving stakeholders' involvement on performance of the government led projects in Poland. This research puts into considerations stakeholders, but it fails to address the issues on specific housing construction projects. Also, it is based in Poland which might be having different approaches towards stakeholder engagements in projects. The main findings of this study show that collaboration with partners is important and affects the performance of the project. These findings cannot be generalized to local conditions as it was conducted in Poland.

Ambwe and Nsefu (2021) investigate how stakeholder participation affects the generation of jobs in Lusaka, Zambia. The results demonstrate that structure and partner collaboration are positively correlated. In this study only three parameters were considered: run time, cost, and specification. The present study will add financial planning and auditing.

In another study by Mwanza, Namusonge and Makokha (2020), the authors used stall managers, education on early childhood development managers and managers of county polytechnics. These two studies, among others, fail to address role of stakeholders in influencing performance of construction projects. Also, they fail to sample out the experts in that field which this study is going to address.

Omondi and Kinoti (2020) examine stakeholder engagement in Kenya's Kilifi County and its impact on road construction. According to the study stakeholder involvement in all phases, including project analysis, planning, implementation and monitoring, affects the performance of the project. This study provides a deeper understanding. However, the focus is on road construction rather than residential projects.

The studies that have been done on supervision have failed to address the pertinent issues on leadership and supervision in real form. For instance, the study by Tanko & Buba (2017) sought to evaluate impact of project leadership and quality performance on construction projects in

Nigeria. The eventual findings were based on how leadership styles affect performance rather than leadership or supervision in general. This study is of the view that supervision has not been factored fully in understanding how it affects performance of housing construction projects.

Inganda and Mulyungi (2018) examined the impact of leadership style used in a project in Rwanda on performance. Research has shown that organizations must embrace change and independent leadership. This study does not link leadership and care. It mainly focuses on leadership and therefore does not retain enough information about the role of supervision in the project.

Time management is a major factor especially in completion of projects that focus on construction and specifically projects in housing. Time management is usually influenced by different factors, both external and internal. Nasir, Nawi and Radzuan (2016) addressed how time management is a factor in performance of construction projects in Malaysia. According to their study cooperation, commitment and knowledge are crucial in managing the project and ensuring a smooth process from execution until completion. However, this study did a desk review. It relied upon secondary data to come up with a conclusion. Also, it did not highlight which studies it took into consideration and how they weighed the information from each study.

Amoah and Nkosazana (2023) also studied effectiveness of strategies in management to curb construction contract disputes in South Africa. This study does not address performance even though it has effective time management. Eigbe and Ihensekhie (2022) examine the factors affecting construction performance. The research was done in Nigeria. The three most important time constraints in the development process are insufficient resources, delayed decision-making processes, and limited implementation timeframe. The findings of this study cannot be generalized to local conditions.

Obi, Arif, and Kulonda (2017) examine the impact of basic cost management on housing projects in Nigeria. The study found that the main drivers of success in the real estate industry are management behavior, effective knowledge, a stable work environment, effective teamwork, adequate solutions to financial problems and good income. This study focuses on income rather than cash sources. This study also used more table reviews than actual participants.

Ndavi and James (2019) examine planning practices and construction efficiency in the urban and suburban areas of Nairobi, Kenya. The results showed that the project was completed successfully, and the budget was enough to complete the project. However, the study was limited to project managers. This work is quantitative and therefore misses important information in the architectural field.

Mwakio et, al. (2020) examined the impact of management practices on housing development in Kenya, focusing on Mombasa County. The study discovered that the project's success depends on the execution of the business plan, appropriate budgeting, and the participation of all stakeholders in the project's construction. However, this study was limited to Mombasa County, where the dynamics are different from Nairobi County.

2.5 Conceptual Framework

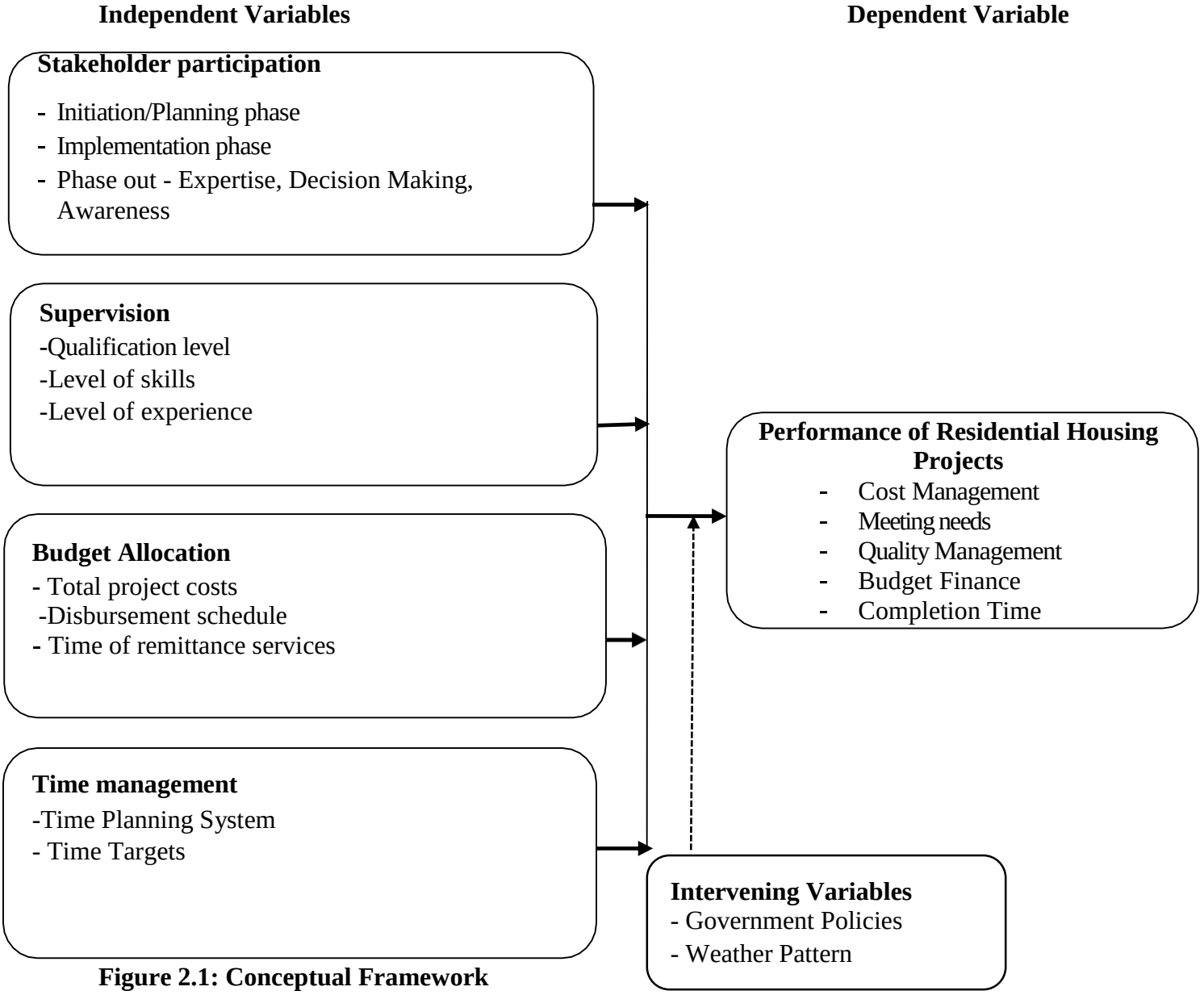


Figure 2.1: Conceptual Framework

Source: Researcher (2023)

Figure 2.1 display the conceptual framework of the study. According to (Grant & Osanloo, 2014) conceptual framework outlines the relationships between the study's independent and dependent variables and serves as a roadmap or guide for future research. The conceptual framework identifies important intervening variables in the study and provides a clear picture of how the dependent and independent variables interact. Listed below each independent variable are aspects of interest in this study that were used to achieve the study objectives while the dependent variable has measurement indicators that were applicable in the study.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

Chapter three highlights the methodology that was adopted by the study in getting the required information for the study.

3.2 Research Design

This study combined explanatory and descriptive research designs. Saunders *et al.* (2016) describes descriptive research design as the procedure that a researcher adapts to systematically describe the problem that exists and to support the information with what they see. Saunders *et al.* (2016) describes descriptive research as fundamental for social research hence the study is interested in giving characteristics to people, organizations or the behaviors of various or certain groups. According to Cooper & Schindler (2014), descriptive research design is used to explain, predict and understand the existence of a relationship between the independent and dependent variables. For this study the explained variable was housing construction projects performance whereas the independent variables were stakeholder participation, supervision, projects cost and time management.

3.3 Target Population

Saunders et al. (2016) defines target population as the total elements from which a sample is drawn. According to Cooper et al. (2014) target population is a set of elements in which the research is interested in and contains elements that have the desired characteristics of the researcher and from which measurements can be done and conclusions be made depending on these results. Target population of this study comprised of project managers, project architects, engineers, and developers of 64 private ongoing housing construction projects in Westland Sub-County. Data from the National Construction Authority showed 180 ongoing construction projects in the Sub-County, with 64 being residential housing construction projects within the

timeframe when the study was conducted. Project managers, project architects, engineers, and developers were selected for the study since they are at the center of planning and implementation of these projects. Target population was 256 comprising of a project manager, project architect, engineer, and a developer from each of the 64 ongoing private housing construction projects.

Table 3.1 Target Population.

Category	Frequency	Percent
Project Managers	64	25%
Project Architects	64	25%
Engineers	64	25%
Developers	64	25%
Total	256	100%

Source: Researcher (2023)

3.4 Sampling Technique and Sample Size

3.4.1 Sampling Technique

According to Guest (2017) sampling technique is a systematic process used to choose a subset of people or components from a larger population in order to draw conclusions about that population. Sampling technique highlights how the elements in a sample are selected. Stratified random sampling was used in the investigation. Because the population was split up into 64 distinct house development projects, each of which formed a stratum.

3.4.2 Sample Size

A sample, according to Ogula (2005), is a subset of the population under study that has to be representative of the population from which it was drawn. A sample's importance in a study lies in its ability to cut expenses and time. The Yamane (1967) formula was utilized to ascertain the study's sample size.

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

Where: N=Size of the Population, n=sampled size, e=margin error for the study set at 5%.

n = 256{/ 1 + 256(0.05) ²} = 156

Table 3.2 Sample Size

Category	Population	Sample	Percent
Project Managers	64	39	25%
Project Architects	64	39	25%
Engineers	64	39	25%
Developers	64	39	25%
Total	256	156	100%

Source: Researcher (2023)

3.5 Data Collection Instrument

Questionnaires utilized in collection of data were carefully designed to suit the themes of the study. Close-ended questionnaires were chosen since they are good to use especially when you want to get higher response rates. Also, close ended questionnaires enabled answers that were tallied into percentages and statistics. Self-completion questionnaires were used in the study, as respondents find them easy to complete (Thomas, Nelson, & Silverman, 2015). The researcher dropped the questionnaires respondents and collected filled questionnaires after three days. Questionnaires were appropriate since they allow for the collection of vast volumes of data from numerous respondents, are reliable and validity of the instrument is lowly affected,

can be quantified easily and quickly, the questions can be analyzed objectively and quantitatively and finally the quantified data can be used to contrast and compare (Kabir, 2016). Two portions of the questionnaires were: one for general information and the other for the four study objectives. The replies were rated using the Likert scale. In-depth interviews and discussion guides were also utilized in the study to gather qualitative data from key informants. The qualitative data collected affirmed the quantitative data in deriving more precise answers.

3.6 Validity Test

Cooper and Schindler (2011) contend that an instrument's validity is based on how thoroughly it assesses the construction that is the focus of the investigation. Three types of validity tests exist: construct, content, and criteria. The degree to which the test items are representative of the complete area that the test is intended to evaluate is known as content validity. In order to assess the questionnaire items' representativeness and application to the topic matter, the supervisor was consulted as the research expert and asked for his rating.

Criterion validity is the degree to which one measurement successfully predicts the outcomes of another. In this instance, criterion validity was used to assess whether a test adequately captured a particular set of abilities. An assessment of a measure's construct validity determines how well it captures the intended variable. To evaluate the construct validity, testing the measure's associations with factors known to be connected to the construct was essential.

3.7 Pilot Testing

Nixon (2012) alluded that pretest, is the only way for studies and researchers to ascertain the significance attached to study questions. A preliminary investigation through pilot study was conducted to assess the reliability and validity of research questionnaires. The study chose 5 project managers and 5 residential project developers who were involved in 5 projects that were finished in 2019 but are not part of the main study to conduct the pilot study. The same listing used for the main study's population was used for the pilot study's population.

3.8 Validity of the Instrument

Validity of an instrument is the extent to which it measures what it is intended to measure. (Kothari, 2014). As a result, it shows how accurately the information collected using a specific tool reflects the subject matter under investigation. Research experts, peer reviews and my supervisor examined the instrument to determine its content validity and to make sure the questionnaire's material was relevant and suitable for the study.

3.9 Reliability of the Instrument

Table 3.3 Reliability Test Results

Scale	Cronbach Alpha	No. of Items
Stakeholder Participation	0.765	7
Supervision	0.743	5
Budget Allocation	0.818	7
Time Management	0.839	7
Average	0.791	6.5

Source: Researcher (2023)

Table 3.3 shows reliability test results, all the independent variables had a Cronbach alpha coefficient of above 0.7 implying that the instrument used in gathering data for the study can be relied for making value judgement. Reliability, in the words of Kuada (2012), is the extent to which a research tool yields consistent results after multiple trials.

3.10 Data Analysis Procedures

Analysis of data involves inspecting, arranging, and cleaning data with an objective of obtaining interpretable information (Ader & Mellenbergh, 2014). The gathered data was coded, cleaned, and entered into SPSS (Version 25.0) for analysis in order to produce both descriptive and inferential statistics. The findings were displayed as tables and figures. Regression analysis

assumptions were examined, and a multiple linear regression analysis was conducted to find out how much each of the four independent variables affected the dependent variable. In order to determine whether there is a relationship between the variables and whether the results are significant if $p<0.05$, correlation was carried out. Using NVIVO, the qualitative data was analyzed by looking for key themes and topics in the respondents' statements. To establish relationship between the dependent and independent variable and multiple linear regression model was computed as below.

$$Y = \beta 0 + \beta 1x1 + \beta 2x2 + \beta 3x3 + \beta 4x4 + \varepsilon$$

Where:

Y = Performance of residential housing construction projects.

$\beta 0$ = Constant Term;

$\beta 1$, $\beta 2$, and $\beta 3$ = Beta coefficients.

X1= Stakeholder participation.

X2= Supervision.

X3= Time management

X4=Budget

Normality test was conducted to examine the regression assumption that the data is regularly distributed. The skewness values should be between -0.5 and +1, which are nearer to 0 values of Kurtosis are expected to be between -3 and +3. This is an indication that the data is distributed normally as required by the regression assumptions. Multicollinearity test was conducted using the Variance Inflation factor (VIF). Multicollinearity is a state where there are strong correlations or inter-associations between the independent variables. A VIF value below 10 shows that multicollinearity is insignificant. Test for homoscedasticity was conducted to establish the homogeneity of the data. Levene statistics test was conducted to test the homogeneity. If the Levene statistic is significant then the data is not homogeneous.

The purpose of the linearity test was to determine whether there is a substantial linear relationship between project performance and the involvement of stakeholders, supervision, time management, and budget. For regression analysis, a significant linear relationship is an assumption.

3.11 Ethical Considerations

The research was guided by the University code of ethics. This means it adhered to the ethical norms required to focus on truth, error avoidance and promotion of knowledge. The research aimed to provide collaboration with respondents by adhering to accountability, trust and mutual respect.

For the purposes of this study, the University's approval was requested, and the National Council of Science and Technology (NACOSTI) issued a permit for the research to be conducted. The study also sought permission from the county government's management to conduct the study from the officials in question. The respondents were given the assurance by the researcher that their answers would remain private and be utilized just for the study. Before beginning the process of distributing questionnaires, the respondents were requested for their verbal consent. The study's results were not altered to suit any preconceived notions or commercial objectives.

CHAPTER FOUR

RESULTS AND FINDINGS

4.1 Introduction

This chapter entails the study findings. Gathered information were examined to address the study questions.

4.2 Questionnaire Return Rate

Table 4.1 Response Rate

Questionnaires	**No.**	**(%)**
Filled and Collected	121	77.56
No response	35	22.44
Total	156	100

Source: Researcher (2023)

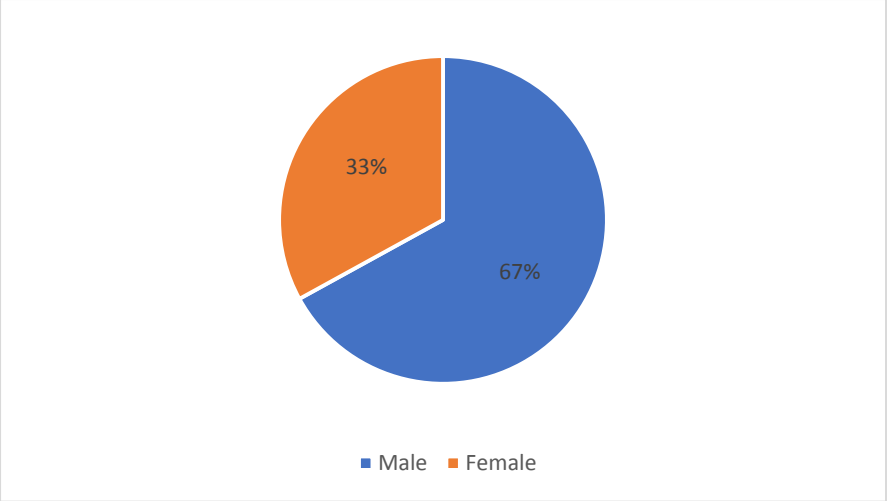
Table 4.1 display the response rate out of 156 questionnaires 35 (22.44%) were either not respondent to or collected back for analysis, whereas 121 (77.56%) were filled out properly and returned for analysis. A higher response rate is considered superior and gives statistical power to a study.

4.3 Demographic Information

The study's demographic findings are highlighted in this section.

4.3.1 Gender of Respondents

Figure 4.1 Gender of Respondents

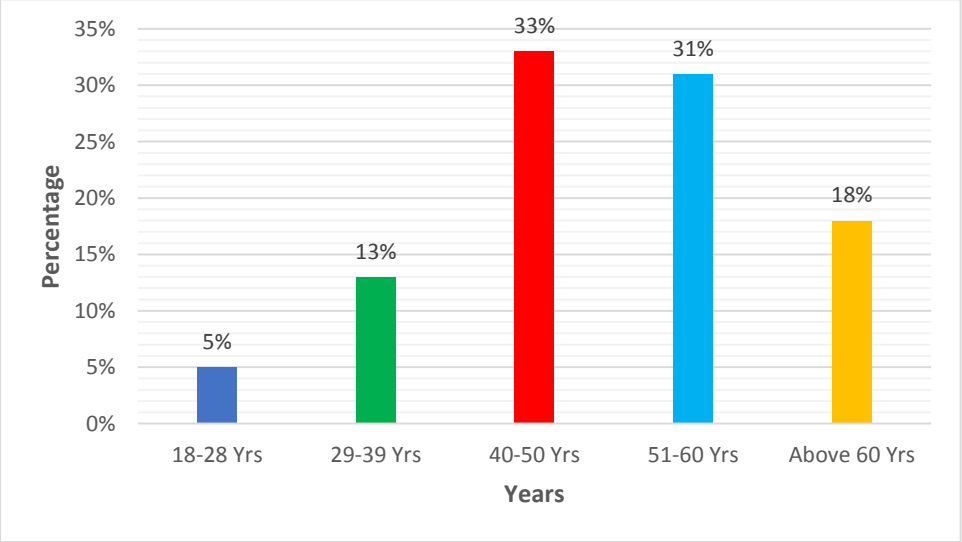


Source: Researcher (2023)

Figure 4.1 displays gender of respondents. Majority were males at 67% while female was 33%.

4.3.2 Age Group of Respondents

Figure 4.2 Age Group of Respondents

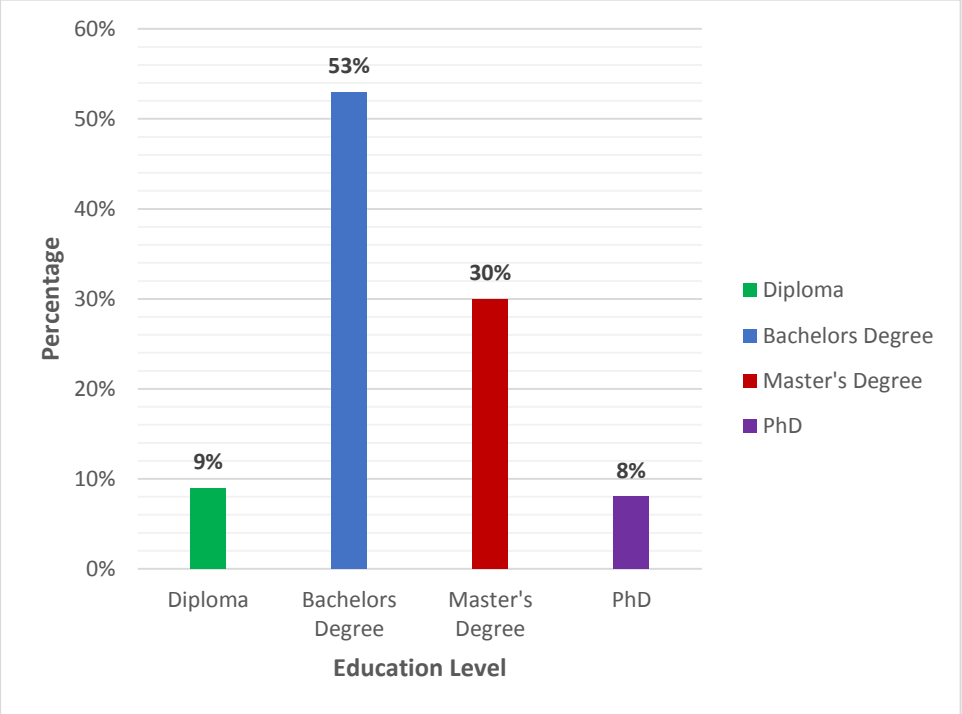


Source: Researcher (2023)

The respondents' age group is displayed in Figure 4.2. The findings indicate that most respondents were aged between 40-50 years at 33 percent, followed closely by those aged between 51 to 60 years at 31 percent, then those aged above 60 years at 18 percent. The study showed that individuals aged between 29 and 39 years and those between 18 and 28 years accounted least of the respondents with a percentage of 13 and 5 respectively.

4.3.3 Respondents Education Level

Figure 4.3 Education Level

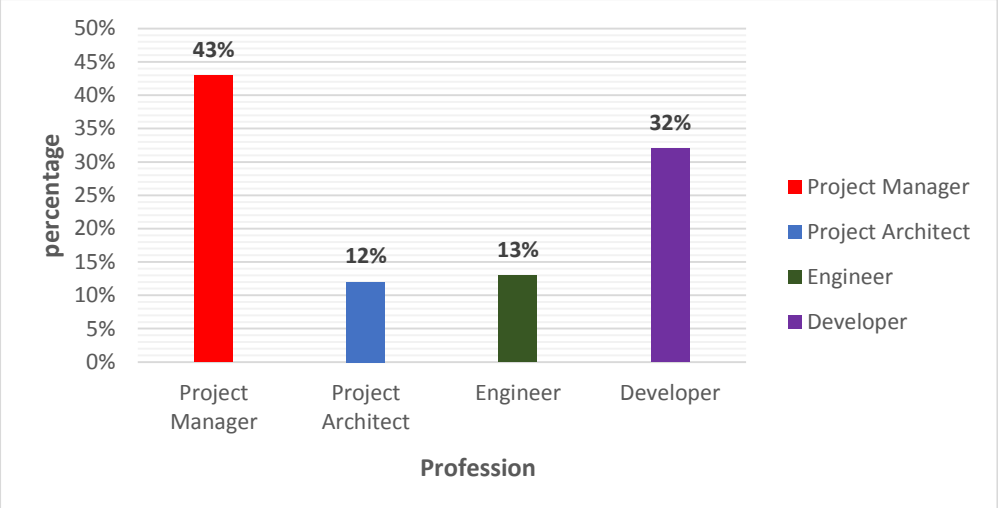


Source: Researcher (2023)

The respondents' education level is displayed in Figure 4.3. It reveals that most workers on construction projects have a bachelor's degree as the highest attainment standing at 53 percent followed by Master's degree holders at 30 percent. Few constructions professional workers have a diploma or a PhD. as their highest level of achievement in education at 9 percent and 8 percent respectively.

4.3.4 Profession of Respondent

Figure 4.4 Profession of Respondent



Source: Researcher (2023)

The respondents' profession is displayed in Figure 4.4. The findings indicated that most residential construction projects didn't have all four professions chosen for the study. Some project managers doubled as engineers and developers. Some construction plans were also bought rather than having the architect on the site. The study however revealed that project managers at 43 percent answered the questions followed by developers at 32 percent. Engineers and architects were rarely found, both at 13 and 12 percent.

4.3.5 Years of Work Experience

Table 4.2 Work Experience

Work Experience	Frequency	Percent
<5 years	7	6%
6-15 years	51	42%
16-25 years	38	31%
>26 years	25	21%
Total	121	100%

Source: Researcher (2023)

The respondents' work experience is displayed in Table 4.2. Majority of respondents had an experience between 6 to 15 years (42%) followed by those with work experience between 16 to 25 years at 31 percent. Respondents with experience above 26 years were represented by 21 percent while those below 5 years of experience were only a paltry 6 percent.

4.4 Descriptive Statistics

4.4.1 Stakeholder Participation on Performance of Residential Housing Construction Projects

Table 4.3 Descriptive Statistics of Stakeholder Participation on Performance of Residential Housing Construction Projects.

	Percentages						
Statements	5	4	3	2	1	Mean	Std. Deviation
The employees' attitude and level of participation determine the success of a project.	37.3	47.1	10.8	4.1	0.7	4.02	0.934
Each one's input in designing the project minimizes inefficiency	54.2	30.5	7.2	1.7	6.4	4.53	0.96
Acquisition of permits from various regulatory boards is crucial for projects.	17.9	22.8	50.5	3.0	1.1	4.7	0.842
Does reducing bureaucracy in the organization determine the success of a project	26.9	45.7	23.2	3.2	1.0	3.78	1.231
Coordination of information between project parties and owners is essential in	42.6	37.1	13.9	4.0	2.4	4.871	1.334

the success of housing construction projects.							
Would you say that when project parties and owners have common ground, the disputes reduce?	30.0	17.1	48.5	2.4	2.0	3.05	0.849
Co-creation of projects reduces the incidences of rework.	39.9	44.3	10.6	3.0	2.2	3.62	0.871
						N=121 Av. Mean = 4.082 Std. Dev. = 1.003	

Source: Researcher (2023)

The results indicated that majority of respondents (Mean=4.02, SD=0.934) believed that employee attitudes and involvement levels impact the success of residential housing construction projects. According to the study, all respondents firmly agreed that having a say in how the project is designed reduces inefficiencies (Mean=4.53, SD=0.96). The respondents were neutral on if the acquisition of permits from various regulatory boards is crucial for the success of housing projects (Mean=3.02, SD=0.842). The respondents agreed that reducing bureaucracy in the organization determines the success of housing construction projects (Mean=3.78, SD=1.231). The findings indicated that coordination of information between project parties and owners is essential towards success of housing construction projects with most of respondents strongly agreeing. (Mean=4.871, SD=1.334). Respondents were neutral on if project parties and owners have common ground, and the disputes reduce (Mean=3.05, SD=0.849). The respondents agreed that the co-creation of projects reduces the incidences of rework (Mean=3.62, SD=0.871).

Table 4.4 Summary for Stakeholder Participation and Performance of Residential Housing Construction Projects

Model	R	R^2	Adjusted R^2	Std. E. of the Estimate
1	.660[a]	0.435	0.431	8.605

Source: Researcher (2023)

Table 4.4 shows the explanatory power of Stakeholder participation on Performance of Residential Housing Construction projects. The results indicated that the adjusted R-square was 0.431. The explanatory power of a regression model is explained by the adjusted R-square where there exist various predictors in the model (Kabir, 2016). This means that stakeholder participation causes 43.1 percent changes in the outcomes of the explained variable which is performance of residential housing construction projects while 56.9 percent is as a result of other factors outside the model.

Table 4.5 ANOVA for Stakeholder Participation and Performance of Residential Housing Construction Projects

Model		Sum Squares	df	Mean Square	F	Sig.
1	Regression	6855.257	1	6855.257	92.575	<.001[b]
	Residual	8886.120	120	74.051		
	Total	15741.377	121			

Source: Researcher (2023)

ANOVA study of stakeholder participation on construction housing project performance is presented in Table 4.5. The F-Statistic obtained from ANOVA test explains the general significance of the regression model tested at 90 percent confidence level. ANOVA test determines the effect of explanatory variables on explained variables in a regression model

(Kabir, 2016). The results indicates that the calculated F-Statistic is 92.575 and a p-value of less than 0.1, thus the model is significant. Therefore, stakeholder participation process partly explains the variation of the performance of residential housing construction projects.

Table 4.6 Regression Coefficients between Stakeholder Participation and Performance of Residential Housing Construction Projects

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	5.677	1.839		3.087	0.003
	SE	0.684	0.071	0.660	9.622	0.000

Source: Researcher (2023)

Table 4.6 shows regression analysis between Stakeholder Participation and Performance of Residential Housing Construction Projects. Population estimates parameters that describes relationship between the response and the predictor variable are called regression coefficients (Kabir, 2016). The resulting regression equation was $Y=5.667+0.684X_1$.

X1 is the explanatory variable (Stakeholder Participation) while Y is the explained variable (Performance of residential construction housing projects). This shows that increasing stakeholder participation by one unit, it increases performance by 0.684 units. This equation is statistically significant (P-value=0.003<0.1).

4.4.2 Supervision on Performance of Residential Housing Construction Projects

Table 4.7 Descriptive statistics of Supervision on Performance of Residential Housing Construction Projects

	Percentages						
Statements	5	4	3	2	1	Mean	Std. Deviation
The qualification level, skills, and experience of the team leader in housing construction are essential in determining the level of success of the project.	11.8	37.9	25.2	16.4	8.7	4.237	0.942
Are there leadership styles that determine the success of projects?	20.8	42.6	26.1	8.4	2.1	3.614	1.321
Organized training and exchange programs by leaders determine the success of the project.	51.7	23.9	10.1	11.4	2.9	4.648	1.13
Levels of administrative skills and good communication by the supervisor are important for project sucess	22.2	40.6	1.04	13.4	22.8	4.24	0.968
The attitude of the team leader and motivation toward team members determines the success of the project.	52.7	17.6	19.2	5.6	4.9	4.732	1.435
	N=121 Av. Mean = 4.294 Std. Dev. = 1.159						

Source: Researcher (2023)

Respondents agreed that the qualification level, skills, and experience of the team leader in housing construction are essential in determining the level of success of the project (Mean=4.23, SD=0.942). The study agreed that there are leadership styles that determine the success of projects (Mean=3.614, SD=1.321). The experts strongly agreed that organized training and exchange programs by leaders determine the success of the project (Mean=4.64, SD=1.13). The participants concurred that proficient administrative abilities and effective supervisor communication are critical to the project's performance (Mean=4.24, SD=0.968). Respondents highly agreed that the team leader's attitude and motivation toward team members impact the project's success (Mean=4.732, SD=1.435).

Table 4.8 Model Summary for Supervision and Performance of Residential Housing Construction Projects

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate
1	.672[a]	0.451	0.447	8.486

Source: Researcher (2023)

The explanatory power of supervision on the performance of residential housing construction projects is displayed in Table 4.8. The study looked at how supervision affected how well residential dwelling construction projects performed. The data were fitted with a linear regression, where supervision was the independent variable and residential housing construction project performance was the dependent variable. The results indicate the adjusted $R^2 = 0.447$ thus supervision accounts for 44.7 percent changes in the outcome of the dependent variable while 55.3 percent is caused by other factors outside the model.

Table 4.9 ANOVA for Supervision and Performance of Residential Housing Construction Projects

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	7100.761	1	7100.761	98.615	<.001[b]
	Residual	8640.616	120	72.005		
	Total	15741.377	121			

Source: Researcher (2023)

ANOVA analysis of Supervision on Performance of Residential Housing Construction Projects are displayed on Table 4.9. The F-Statistic obtained from ANOVA test explains the general significance of the regression model tested at 90 percent confidence level. The results show that the calculated F-Statistic is 98.615 and a p-value<0.001, thus the model is significant. Supervision therefore accounts partly for the variation in residential housing projects' performance.

Table 4.10 Regression Coefficients between Supervision and Performance of Residential Housing Construction Projects

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	5.203	1.831		2.842	0.005
	SU	0.709	0.071	0.672	9.930	0.000

Source: Researcher (2023)

Regression study between Residential Housing Construction Project Performance and Supervision is presented in Table 4.10. This shows that increasing supervision by one unit, it will increase performance by 0.709 units. This equation is statistically significant since (p-value=0.005<0.1).

4.4.3 Budget Allocation on Performance of Residential Housing Construction Projects

Table 4.11 Descriptive statistics of Budget Allocation on Performance of Residential Housing Construction Projects

	Percentages						
Statement	5	4	3	2	1	Mean	Std. Deviation
Have there been an increase in material price in the past 5 years	61.4	22.7	9.21	4.32	2.37	4.863	1.432
Do design changes mid project determines the success or failure of projects	9.67	39.4	32.7	13.2	5.03	4.406	0.996
Project failure is as a result of poor estimation especially on project costs that gives unrealistic low project budget	47.9	31.8	14.5	2.30	3.50	4.649	0.984
Do you think delays in funds disbursement by financiers cause delays in projects	45.3	29.6	5.04	7.82	20.06	4.911	1.002
Variation in project costs leads to stringent approval procedures of additional or more funding which leads to implementation delays of the project.	23.6	15.9	37.8	12.10	10.60	3.471	0.845
Increased project budget because of contractual claims may lead to delays in project.	14.2	49.6	2.31	21.4	12.49	4.512	0.809
Project budgets are inflated due to poor financial management which reduces project costs control.	5.6	12.4	37.1	23.3	21.6	2.925	0.898
	N=121 Av. Mean = 4.248 Std. Dev. = 0.9951						

Source: Researcher (2023)

The study purposed to determine how budget allocation affected the efficiency of residential housing construction projects. The respondents strongly agreed that there has been an increase in material price in the past 5 years (Mean=4.86, SD=1.432). Design changes mid-project determines the failure or success of the project (Mean=4.40, SD=0.996). According to the study, most respondents were in strong agreement that project failure is a result of poor estimation especially on project costs that gives unrealistic low project budget (Mean=4.64, SD=0.984). The majority of respondents firmly agreed that project delays were caused by financiers' delays in disbursing funds. (Mean=4.91, SD=1.002). Respondents had a neutral view on the variance in project expenses, which resulted in rigorous approval procedures for additional or more funds and consequent delays in the project's implementation. (Mean=3.47, SD=0.845). The respondents agreed that an increased project budget as a result of contractual claims may lead to delays in a project (Mean=4.51, SD=0.809). Most respondents were neutral that project budgets are inflated due to poor financial management which reduces project cost control (Mean=2.92, SD=0.898).

Table 4.12 Summary for Budget Allocation and Performance of Residential Housing Construction Projects

	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.546[a]	0.298	0.292	9.594

Source: Researcher (2023)

The explanatory power of Budget Allocation on Performance of Residential Housing Construction Projects is displayed on Table 4.12. The study examined the influence of budget allocation on the performance of residential construction housing projects using linear regression. The results indicate $R^2 = 0.292$ which implies that budget allocation causes 29.2

percent changes in the outcome of the explained variable while 70.8 percent is due to other factors not included in the model.

Table 4.13 ANOVA for Budget Allocation

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	4696.292	1	4696.292	51.023	<.001[b]
	Residual	11045.085	120	92.042		
	Total	15741.377	121			

Source: Researcher (2023)

Table 4.13 shows ANOVA analysis of Budget Allocation on Performance of Residential Construction Housing Projects. The F-Statistic obtained from ANOVA test explains the general significance of the regression model tested at 90 percent confidence level. The results show that the calculated F-Statistic is 51.023 and a p-value of less than 0.001, thus the model is statistically significant.

Table 4.14 Regression Coefficients between Budget Allocation and Performance of Residential Housing Construction Projects

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
1	(Constant)	10.084	1.844		5.467	0.000
	BA	0.557	0.078	0.546	7.143	0.000

Source: Researcher (2023)

Table 4.14 shows regression analysis between Budget Allocation and Performance of Residential Housing Construction Projects. The resulting regression equation is

$Y=10.084+0.557X_3$. This shows that increasing budget allocation by one unit, it will increase performance by 0.557 units. This equation is statistically significant since (p-value=0.000<0.1).

4.4.4 Time Management on Performance of Residential Housing Construction Projects

Table 4.15 Descriptive Statistics of Time Management on Performance of Residential Housing Construction Projects

	Percentage						
Statements	5	4	3	2	1	Mean	Std. Deviation
Does site preparation on time enhance the success of a project	44.9	13.8	2.0	23.6	15.7	4.507	0.844
Delay of materials hinders the successful delivery of a project.	38.6	22.4	18.9	13.9	6.20	4.623	0.994
The planned time for construction is important in deciding the success of the project.	21.7	35.8	5.09	17.3	20.11	4.011	0.907
Setting targets and achieving them determines how successful a project will be.	51.4	20.4	1.03	12.1	15.07	4.791	0.865
Tracking each team member by letting them fill out documents showing how they spend their working hours.	1.02	11.1	1.92	30.5	55.5	2.326	1.228
Tracking the percentage of orders delivered late and improving thereafter determines project's success.	34.9	28.6	3.23	22.5	10.8	4.629	1.173
Reduction in the time taken to make payments between the owner and the contractor determines how successful a project will be.	30.6	34.8	7.05	12.3	15.3	3.491	0.788
	N=121 Av. Mean = 4.054 Std. Dev. = 0.9713						

Source: Researcher (2023)

The respondents were in strong agreement that preparation on time enhances the success of a project (Mean=4.50, SD=0.844). The experts were in strong agreement that delay of materials hinders the successful delivery of a project (Mean=4.62, SD=0.994). The respondents agreed that planned time for construction is important in determining the success of the project (Mean=4.01, SD=0.907). Most respondents strongly agreed that setting targets and achieving them determines how successful a project will be (Mean=4.79, SD=0.865). Most respondents disagreed that tracking each team member by letting them fill out documents showing how they spend their working hours contributed to the performance of residential house construction projects (Mean=2.32, SD=1.228). Respondents strongly agreed that tracking the percentage of orders delivered late and improving thereafter determines the project's success (Mean=4.62, SD=1.173). The study agreed that a reduction in the time taken to make payments between the owner and the contractor determines how successful a project will be (Mean=3.49, SD=0.788).

Table 4.16 Summary for Time Management and Performance of Residential Housing Construction Projects

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.680[a]	0.463	0.458	8.394

Source: Researcher (2023)

The power of time management to explain the performance of residential housing construction projects is displayed on Table 4.16. The study did a linear regression to established the influence of time management on performance of residential housing construction projects; The results indicate the adjusted R-square was 0.458. This implies that time management causes 45.8 percent changes in the outcome of the dependent variable which is performance of residential construction housing projects. The remaining 54.2 percent is caused by factors outside the model and the error term.

Table 4.17 ANOVA for Time Management and Performance of Residential Housing Construction Projects

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	7285.912	1	7285.912	103.402	<.001[b]
	Residual	8455.465	120	70.462		
	Total	15741.377	121			

Source: Researcher (2023)

ANOVA analysis on Time Management and Performance of Residential Housing Construction is displayed on Table 4.17. Projects. F-Statistic obtained from ANOVA test explains the general significance of the regression model tested at 90 percent confidence level. The results show that the calculated F-Statistic is 103.402 and a p-value of less than 0.001. This means that the model is significant hence time management explain some variance in the performance of residential construction housing projects.

Table 4.18 Regression Coefficients between Time Management and Performance of Residential Housing Construction Projects

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	6.450	1.682		3.836	0.000
	TM	0.706	0.069	0.680	10.169	0.000

Source: Researcher (2023)

Table 4.18 displays regression analysis between Time Management and Performance of Residential Housing Construction Projects. The resulting regression equation is

$Y=6.450+0.706X_4$. This shows that increasing time management by one unit, it will enhance performance by 0.706. The equation is statistically significant since (p-value=0.000<0.1).

4.4.5 Performance of Residential Housing Construction Projects

Table 4.19 Descriptive Statistics of Performance of Residential Housing Construction Projects

	Percentages						
Statements	5	4	3	2	1	Mean	Std. Deviation
Cost Management is a key performance indicator of residential housing construction projects.	36.0	43.1	2.45	13.4	5.05	3.215	0.244
Meeting Needs is a key performance indicator of residential housing construction projects.	54.5	34.6	1.01	7.05	2.84	4.116	0.101
Quality Management is a key performance indicator of residential housing construction projects.	34.7	51.2	2.09	8.50	3.51	4.385	0.017
Budget Finance is a key performance indicator of residential housing construction projects.	42.7	32.4	5.04	14.5	5.36	5.219	0.148
Completion Time is a key performance indicator of residential housing construction projects.	55.9	40.1	0.21	1.96	1.83	5.126	1.002
						N=121 Av. Mean = 4.412 Std. Dev. = 0.3024	

Source: Researcher (2023)

Most respondents were in agreement that cost management is a key consideration to performance of Residential Housing Construction Projects (Mean=3.215, SD=0.244). The experts strongly agreed that meeting needs is a key consideration to performance of Residential Housing Construction projects (Mean=4.116, SD=0.101). On Quality Management most

respondents agreed that it is a key consideration to performance of Residential Housing Construction Projects (Mean=4.385, SD=0.017). Budget Finance was found to be a major consideration in performance of Residential Housing Construction Projects as majority or respondent strongly agreed to the statement (Mean=5.219, SD=0.148). Completion time was established to be a key consideration in performance of Residential Housing Construction Projects with majority strongly agreeing to the statement (Mean =5.126, SD=1.002).

4.5 Multiple Linear Regression

Table 4.20 Multiple Linear Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.864[a]	0.746	0.737	5.847

Source: Researcher (2023)

Explanatory power of the multiple linear regression is displayed on Table 4.20. It establishes the extent to which stakeholder participation, supervision, budget allocation and time management influence performance of residential construction housing projects. The results showed that R^2 =0.737 indicating that independent variable account for 73.7% of variations in performance of residential construction housing projects.

Table 4.21 ANOVA for Stakeholder Participation, Supervision, Budget Allocation and Time Management

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11741.150	4	2935.287	85.852	<.001[b]
	Residual	4000.227	117	34.190		
	Total	15741.377	121			

Source: Researcher (2023)

Table 4.21 shows ANOVA analysis between the independent and dependent carriable of the study. The result at 90% confidence shows that the p-value was less than 0.001 and the F crucial was 85.852. This indicates a considerable linearity of the regression model.

Table 4.22 Regression Coefficients for Stakeholder Participation, Supervision, Budget, Time Management and Performance.

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	4.928	1.540		3.200	0.002
	SE	0.314	0.058	0.303	5.441	0.000
	SU	0.361	0.061	0.341	5.903	0.000
	BA	0.140	0.057	0.138	2.446	0.016
	TM	0.368	0.057	0.355	6.424	0.000

Source: Researcher (2023)

$Y=4.928+0.314X_1+0.361X_2+0.140\ X_3+0.368X_4+ \varepsilon$

Where:

Y = Performance of housing construction.

β0 = Constant Term;

β1, β2, β3 and β4 = Beta coefficients.

X1= Stakeholder participation.

X2= Supervision issues.

X3= Budget Allocation

X4=Time Management

4.6 Interpretation of Findings

Table 4.22 show the results of multiple regression analysis done by the study. Findings revealed that each indipendent variable had a different effect on the performance of residential housing construction projects in Westlands Sub-County, Nairobi County. The regression intercept's value is a positive (β=4.928) and a p-value of 0.002 which is below 0.1 significance threshold. This implies that holding all factors constant the average performance of residential housing projects in Westlands Sub County is 4.928.

The variable stakeholder participation had a positive (β=0.314), the coefficient implies that for every unit increase in stakeholder participation performance of residential housing construction projects increases by 0.314 units. The variable had a p-values of 0.000 which is below 0.1 significance threshold, thus significant. Findings of this study were in agreement with (Reinhardt & Demirkesen, 2021) who observed a positive and significant association between government projects and stakeholder involvement. The findings also concurred with (Omondi & Kinoti, 2022) who established stakeholder participation at all levels greatly influenced performance of projects that focus on road construction in Kilifi County.

Supervision had a positive (β=0.361), the coefficient implies that for every unit increase in supervision performance of residential housing construction projects increases by 0.361 units. The variable had a p-values of 0.000 which is below 0.1 significance threshold, thus significant. These findings are supported by (Onchieku & Ragui, 2019) who concluded that supervision and strategic direction had a positive effect on performance and sustainability of housing cooperatives in Nairobi County.

Budget allocation had a positive (β=0.140), the coefficient implies that for every unit increase in budget allocation performance of residential housing construction projects increases by 0.140 units. The variable had a p-values of 0.016 which is below 0.1 significance threshold,

thus significant. Findings of the study were contrary to (Aggor, 2017) who observed a positive non – significant relationship between budget and project performance in the construction industry in Ghana. Ndavi & James (2019) concluded that projects are completed successfully where budget is allocated sufficiently from start to the end. There conclusions concurred with the findings of this study.

Time Management had a positive (β=0.368), the coefficient implies that for every unit increase in time management performance of residential housing construction projects increases by 0.368 units. The variable had p-values less than 0.1 significance threshold, thus significant. These findings concure with Eigbe (2022) who established that time management had a significant positive relationship with construction projects. Their study further revealved top three time-factors that influence performance of construction projects as: inadequate resources, slow decision-making processes, and constraints of time. Findings of this study however differed with (Bitamba & Ann, 2020) who concluded that factors affecting performance of construction projects were contractor productivity, design, scheduling, contract and client management.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter details research findings summary, conclusion and recommendations of the researcher.

5.1 Summary of the Research Study

The great shift towards construction of both commercial and residential houses in Westlands Sub-County inspired the researcher to undertake this study. Most of the residential houses have not really been actualized. The objectives were investigating the influence of stakeholder participation, supervision, budget allocation, and time management on the performance of residential housing projects.

5.1.1 Stakeholder Participation and Performance of Residential Housing Construction Projects

From the study findings, stakeholder participation is a key function towards the performance of residential housing construction projects. Most experts working on the construction site incorporate the employees' attitudes and capitalize on every individual's input in designing and implementing projects. Bureaucracy in organizations hinders success however proper coordination of between project parties essentially spurs success. Additionally, the study found that co-creating projects minimize rework incidences. The study established that stakeholder participation significantly and positively influences the performance of residential housing construction projects.

5.1.2 Supervision and Performance of Residential Housing Construction Projects

The influence of supervision on the performance of residential housing projects was examined. The study established that project success was seamless when supervision and leadership were

properly executed. The study established that the skills, experience, and qualification levels of the team leader determined the success of projects. Training and exchange programs by leaders also contribute greatly to performance. The study also found that the team leaders' motivation toward team members determined the project success. There was a significant positive correlation between supervision and project performance.

5.1.3 Budget Allocation and Performance of Residential Housing Construction Projects

Regarding budget allocation, the study established that proper planning and utilization of resources increased the chances of performance of the project. The stalling of construction projects was a result of underestimating and having poor costing criteria while designing the project. The timelines of disbursing funds by financiers significantly affected projects. Delayed projects were also attributed to inflation which isn't factored into the budgeting process. Budget allocation significantly and positively influenced the performance of housing projects.

5.1.4 Time Management and Performance of Residential Housing Construction Projects

Time management influence on the performance of construction projects was examined. Findings revealed that most projects experienced delays in the delivery of construction materials which significantly affected performance. The study also found that projects that set targets and achieved them reported success. Most projects are not completed on the original or the planned schedule. The findings determined that time management was crucial in construction projects and had a positive impact on performance.

5.2 Conclusion

On stakeholder participation, the study concluded that it was necessary to co-create while designing and implementing construction projects. Failure in taking in information from various individuals or institutions that are involved in construction leads to dragging and even incomplete projects. A common understanding among the workers is also important.

According to the study, stakeholder participation has a positive and significant influence on project performance.

The research concludes that supervision plays a significant role especially when implementing construction projects. Success of a project is hinged upon leadership and a project manager's experience. The study also concludes that minimizing bureaucracies within a project, portraying positive attitudes by the supervisors to their subordinates, and designing motivation programs has direct and significant influence on the performance of projects.

The study concludes that budget allocation has direct and significant influence on the performance of construction projects. According to the study proper scheduling and costing of materials have direct influence on projet performance. The study concludes that financial resources should be disbursed on time since delays in disbursement significantly and negatively influence performance.

The study concludes that most projects are not completed at the scheduled time. The reason is that delays always occur in between the project. The materials are always not delivered on time, and the disbursements of finances are also not done on time. The study holds that time management has a positive and significant influence on the performance of construction projects.

5.3 Recommendations of the Study

5.3.1 Stakeholder Participation

The study recommends that stakeholders be part and parcel of construction projects at every stage. These stakeholders can include institutions that are also in line with construction for proper approvals, which, if not well followed, leads to stalled projects. The study also recommends that every opinion counts, even though they should be filtered to avoid mix-ups in design and implementation.

5.3.2 Supervision

The study established a significant direct relationship between supervision and the performance of construction projects. The study recommends that those who commission projects should also put into consideration the leadership or supervision aspect of it. The supervisors should also keep on learning and attending training to upscale their managerial skills to handle the ever-changing construction environment.

5.3.3 Budget Allocation

Construction projects should be banked on proper budgets. The costing of materials for construction should be done well capturing the inflation rates that may be incurred in the future. The budget should be reviewed timely to capture any developing issues within the construction space.

5.3.4 Time Management

All milestones in a construction project should be achieved within the set time. The projects should also set achievable targets and assign indicators at the same time to measure progress. The study also recommends that factors such as political and economic should be factored in when specifying time frames of completion of the project.

5.4 Recommendations for Further Studies

Stakeholder participation, supervision, budget allocation, and time management were the independent variables of the study while on the performance of residential housing construction projects was the dependent variable. Findings indicate that these planning practices influence 73.7% of project performance. These practices, however, do not exhaustively explain the reason and the extent of performance of housing projects. The study recommends that further studies should examine more practices and focus on different towns rather than Nairobi. Future studies should also not limit themselves to surveyors, engineers, and project managers.

REFERENCES

Ader, H., & Mellenbergh, G. (2014). *Advising on research methods: Proceedings of the 2007 KNAW colloquium* . Huizen: Johannes van Kessel Advising.

Adetooto, J., Windapo, A., & Pomponi, F. (2022). The use of alternative building technologies as a sustainable affordable housing solution: perspectives from South Africa. *Journal of Engineering, Design and Technology, 8*(3), 78-84.

Adnan, H., Shamsuddin, S. M., & Ahmad, N. (2012). Conflict prevention in partnering projects. *Procedia-Social and Behavioral Sciences, 35*(6), 772-781.

Alaazi, D. A., & Aganah, G. A. (2020). Understanding the slum-health conundrum in Sub-Saharan Africa: a proposal for a rights-based approach to health promotions in slums. *Global Health Promotion, 27*(3), 65-72.

Alsulamy, S. (2015). Developing a performance measurement framework for municipal construction projects in Saudi Arabia. *PhD Thesis*.

Alsulamy, S. (2022). Investigating critical failure drivers of construction project at planning stage in Saudi Arabia. *Frontiers in Engineering and Built Environment, 2*(3), 154-166.

Amoah, C., & Nkosazana, H. (2023). Effective management strategie for construction contract disputes. *International Jounal of Building Pathoilogy and Adaptation, 41*(6), 70-84.

Antipa, C. K., & Paul, S. N. (2019). Influence of stakeholders participation on performance of road projects in Kenya: A case study of road projects in Nakuru County. *International Journal of Recent Research in Social Sciuences and Humanities, 6*(2), 132-139.

Bailey , J., Bouchardie, N., & Madalena, I. (2020). *COVID-19: The Current Impact on Construction and Engineering Projects.* White & Case LLP.

Bitamba, B. F., & An, S. H. (2020). Study on factors affecting the performance of construction projects in the Democratic Republic of the Congo. *South African Journal of Industrial Engineering, 31*(1), 12-25.

Bresnen, M. (2016). Institutional development, divergence and change in the discipline of project management. *International Journal of Project Management, 34*(2), 328-338.

Buba, S. P., & Tanko, B. L. (2017). Project leadership and quality performance of construction projects. *Interenational Journal of Built Environment and Sustainability, 4*(2), 63-70.

City of Cape Town. (2018). *Municipal spatial development framework.*

Cooper, D. R., & Schindler, P. S. (2014). *Business research methods.* New York: McGraw-Hill Education.

Demirkesen, G. K., & Reinhardt, G. M. (2021). Effect of stakeholder involvement on performance of the government projects in Poland. *Journal of entrepreneurship & project management, 5*(1), 129-137.

Department of Economic and Social Affairs. (2017). World population prospects: The 2017 revision key findings and advance tables. *World Population Prospects*.

Dosumu, O., & Aigbavboa, C. (2019). An investigation of the benefits and challenges of adopting alternative building materials (ABM) in the construction industry. pp. 221-277.

Dubois, A., Hulthen, K., & Sundquist, V. (2019). Organising logistics and transport activities in construction. *The International Journal of Logistics Management, 30*(2), 620-640.

Eigbe, S., Oghomwen, B., & Ihensekhie, A. (2022). Factors affecting project performance of building construiction projects in Federal Capital Territory (FCT) Abuja, Nigeria. *Current Journal of Applied Science and Technology, 41*(35), 44-53.

Ejidike, C. C., Mewomo, M. C., & Anugwo, I. C. (2022). Assessment of construction professionals' awareness of the smart building concepts in the Nigerian construction industry. *Journal of Engineering, Design and Technology, 1*(2), 1-18.

Enshanssi, A., Mohamed, S., & Abushaban, S. (2009). Factors affecting the performance of construction projects in the Gaza Strip. *Journal of Civil Engineering and Management, 15*(3), 269-280.

Galvez-Martos, J., Styles, D., & Zeschmar-Lahl, D. (2018). Construction and demolition waste best management practice in Europe. *Resources, Conservation and Recycling*, *136*(21), 166-178.

Gamil, Y., & Rahman, I. A. (2023). Studying the relationship between causes and effects of poor communication in construction projects using PLS-SEM approach. *Journal of Facilities Management, 21*(1), 102-148.

Guerlain, C., Renault, S., & Ferrero, F. (2019). Understanding construction logistics in urban areas and lowering its environmental impact: a focus on construction consolidation centres. *Sustainability*, *11*(21), 118-128.

H. Barki, & Pinsonneault, A. (2005) A model of organizational integration, implementatio effort, and performance. *Organization Science*, *16 (2)*, 165-179.

Inganda, B. O., & Mulyungi, P. (2018). Influence of project leadership styles on project performance: A case of Fair construction company in Rwanda. *International Journal of Science and Research, 7*(11), 141-145.

Janne, M., & Fredriksson, A. (2022). Construction logistics in urban development projects-learning from, or repeating, past mistakes of city logistics? *The International Journal Journal of Logistic Management, 33*(5), 49-68.

Kabiru , J. M., & Yahaya, B. H. (2020). Can Covi-19 considered a force majeure event in the Nigrerian construction industry. *International Journal of Scientific Engineering and Science, 4*(5), 34-39.

Kim, S. Y., & Nguyen, V. T. (2018). A structural model for the impact of spply chain relationship traits on project performance in construction. *Production Planning and Control, 29*(4), 170-183.

Kothari, C. R., & Garg, G. (2014). *Research methodology: methods and techniques* (3rd ed.). New Delhi: New Age International Ltd.

Kuang, C. H., Wong, N. L., & David, M. K. (2010). *Communication mode among Malaysians.*

Lopez-Murcia, J. A., & Lora, J. (2021). Social housing in Spain: A comparative analysis of planning and policy. *Habitat International, 111*(43), 102-111.

Mambwe, M., Mwanaumo, E. M., & Nsefu, M. K. (2021). Impact of stakeholders engagement on performance of construction projects in Lusaka district. *Proceedings of the 2nd African conference on industrial engineering and operations management*, (pp. 1396-1407).

Mambwe, M., Mwanaumo, E., & Phiri, F. (2020). Construction sub-contracting policy framnework for developing local contractors capacities in Zambia. *Journal of Construction Business and Management, 4*(1), 60-70.

Meijer , F., & Visscher, H. (2017). Quality control of constructions: European trends and developments. *International Journal of Law in the Built Environment, 9*(2), 143-161.

Meijer, F. M., & Visscher, H. (2016). *Quick scan of quality control systems for building in Germany, England & Wales, France, Ireland, Norway, Sweden and Australia.* Delft: Delft University of Technology.

Molla, S., Quezon, E., & Mekonnen, E. (2020). Factors affecting the performance in the implementation of goivernment building construction projects: A case study in Bole sub-city of Addis Ababa. *Journal of Xidian University, 14*(11), 247-256.

Muhindi, S. (2023, October 24). Developer barred from putting up 512 housing units in Lavington [Review of *Developer barred from putting up 512 housing units in Lavington*]. *Star Newspaper*.

Mwakio, S., Oyoo, J. J., & Onyiego, G. (2020). Effect of project management practices on performance of public housing construction projects in Kenya: A case study of Mombasa County. *The Strategic Journal of Business & Change Management, 7*(4), 1547-1566.

Mwanaumo, E. M., & Mambwe, M. (2019). Effect of management strategies in entrenching organizational safety culture in the Electricity industry of Zambia. *Journal of Construction Business Management, 3*(1), 27-37.

Mwanza, P. W., Namusonge, G. S., & Makokha, E. N. (2020). Influence of projects stakeholders' practice on performance of construction projects in Kakmega county, Kenya. *International Journal of Social Sciences and Information Technology, 5*(9), 23-32.

Nasir, N., Nawi, M. N., & Radzuan, K. (2016). Relationship between time mangement in construction industry and project management performance. *Proceedings of the International Conference on Applied Science and Technology 2016 (ICAST'16).*

National Home Builder's Registration Council. (2020). *Promoting innovative building technologies.*

Obi, L. I., Arif, M., & Kulonda, D. (2017). Priritizing cost management system considerations for Nigerian housing projects. *Journal of Financial Management of Property and Construction, 22*(2), 135-153.

Omondi, K., & Kinoti, K. (2020). Stakeholders participattion and performance of road constructyion projects in Kilifi county, Kenya. *International Academic Journal of Infomation Sciences and Project Management, 3*(6), 274-292.

Onchieku, E. N., & Ragui, M. (2019). Effect of strategic leadership on performance of housing co-operative societies in Nairobi City County, Kenya. *International Academic Journal of Human Resource and Business Administration, 3*(5), 411-433.

Osuizugbo, I. C. (2020). Disruptions and responses within Nigeria construction industry amid COVID-19 threat. *Covenant Journal in Research and Built Environment, 8*(2), 37-48.

Oyewole , M. O., Araloyin, F. M., & Oyewole, P. T. (2019). Residents' awareness and aspiration for smart building features: the case of Okota, Lagos, Nigeria. *Nigeria Journal of Environmental Sciences and Technology, 30*(1), 30-40.

Ozili, P. K. (2020). COVID-19 pandemic and economic crisis: the Nigerian experience and structural causes. *Journal of Economic and Administrative Sciences, 7*(2), 1-30.

De Rezende, L. B., & Blackwell, P. (2019). Project management competency framework. *Iberoam. J. Proj. Manag, 10*(1), 34-59.

Santoso, D. S., & Gallage, P. M. (2020). Critical factors affecting the performance of large construction projects in developing countries; A case study of Sri Lanka. *Journal of Engineering, Design and Technology, 18*(3), 531-556.

Saunders, M., Lewis, P., & Thornhill, A. (2016). *Research Methods for Business Students.* London: Prentice Hall.

Seth, D. N., Pokharel, S., & Al Sayed, A. Y. (2018). Impact of competitive conditions on supplier evaluation: a construction supply chain case study. *Production Planning and Control, 29*(8), 217-235.

Silvius, G. (2017). Sustainability as a new school of thought in projectr management. *Journal of Cleaner Production, 166*(25), 1479-1493.

Tang, W., Deng, W., & Jiang, Y. (2020). Research on quality control of prefabricated construction of residential buildings in China. *Advavces in Civil Engineering Materials, 9*(4), 858-866.

Thomas, J., Nelson, J. K., & Silverman, S. J. (2015). *Research methods in physicalactivity* (7th ed.). Champaign, IL: Human Kinetics.

Tshivhasa, T., & Mbanga, S. (2018). Pointing innovative building technologies path through learnt experiences for sustainabvle human settlemenbts development: a case study of Thembelihle Manyamo project in the Eastern Cape Province. . *2018 conference proceedings* . Pretoria: CSIR.

Valitherm, A., & Rahman, A. (2014). Communication barrier in Malaysia construction sites. *International Journal of Education and Research, 2*(1), 1-10.

Visscher, H., Meijer, F., & Itard, L. (2016). Improved governance for energy efficiency in housing. *The International Journal of Research, Development and Demonstration, 44*(6), 552-561.

Walker, T., & Goubran, S. (2020). Sustainable real estate: Transitioning beyond cost savings. *Sustainability*, pp. 141-161.

World Economic Forum. (2016). Environmental sustainability principles for the real estate industry. *World Economic Forum*.

Yadeta, A. E., & Pandey, D. (2020). Analysis of the global impact of the pandemic (Covid-19) on construction industry: possible scenarios. *Current Trends in Civil and Structural Engineering*, *6*(7), 1-8.

APPENDIX I: RESEARCH QUESTIONAIRE

This research questionnaire is aimed at gathering information for a study on planning practices and performance of residential housing construction projects in Westlands Sub County, Nairobi County, Kenya. This study is purely for academic purposes and respondents are assured of uttermost confidentiality of information provided. Please respond to the questions as honestly and objectively as possible. Do not indicate your name anywhere in the questionnaire.

BACKGROUND INFORMATION

SECTION A: GENERAL INFORMATION

Kindly, put a mark in appropriate box.

1. Kindly indicate your gender

   Female [ ] Male [ ]

2. Please mark your age group

   18-28 yr. [ ] 29-39 yr. [ ] 40-50 yr. [ ] 51-60 yrs. [ ] Above 60 [ ]

3. Please mark your highest educational level.

   Certificate [ ] Diploma [ ] Bachelor's Degree [ ] Master's Degree [ ] PhD [ ] Other [ ]

4. Please mark your profession

   Project Manager [ ] Engineer [ ]

   Project architect [ ] Developer [ ]

5. Highlight your work experience (including previous work experience before joining this organization)

   Less than 5 yrs [ ] 6-15 [ ] 16-25 yr [ ] above 26 yrs [ ]

SECTION B: INFLUENCE OF STAKEHOLDER PARTICIPATION ON PERFORMANCE OF RESIDENTIAL HOUSING CONSTRUCTION PROJECTS

To what extent do you agree with the following statements? Please tick appropriately;

Strongly Agree=5, Agree=4, Neutral=3, Disagree=2, and Strongly Disagree=1

No	Statements	5	4	3	2	1
1.	The employees' attitude and level of participation determines success of a project.					
2.	Each one's input in designing the project minimizes inefficiency					
3.	Acquisition of permits from various regulatory board is crucial for success of housing project.					
4.	Does reduced bureaucracy in the organization determines the success of a project					
5.	Coordination of information between project parties and owners is essential in success of housing construction projects.					
6.	Would you say that when project parties and owners have common ground, the disputes reduce.					
7.	Co creation of projects reduces the incidences of rework.					

SECTION C: INFLUENCE OF SUPERVISION ON PERFORMANCE OF RESIDENTIAL HOUSING CONSTRUCTION PROJECTS

No	Statements	5	4	3	2	1
1.	Qualification level, skills and experience of the team leader in housing construction is essential in determining level of success in the project.					
2.	Are their leadership styles that determines success of projects?					
3.	Organized trainings and exchange programs by leaders determine the success of the project.					
4.	Levels of administrative skills and good communication by the supervisor is important for success of the project.					
5.	Attitude of the team leader and motivation towards team members determines the success of the project.					

SECTION D: INFLUENCE OF BUDGET ON PERFORMANCE OF RESIDENTIAL HOUSING CONSTRUCTION PROJECTS

No.	Statement	5	4	3	2	1
1.	Have there been an increase in material price in the past 5 years					
2.	Do design changes mid project determines the failure or success of the project					
3.	Project failure is as a result of poor estimation especially on project costs that gives unrealistic low project budget					
4.	Do you think delays in disbursement of funds by financiers lead to delays in projects					
5.	Variation of project costs leads to stringent approval procedures of additional or more funding which leads to implementation delays of the project.					
6.	Increased project budget as a result of contractual claims may lead to delays in project.					
7.	Project budgets are inflated due to poor financial management which reduces project costs control.					

SECTION E: INFLUENCE OF TIME MANAGEMENT ON PERFORMANCE OF RESIDENTIAL HOUSING CONSTRUCTION PROJECTS

No	Statements	5	4	3	2	1
1.	Does site preparation on time enhance success of a project					
2.	Delay of materials hinders successful delivery of a project.					
3.	Planned time for construction is important in determining the success of the project.					
4.	Setting targets and achieving them determines how successful a project will be.					
5.	Tracking each team member by letting them fill documents showing how they spend their working hours.					
6.	Tracking percentage of orders delivered late and improving thereafter determines projects success.					
7.	Reduction in the time taken to make payments between the owner and the contractor determines how successful a project will be.					

SECTION F: PERFORMANCE OF RESIDENTIAL HOUSING CONSTRUCTION PROJECTS.

No	Statements	5	4	3	2	1
1	Cost Management is a key performance indicator of residential housing construction projects					
2	Meeting Needs is a key performance indicator of residential housing construction projects					
3	Quality Management is a key performance indicator of residential housing construction projects					
4	Budget Finance is a key performance indicator of residential housing construction projects					
5	Completion Time is a key performance indicator of residential housing construction projects.					

THANK YOU FOR YOUR PARTICIPATION

DISCUSSION GUIDE

1. Do you involve different individuals in implementation of your projects? To what extent do you involve them?
2. What is the role of those involved in different parts of the project and how do they make it fail or successful.
3. Have you come across instances where you can say supervision contributed to the success of a project? Kindly explain.
4. Do you have supervisors who manage to complete projects on time than others? What do you think they have that enables this? Explain
5. To what extent do budget constraint the success of a project? Describe how budget planning plays a role in project construction.
6. Have you ever been in a situation where time targets were never met? How did you go about it?
7. Do you have any time stamps to mark your milestone while implementing a project? How do you go about it?

APPENDIX II: LETTER OF INTRODUCTION

THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

Faculty of Arts and Social Sciences

Department of Social Sciences and Development Studies

1st August 2023

The Director
National Commission for Science, Technology and Innovation
Box 30623 - 00100
NAIROBI - KENYA

RE: ANDREW BOSIRE MERABA **REG. NO. 1043258**

I am writing to introduce to you **Andrew Bosire Meraba** who is a finalist student pursuing Masters of Arts in Project Planning and Management Degree at The Catholic University of Eastern Africa, Nairobi – Kenya, and to request you to assist him to accomplish his academic research requirements.

Andrew has completed all course work requirements for this programme. However, every student in the programme is required to conduct research and write a report/thesis submitted during the final years of studies.

Accordingly, **Andrew's** research topic has been approved. He will conduct research on the following topic:

"Planning Practices and Performance of Residential Housing Construction Projects in Westlands Sub-County, Nairobi County Kenya."

Thanking you in advance for any assistance given to Andrew.

Sincerely yours,

THE CATHOLIC UNIVERSITY OF EASTERN AFRICA HEAD OF DEPARTMENT 01 AUG 2023 SOCIAL SCIENCES AND DEVELOPMENT STUDIES P.O. Box 62157 -00200, NAIROBI

Dr. Mary Mutisya
Head, Department of Social Sciences and Development Studies

APPENDIX III: NACOSTI LETTER

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **617054**

Date of Issue: **16/August/2023**

RESEARCH LICENSE



This is to Certify that Mr.. Andrew Bosire Meraba of Catholic University of Eastern Africa, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nairobi on the topic: Planning Practices and Performance of Residential Housing Construction Projects in Westlands Sub-County, Nairobi County Kenya for the period ending : 16/August/2024.

License No: **NACOSTI/P/23/28563**

617054

Applicant Identification Number

Director General
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THE SCIENCE, TECHNOLOGY AND INNOVATION ACT, 2013 (Rev. 2014)

Legal Notice No. 108: The Science, Technology and Innovation (Research Licensing) Regulations, 2014

The National Commission for Science, Technology and Innovation, hereafter referred to as the Commission, was the established under the Science, Technology and Innovation Act 2013 (Revised 2014) herein after referred to as the Act. The objective of the Commission shall be to regulate and assure quality in the science, technology and innovation sector and advise the Government in matters related thereto.

CONDITIONS OF THE RESEARCH LICENSE

1. The License is granted subject to provisions of the Constitution of Kenya, the Science, Technology and Innovation Act, and other relevant laws, policies and regulations. Accordingly, the licensee shall adhere to such procedures, standards, code of ethics and guidelines as may be prescribed by regulations made under the Act, or prescribed by provisions of International treaties of which Kenya is a signatory to
2. The research and its related activities as well as outcomes shall be beneficial to the country and shall not in any way; i. Endanger national security
    ii. Adversely affect the lives of Kenyans
    iii. Be in contravention of Kenya's international obligations including Biological Weapons Convention (BWC), Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), Chemical, Biological, Radiological and Nuclear (CBRN).
    iv. Result in exploitation of intellectual property rights of communities in Kenya
    v. Adversely affect the environment
    vi. Adversely affect the rights of communities
    vii. Endanger public safety and national cohesion
    viii. Plagiarize someone else's work
3. The License is valid for the proposed research, location and specified period.
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5. The Commission reserves the right to cancel the research at any time during the research period if in the opinion of the Commission the research is not implemented in conformity with the provisions of the Act or any other written law.
6. The Licensee shall inform the relevant County Director of Education, County Commissioner and County Governor before commencement of the research.
7. Excavation, filming, movement, and collection of specimens are subject to further necessary clearance from relevant Government Agencies.
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9. The Commission may monitor and evaluate the licensed research project for the purpose of assessing and evaluating compliance with the conditions of the License.
10. The Licensee shall submit one hard copy, and upload a soft copy of their final report (thesis) onto a platform designated by the Commission within one year of completion of the research.
11. The Commission reserves the right to modify the conditions of the License including cancellation without prior notice.
12. Research, findings and information regarding research systems shall be stored or disseminated, utilized or applied in such a manner as may be prescribed by the Commission from time to time.
13. The Licensee shall disclose to the Commission, the relevant Institutional Scientific and Ethical Review Committee, and the relevant national agencies any inventions and discoveries that are of National strategic importance.
14. The Commission shall have powers to acquire from any person the right in, or to, any scientific innovation, invention or patent of strategic importance to the country.
15. Relevant Institutional Scientific and Ethical Review Committee shall monitor and evaluate the research periodically, and make a report of its findings to the Commission for necessary action.

National Commission for Science, Technology and
Innovation(NACOSTI),
Off Waiyaki Way, Upper Kabete,
P. O. Box 30623 - 00100 Nairobi, KENYA
Telephone: 020 4007000, 0713788787, 0735404245
E-mail: dg@nacosti.go.ke
Website: www.nacosti.go.ke

APPENDIX IV: CONSENT FORM

Dear Respondent,

My name is Andrew Bosire. I am studying for my Master's (Project Planning and Management) at the Catholic University of Eastern Africa. I am conducting a study on planning practices and performance of residential housing construction projects in Westlands Sub-County, Nairobi County, Kenya.

The questionnaire's aim is to identify the planning practices applied to successfully complete housing development projects. Your information here will be handled with the utmost discretion and will be used for academic research only. We kindly request that you give truthful and sincere answers to the questions. Your ongoing involvement could assist in creating better planning processes that will be used for projects involving the building of houses and performance enhancement.

All that will be required of you if you agree to participate in this study is that you fill out the questionnaires. Your involvement in this study will remain private. Your name won't be used in any of the data, and the fully filled questionnaires will be handled with the utmost discretion. Study subjects can choose not to take part. You have the option to decline to participate.

Having understood that there is no risk to participating in this study, I hereby accept to take part.

…… ……

Signature of Participant Signature of the Respondent

APPENDIX V: ANTIPLAGIARISM CERTIFICATE

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I HEREBY CONFIRM THAT **ANDREW BOSIRE** REG NO: **1043258**, SUBMITTED A CHECK OF ANTIPLAGIARISM ON CRITICAL EVALUATION OF **PLANNING PRACTICES AND PERFORMANCE OF RESIDENTIAL HOUSING CONSTRUCTION PROJECTS IN WESTLANDS SUB-COUNTY, NAIROBI COUNTY, KENYA. A THESIS PRESENTED TO THE FACULTY OF ARTS AND SOCIAL SCIENCES IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR MASTER OF ARTS IN PROJECT PLANNING AND MANAGEMENT (MPM) AT THE CATHOLIC UNIVERSITY OF EASTERN AFRICA, KENYA.**

Verification by Systems Librarian:

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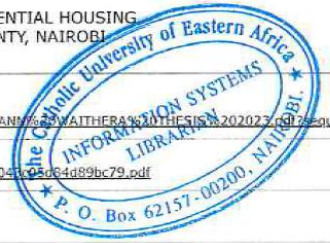
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