

**RESOURCE MANAGEMENT PRACTICES AND PERFORMANCE OF
COMMERCIAL HOUSING PROJECTS IN NAIROBI CITY COUNTY, KENYA**

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DECLARATION

This research project is my original work and has not been presented for a degree award in any other university or institution.

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The work in this research project has been carried out by the candidate under my supervision.

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DEDICATION

This project is dedicated to my wife Franciscah, my brothers Shem, Fredrick and Dickson and my sisters Emily, Rebecca and Phyllis. May God immensely bless you for your support towards my academic progress and inspiration throughout my MBA studies.

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ABBREVIATION AND ACRONYMS

ANOVA	:	Analysis of Variance
CSF	:	Critical Success Factors.
EMV	:	Earned Value Management.
FRM	:	Financial Resource Management
HFC	:	Housing Finance Corporation.
HR	:	Human Resource
HRM	:	Human Resource Management
HRMP	:	Human Resource Management Practices
KPDA	:	Kenya Property Developers Association
MRM	:	Material Resource Management
PMBOK	:	Project Management Body of Knowledge.
PMI	:	Project Management Institute.
RBV	:	Resource Based View
RMP	:	Resource Management Practices
SPSS	:	Statistical Package for the Social Sciences
TOC	:	Theory of Constraints
TOR	:	Terms of Reference.
UNHABITAT:		United Nations Human Settlement Programme
UNCTED	:	United Nations Commission for Trade and Development.
WBS	:	Work Breakdown Structure

OPERATIONAL DEFINITION OF TERMS

- Commercial Housing Project** : Completed housing projects from 2017 to 2019 meant to generate income.
- Financial resource management** : They are practices which entails project cost estimation, budgeting and controlling financial resources in a project with an objective of enhancing project's performance.
- Human resource management** : They are practices that entail human resource planning, recruiting the project team and motivating the team
- Material resource management** : It entails planning, ordering and controlling all materials and equipment needed in a project in order for them to be available when needed and in right quality and quantity.
- Project** : Refers to a temporally endeavor which is usually done with limited resources and undertaken as a unique function.
- Project Cost** : Refers to a measure of performance of commercial housing projects in terms of total funds needed to complete them.
- Project Performance** : Refers to a measure of the level of project success of a project in terms of time, cost, quality and scope
- Project Quality** : Refers to a measure of performance of commercial housing projects in terms of their ability to consistently meet set specifications or guidelines.
- Project Scope** : Refers to a measure of performance of commercial housing projects in terms of its ability to meet specific project goals, deliverables, tasks, costs and deadlines.

Project Time : Refers to a measure of performance of commercial housing projects in terms of duration it takes to complete it.

Resource Management Practices : They are practices that involves planning, estimating and acquiring resources, and controlling people and other physical resources in a project.

ABSTRACT

Housing projects have gained a lot of attention in almost every country both industrialized and developing economies. This is because it is one of the basic human needs and a source of income to the housing developers. It is one of the big four agenda to the current government of the republic of Kenya. However, many commercial housing projects in Kenya are facing performance challenges in the sense that some projects remain stalled; others get completed late beyond the planned time, reduced scope while others collapse because of poor quality. The research study aimed to find out the effects of resource management practices on the performance of commercial housing projects in Nairobi City County, Kenya. Particularly the study aimed to establish the effect of human resource management, financial management and material management on the performance of commercial housing projects in Nairobi City County, Kenya. The survey made use of descriptive research design. It targeted a population of forty commercial housing projects within Nairobi City County, Kenya completed between the years 2017 and 2020. The respondents were top housing projects managers (engineers, contractors and quantity surveyors), housing projects supervisors and housing projects owners in these selected projects. Since the 40 completed commercial housing projects distributed in four sub counties in Nairobi being targeted are manageable, a census was conducted. Contingency theory, theory of constraints and resource based theory were used as the study theories. Collected data was analyzed using both descriptive and inferential statistics. Results were presented using tables and graphs. On the human resource management this study recommends that commercial housing projects in Nairobi City County should match their human resource management strategies with dynamic environment in order to achieve projects which are completed within scope, completed within budget, completed within time and achieve quality of the houses. On financial resource management, the study recommends that Nairobi county management needs to adhere to financial resource management practices as it enhance performance of commercial housing projects. It is therefore recommended that the county should carry out financial resource management in the manner that is approved by the IFRS. On material resource management, the survey makes a recommendation that there should be a centralized material management team co-ordination between the site and the county Project management. The study drew conclusion that human resource management practices have a notable positive level of association on commercial housing projects performance in Nairobi City County, Kenya. Based on the outcomes of the research study, it can be concluded that financial resource management has a bigger influence on commercial housing projects' performance in Nairobi City County, Kenya. This study further concluded that managing of all material resources from the material planning, material ordering and material controlling stage has a positive impact on performance of commercial housing projects. The study has a suggestion that further research should be done to find out the effects of other project management practices on performance of commercial housing projects.

CHAPTER ONE

INTRODUCTION

1.1 Background of study

Housing sector is a vital part in any economy worldwide. It is among the biggest sectors in the construction industry in the world injecting to about 10% of the overall GDP (Bah *et al.*, 2018). The resources used in this area are almost 50% of the world capital on construction industry (Iacovidou & Purnell, 2016). With such an effect on the entire worldwide economy and immense resources being utilized on it, it is wise that their cost be well managed to enhance their performance. Everywhere in the world including Nairobi, Kenya has active housing projects since virtually every person and businesses requires a shelter.

Expansions in the housing projects are increasing in size, innovation unpredictability, interdependencies, and varieties in requests from customers. The commitment of the lodging business to the GDP gives a sign of the significance of the sector. The completion of housing projects in an auspicious way, in foreordained quality and scope and inside the planned expense and time is regularly a basic factor and proportion of project achievement. As of late, there has been an expanding utilization of cost the management practices as a method for improving housing projects success (Usman & Lizam, 2016). The accomplishment of any housing project is profoundly subject to its expense and fulfillment time. This has an immediate bearing on the administration of assets utilized in them. There is accessible proof from literature on the best way to utilize project for the administration of organizational procedure to set up the organization for its serious future and endurance (Kelly and Amburgey, 2018). Today, project resource management strategies are utilized as the principal

methods by which operational and vital issues are overseen in both for-profit and not-for-profit organizations.

For project developers who handle commercial housing projects, the quality and delivery of the last item to the community or customer can assume a pivotal role in improving future advancement and long term endurance of such firms. Efficient service provision alludes to creating a high caliber work that is perceived as productive and inside the set budget (PMBOK, 2017). The long-term goal of any housing project is to create great yield estimated against the customary proportions of time, cost, quality and extension (Yun, Choi, Oliveira, Mulva, & Kang, 2016). Apparatuses and procedures assume a significant role in management of project. Though, resource management practices that legitimately influence the convenient culmination and extent of lodging ventures are once in a while talked about as expenses and quality expectations regularly take a lead. According to Aalbers (2018), the global housing projects are greatly competitive, fragmented, and cyclical and regularly operates on low margins. Construction bills have been a considerable part of economic activity and area catalyst for many different sectors Mian, Sufi, and Verner (2017). This area of housing projects and the reforms it requires has dominated in contribution towards economic growth within the construction industry for many years.

A study done by Rhodes, (2015), in United Kingdom discovered that there exists disagreements in construction among the stated objectives of the project and financial budget, project duration and quality. A study by Csoknyai, and Szabó, (2016), in Ghana looked into 5 aspects as the main causes of project initiative delays. They include periodic challenges to contractors, poor contract supervision, construction resources sourcing factors, and poor technological output, material cost exaggerations and unqualified project administrators.

United Nations Commission for Trade and Development (UNCTAD, 2016) on African housing projects sector and their consequences for New Partnership for Africa's Development (NEPAD) discovered that high cost of finance procurement is a key cause for costly housing projects in Botswana, Ghana and Uganda and also attributes poor quality of some housing projects on lending rate. Secondly, it identified that there were numerous severe costly interruptions in housing projects enactment and accomplishment in many countries; this was attributed to poor project planning in terms of scope, time, quality and cost deliverables.

In Ghana, Dansoh, Frimpong and Oteng, (2017) illustrates that most housing projects have stalled due to poor management that leads to cost overrun. This increased cost has also compromised the quality of the housing project and the scope. In Nigeria, research works has examined macroeconomic variables on housing projects quality. Abidoeye and Chan, (2016) focused on the determinant of residential property quality in Lagos metropolis employing the nature and characteristics surrounding the property as dependent variables considering how it is affected by resource management practices in determining the quality of the housing project.

In the republic of Kenya Nasila and Cloete (2018), research on housing projects and the housing construction sector at large is projected to have 5% impact to the nationwide GDP and 10% in creation of employment of a country. The need for housing is estimated at 50% in accordance to Wanjala., Nduko, Mwende (2017). The figure can be taken as a very substantial input from a particular sector. It can also be projected that 10% of nations' budget is channeled to infrastructure establishment (Murugi, 2016)

Housing sector is important for the support of other economic sectors as well as the social well-being of the country; there is an effort by the current government to construct affordable houses to the mushrooming of the non-formal settlements in Kenya. Nairobi City County has not been spared in these developments especially the growth of non-formal settlements, for example, Kibera slum. Understanding the interaction of resources management and housing projects development is critical for the economic as well as social development of the county (Mwangi & Otieno-Mwembe, 2015).

1.1.1 Project Performance

Project Performance entails evaluation of project success to ensure the project is on course and working as per the outlined time, scope, financial budget limit and whether it is being undertaken according to design. They are benchmarks against which accomplishment or failure of the project will be compared ((PMI, 2017). PMBOK (2017), characterized performance markers as set of standards or benchmarks by which achievement of the housing construction can be judged. Toor *et al.*, (2017) recommended the accompanying pointers for estimating execution: venture finishing on schedule, inside spending plan and to determined quality; wellbeing, productivity, viability, liberated from imperfection, lives up to partners' desires, and negligible development debates and clashes.

Oppong, Chan and Dansoh, (2017) characterized housing construction performance pointers into two categories - accomplishment at the completion point and accomplishment at post-completion point. The exhibition markers at the completion point incorporate budgeted cost, scheduled time and project quality and these are alluded to as iron triangle. These pointers measure the productivity of project administration or project administration achievement. Then again, the project performance pointers at the post-completion point are partitioned into

product performance pointers and organizational performance pointers (Todorović *et al.*, 2015). The product (Houses) performance pointers incorporate end client fulfillment, natural effect, contractual workers' benefit, and colleagues' fulfillment, while the organizational performance pointers are the advantage to the association, that incorporates enhanced proficiency, enhanced viability, expanded benefits, diminished waste and advancement of organizational learning.

The research of DK Lim, NP Long, C Mo, Z Dong, L Cui and G Kim (2017) subdivided the idea of project accomplishment into the macro and micro perspectives. The macro perspective is concerned with the accomplishment of the first project objectives, which must be known after the project completion and at the operational stage. The pointers for estimating achievement of the project at the macro perspective are consummation on schedule, customer fulfillment, end client fulfillment and partner contentment (Kimmons & Kimmons, 2018). Similarly, the micro viewpoint of achievement of the project concerned project management achievement, that is, accomplishment at the building stage. The pointers for estimating project accomplishment at the micro argument are completion within scope, time, budget, to the predefined quality measure and safety (Kerzner, 2017b). This implies the micro perspective is concerned with project accomplishment in short run, while macro perspective is concerned with project achievement in the long run.

Moreover, Ahadzie *et al* (2018) distinguished fifteen project performances for many housing developments; they categorized them into the following segments as: environmental influence, consumer loyalty, generally budgeted cost and time limit, and quality standard. Sanvido *et al* (2016) suggested the accompanying pointers for estimating project

achievement, reliant on a participant's perspectives (customer, client, contractual worker or expert). The pointers were project finished on budget, on time and to determined quality; customer fulfillment; user fulfillment; satisfying style; item attractiveness; security; and negligible or no complains.

This evaluation along these lines noticed that success pointers for housing construction projects was past the out-of-date measures considering only scope, time, cost estimate and quality, which for the most part quantifies project management achievement; in any case, extra markers rise that incorporate end client fulfillment, partner fulfillment, security, environmental effect and few disagreements or the lack of any lawful procedures (Marcelino-Sádaba et al., 2015). With regard to these examinations, the study reviewed housing project performance in terms of Project completion within the specified scope, within the budgeted cost, within the scheduled time and the specified quality.

1.1.2 Resource Management Practices

Resource management practices include financial resources, human resources and material resources that require planning, estimating, acquiring, and controlling for successful performance of a project (Project Management Institute, 2017). These practices are key since the aid in successful execution of projects within the budget, time, quality and scope ("Critical Chain Project Management," 2014). It can as well be defined as one of the critical implements that stakeholders in a project employ to ensure that projects are fruitful (Kerzner, 2017).

It can also be referred as the process of determining best approaches for the attainment of predetermined project goals (Abrantes & Figueiredo, 2015). It's the practice where project

goals can be determined, project structure defined, whereas tools, budget and workforce are set to accomplish the set project goals while passing information about the project to the beneficiaries.

Human resource management is very critical to the successful completion of housing projects within cost, scope, budget and time since these projects will be executed by people. Having the right personnel and in a desired number is an aspect project managers need to keenly consider. This entail human resource planning, recruiting the project team and motivating the team Currently, Human Resource Management Practices (HRMP) is being transformed in firms and is progressively upholding its tactical role. HRMP is one of the areas which controls employees to either walk out of organizations or stay, commitment towards an organization, job satisfaction and therefore has an impact on better project output(Khan & Rasheed, 2015). The HRMP of a project influence improved project output and hence assist the project to develop because it will gains sustainable growth compared to the competitors.

The practice of material resource management forms another key role commercial housing managers need to consider since these projects will require construction materials and will impact on project delivery. This entails planning, ordering and controlling of all material and equipment needed in a project in order for them to be available when needed and in right quality and quantity, (Tasevska *et al.*, 2014). These material resources may include equipment and raw materials hence the importance of material management practices. The practice also incorporates knowing when critical materials will be required and when to avail them in so that not to affect the project performance of housing (Institute & PMI, 2016). Normally, two material approximation approaches exists; from down upwards and from top

downwards. Where scanty information is available, from top downwards approach is commonly applicable. Top management team of projects does it and they base their estimation on the previous similar projects. The down upwards approach, that entails each specific job organization of a project, is also known as qualitative based estimations.

Financial resources management practices entail cost estimation, budgeting and controlling financial resources in a project with an objective of enhancing project's performance (Institute & PMI, 2016). Budgets and controlling of costs of projects play a crucial role since they affect every aspect in preparation and implementation a project. Every cost is very important and should therefore be keenly monitored (Smith, 2016). Budget for a project that is professionally developed, project expenses are well controlled and it facilitates in coming up of a good and well-working cash flow. According to Shash & Qarra, (2018), inadequate cash flow that comes as a result of poor estimation and budgeting leads to adjournments in finishing the project and huge extra costs are experienced. Cost estimation should be focused on the extent of a project; the work breakdown schedule must be connected to the project schedule. Pritchard and Pritchard, (2019), indicated that due to prevailing conditions of vagueness work related to projects, buffer cost can be billed to activities that are highly likely to affect the project performance or are have high risk. For a project to grow, there need to be keen attention on methods for measuring the goal together with those for measuring financial management

In Kenya, there exists a big gap in housing. This gap is expanding each year and is commonly witnessed in big towns because of high population of low income earners. This growth in demand for shelter per year is estimated at 206,000 units for the whole country annually out

of which 82,000 units needed in big towns. In 2018, the Housing ministries approximated the official new units of houses completed and were ready to be used were 50,000 resulting into a 156,000 deficit which piled up to the 2,000,000 units of the existing shortfall. In 2019, the estimation of a further 85,000 units were included to the shortfall (CAHF 2019).

The effects of HRM, FRM and MRM on commercial housing projects performance have generally not been given a keen consideration by scholars and researchers in Kenya. A study research done by Macharia (2017) determined the impact of worldwide financial problems on the performance of financial institutions in mortgage financing to housing projects and Ndururi (2016) studied on the impact of housing projects on monetary performance of Kenyan commercial banks. This creates a gap on the research study of the effects of HRM, FRM and MRM on commercial housing projects performance, the research study aimed to address this gap.

1.1.3 Commercial Housing Projects in Nairobi City County

Commercial housing projects are housing projects that are meant to generate income to the owner either as capital gain or in terms of rental income (Rodnyansky & Darmouni, 2017). The proceeds from a commercial house are typically used to acquire, refinance, or redevelop commercial property.

According to KPDA (2018), Commercial housing projects are continually bought, sold, developed and redeveloped. This makes commercial housing investment one of the nation's most active and important business activities. Individuals are recognizing the need to build commercial houses around Nairobi with others buying homes at an early age as a worthwhile investment. However, the challenge of commercial house construction has been occasioned by high cost and inefficiency in managing these key resources.

According to Chana and Adabre (2019) the commercial houses projects experienced a great success in the years 2002 to 2007 due to low cost of capital and adoption of resource management practices worldwide, many houses were completed within budget, scope, time and quality, which encouraged commercial houses construction. The central bank promoted their financing by reducing the finance cost and commercial housing clients were able to acquire adequate finances and plan on them well. Unfortunately, this went down during the 2007 and 2008 global financial crisis which affected the world economy. There was a crash in the commercial houses sector as investors were left holding property which were uncompleted, poor quality and reduced scope housing projects as the financial plans were affected as the finance cost had gone high and project clients could not afford adequate finance as before.

Nduriri (2019) notes that there are a number of positive developments in the commercial housing market over the past few years in Nairobi Kenya. Despite the fact that the housing market for upper-and-upper-middle income earners in Kenya is becoming more dynamic, there is huge and mounting gap approximated at 150000 units per year- between existing supply and the total requirement for commercial housing in the republic of Kenya. A close examination of commercial housing projects in Nairobi City County by (Cytonn Team, 2018) on factors influencing their successful completion and their costs established that most of them do not register successful completion. They attributed this to high inflation, poor planning and execution and lack of risk management which have caused many housing projects to stall while others have been completed outside the set budget.

(Mwenda, 2011) affirm that resource management is among the vital attribute in housing projects performance. Thus, the degree of managing cost is directly linked to the degree of

commercial housing growth and performance. Looking at Nairobi, the commercial housing sector is at a critical increase in demand amidst a high number of businesses that are emerging and increase in city residents. Proper resource management is key in resolving this situation, in a city whose economic conditions are looking up. The research will aid in precipitating the role of proper resource management on the performance of the commercial housing sector.

Nairobi has been one of the cities in Africa full of activity with commercial housing projects forming a bigger part of investment. However, there has been increase in poorly developed commercial houses, KPDA (2018). Jang and Kang (2015) asserts that the performance of commercial housing projects in Nairobi has been facing great challenges.

1.2 Statement of the Problem

Commercial housing projects experience serious performance issues despite being among crucial sectors that contribute in economic growth of a nation in such areas like creation of employment, mobilizing savings, improvement of health and attracting foreign investments (Aalbers, 2018). Commercial housing projects in particular have multiplier effect to the growth and expansion of economy. In Kenya, housing projects directly add up to 14% of gross domestic product (GDP) and activates additional 6% on average in downstream costs (Musau *et al.*, 2018). Existence of housing projects assists in developing primary and secondary monetary markets. It is because of this importance that the current government has categorized it among its big four agendas. Resource management enables scarce construction resources to be efficiently utilized and thus increase chances of success (Muriithi & Waweru, 2017).

However, cases of commercial building construction projects being left incomplete and later auctioned have been witnessed with a good example being the auctioning of 54 apartment building due to high cost of completing them (Chege & Bett, 2019). Collapsing of commercial housing projects in Kenya more so in Nairobi County has become common nowadays; others have completely stalled, reduced scope while others have either been completed with poor quality standards and reduced scope or beyond the budget limit. Members of public have been condemning buildings owners, government, and the involved professionals (Nasila & Cloete, 2018) .

Despite the fact that commercial housing projects have a well laid down policy and guidelines directing their operations, many cases have clearly shown that commercial housing projects are facing serious performance challenges in terms of poor quality, reduced scope, extended timelines and cost overruns. Conflicting causes for these poor performances have been cited. According to Voice of America (2014), most of the poorly performing housing projects are in informal settlements where inspection is rarely done on them by Nairobi city county Inspectorate office thus poor performance. According to Transparency International (2017), contractors and the project team leaders embezzle project funds by colluding with suppliers to supply low-quality materials for construction of these buildings; they also get involved in bribery for the County inspection unit to avoid the inspection procedure. Others have cited gaps in registering contractors, anomalies in giving contracts, unique project failures circumstances and inadequate capital (Mwenga, 2018).

However, few studies have investigated the contribution of resource management practices to these failures in commercial housing projects. The few have touched on strategic sourcing,

schedule management, scope planning among others. The effects of HRM, FRM and MRM on the overall performance of commercial housing projects sector have not received more attention from scholars in Kenya. A thorough literature review done by Macharia (2017) on influence of worldwide financial problems that hinder the success of banks on mortgage finance industry and Ndururi (2016) did a study on effects of housing projects on the financial success of financial institutions in Kenya. This is evident that literature does not exist on the influence of HRM, FRM and MRM on the performance of commercial housing projects. This research study sought to address this gap by investigating the effects of HRM, FRM and MRM on the performance of commercial housing projects in Nairobi City County, Kenya.

1.3 Objective of the Study

1.3.1 General Objective

The general objective of this study was to establish effects of resource management practices on performance of commercial housing projects in Nairobi City County, Kenya.

1.3.2 Specific Objectives

- i) To examine the extent to which human resource management affects performance of commercial housing projects in Nairobi City County, Kenya.
- ii) To assess the effect of financial resource management on the performance of commercial housing projects in Nairobi City County, Kenya.
- iii) To evaluate the effect of material resource management on performance of commercial housing projects in Nairobi City County, Kenya.

1.4 Research Questions

- i) How does human resource management affect the performance of commercial housing projects in Nairobi City County, Kenya?
- ii) How does financial resource management affect the performance of commercial housing projects in Nairobi City County, Kenya?
- iii) How does material resource management affect performance of commercial housing projects in Nairobi City County, Kenya?

1.5 Significance of the study

This study will have significance to the housing projects managers and supervisors since it will provide them with better understanding on resource management and its implication on the performance of housing projects and enable them make correct decisions when managing housing projects. From this study, national and county governments would also be provided with empirical evidence that can be used as a basis for implementing appropriate resource management policy changes that can spur the growth of housing projects in the region. In the fields of project management, this study would provide an additional knowledge base to learners and scholars that can be used in theory development.

1.6 The Scope of the Study

This study looked at complete commercial housing projects undertaken by developers in Kasarani, Embakasi, Westlands and Langata sub counties in Nairobi City County, Kenya. This study area was chosen because there is rising commercial housing projects in these sub counties, no similar studies have been undertaken in these areas and the researcher is familiar with these sub counties hence better data collection. The research focused on project resource management practices; to be specific it covered human resource management, financial management and material management. The research intends to measure influence of

resource management on housing construction time, housing construction cost, housing construction quality and housing construction scope. This research considered housing projects completed from the year 2017 to 2019.

1.7 Assumptions of the Study

The research had the assumption of respondents being honest, cooperative, realistic (objectivity) and trustworthy in their reply to the questionnaires issued to them and that they will be accessible to answer to the research questions when needed. It was also assumed that permission was granted to meet the target group of respondents. The study further had the assumption that there was no crucial adjustment on the structure of the targeted population which could affect the usefulness this population.

1.8 Limitations of the Study

The research study suffered an obstacle of not reaching the top project managers with ease together with other project supervisors due to their busy working schedules and meetings. This limitation was overcome by getting to know their work schedules and booking an appointment with them when their schedule is not tight. The other limitation was that the housing top project managers and supervisors felt bothered and thus reluctant to give information freely and accurately. These limitations were handled by showing the respondents letter of confidentiality which assured them that their responses were only to be used in this research and were not to be shared with other parties. The limitation on busy schedules was handled by letting the housing top project managers, project supervisors and owners to give appointments on days and hours they will find time to attend me.

In this research study, there was a challenge of getting information freely from the completed commercial housing projects personnel distributed in four sub counties in Nairobi due to the believe that the top management can implement punitive measures on them for sharing important information to the outsiders. The challenge was overcome by the researcher assuring the project supervisors that the data was being sought purely for academic objectives.

1.9 Organization of the Study

This research project is structured into five chapters, chapter one comprises of the background of the study, statement of the problem, purpose of the study, research objectives, research questions, and significance of the study, scope of the study, assumption of the study, limitation of the study and the organization of the study. Chapter two contains literature review expounding on the effects RMP has on the performance of commercial housing projects, theoretical framework, conceptual framework, the explanation of the link between the factors in the conceptual framework and an outline of literature review. The third chapter covers research methodology which contains research blueprint, population of target, the technique to be used in sampling, validity and reliability, research instruments, procedure for data collection and data analysis technique. The fourth chapter discusses interpretation and presenting the research findings whereas the fifth chapter indicates a summary, conclusion and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The chapter reviews available literature about the influence of resource management practices on commercial housing projects' performance in Nairobi City County. The chapter presents the theoretical framework empirical literature review and conceptual framework, the main variables that impact on commercial housing projects performance from previous studies, empirical examination and a chapter summary.

2.2 Theoretical Framework.

2.2.1 Contingency Theory

It was advanced by Fred Fieldler in the year 1964 by applying collective ideologies of previous work applications and making use of them in current constructions. It alludes that no single method is suitable to be applied in all firms and solve organizational problems. What works well in a particular firm may not perform at all in other firms (Fielder, 1964). This model of contingency has been confirmed to reveal details of each housing building projects together with their distinctive viewpoints. In order to manage these projects properly, precise reflections requires to be put in place. In addition to that, (Donaldson, 2014) suggest that there is no single project that can be studied exhaustively without considering the context of contingency theory. The two authors contend that the thought of contingency can be applied for sustainability of projects and also to enhance their performances.

Lam and Siwingwa, (2017), reinforced this by portraying that because of the difficulties of coming with a universal budget in housing construction projects, it's difficult to use

financial management practices properly. Dynamic nature in housing construction environment impacts on the project performance on the success pointers of a project which are; budgeted cost, scheduled time, scope and quality. Making use of contingency theory will ensure that explanatory events are included through organizational knowledge that makes use of previous knowledge to act as a model for situations at present in cost budget making.

Lam and Siwingwa (2017)) study revealed contingency theory to be a cost component of an approximation to shield the vagueness in housing projects. If unexpected occurrence is experienced, extra costs spent which were not budgeted could negatively influence project performance hence the need for better financial management practices to mitigate cost overrun. Commercial housing projects' budgets should be controlled such that all areas where cost will be incurred are fully covered. Thus, contingency approximation can be considered to be a section of the financial managing procedure to cover the unexpected eventualities but should not go beyond the requirements of the project.

Contingency theory will be applicable to this research since commercial housing projects have a nature of changing and thus organizations handling these projects must come up with critical approaches in financial resource management that fit the project's locality, time and specifications. Moreover, housing projects are distinctive in a way and thus must be accomplished in accordance with their precise features and location. The understanding from this theory was applied in this study to protect the owner of the project in any areas that can lead to a higher cost than what was budgeted.

2.2.2 Theory of Constraints

It was brought forward by Goldratt. He originally came up with a book titled *The Goal* in 1984. It concentrated on the thinking handling the limitations experienced in every

processes for ensuring maximum productivity of a processes Goldratt (1984). Its development was to help firms which experience numerous constraints that hamper performance. This theory of constraints connects all the procedures that affect organization output by concentrating on weakest areas that act as bottlenecks in a firm. This theory comprises of three concepts that are related to each other. They are performance evaluation procedures, logistics and reasonable thinking.

This comprises of five stages which are chronological and focuses its energies in realizing desired output. Step one is the practice of progressive improvement that involves identifying system restraint that are referred to this study as finance (cost) (Pritchard & Pritchard, 2019). Step two is choice of best way to wisely make use of the system restraint. Step three is to lower everything else in the decision to be made. Next phase is growing the output of a restraint in order to achieve the project goal. The moment the limiting factor is defeated, the process begins again due to constant improvement (Stelson *et al.*, 2017).

The theory was applied in this study to evaluate how proper material management that are scarce and other construction equipment used in commercial housing projects can be properly acquired and utilized to enhance their performance.

2.2.3 Resource Based View Theory

This theory was founded by Barney's (1991). The RBV theory acknowledges that organizational resources are of essential impact on the execution of firms' roles. Though resources can be sorted in various manners for instance the resources that are substantial and others that are immaterial, assets that are unmistakable guides in the execution of procedures of a business while the elusive assets are the ones that may bring about serious advantages by empowering structures to join important and remarkable practices (Barney, 1991). He

additionally noticed that Resource Based View is supported by the suppositions of non-transferability of esteemed resources between firms without bringing about any expense and resources being inconsistent circulated among associations. He made a suggestion that a firm's competitive advantage edge is achieved by its ability to create value using strategies that are significantly unique from its competitors. Consequently, given these suspicions, the theory of RBV clarifies that those resources that are elusive, significant, rare uncommon additionally generally difficult to copy and have no key flawless substitutes are the ones basic in keeping up an associations' upper hand (Barney, 1991).

The tangible resources in project management may incorporate the reception of layouts, instruments, systems and classified procedures that are accessible promptly among the control. The undertaking the executives' resources that are immaterial may incorporate cooperation, authority and soon which may improve association's competitive (Kumar and Pansari, 2016). Leadership and other intangible resources that are significant, rare, and practically difficult to imitate form key assets required to have significant effect on ventures. Be that as it may, in its application, Resource Based View suffers some criticism for its absence of common understandings among researchers and professionals on the utilization of different vocabularies of project management like resources, capacities and abilities. Furthermore, the theory has continually been condemned on its testability because of failure to come up with strategies to measure intangible assets (Barney, 1991).

This theory is important in this research of resource management practices on performance of commercial housing projects since one of the crucial resources in a project and which are rare to imitate are human resources. The resource recognized by the resource based theory ought to be sorted out through undertaking assets intending to guarantee accomplishment of

project results and achieve competitive advantage of the projects. The theory was subsequently proper for this research since it assisted in recognizing how vital human resources are properly planned, acquired, and motivated can be very much crucial in achieving housing project outcomes expected by project participants.

2.3 Empirical Review

This part reviews work and research done by other scholars relative to this subject. This part thus pursues the review of prevailing academic and empirical research done in the extent of resource management on performance of housing projects. It comprises of studies conducted locally, regionally and globally.

2.2.1 Human Resource Management and Project Performance

HR Practices and project performance within the service sector was studied by (Zwikael & Unger-Aviram, 2010) in Pakistan. This research study was descriptive. The results established that human resource practices influence the performance of projects. When provided with these, employees register better performance and reduced levels of turnover. This study dwelt on the service industry in which the major resources are human resources. This makes these findings not to be valid in other sectors.

Tansley *et al.*,(2014), conducted a research study in UK about factors that determine labor productivity in project performance. They used descriptive examination and they focused on workers in a number of projects. This study established a positive correlation on HR practices and the success of projects. This research suggested that companies should practice workers involvement techniques that can assist in equipping them with relevant skills and enable them use their experiences to achieve their desires in work life. This research study focused only

on the personality factors but non-human factors in a project work like financial matters and material management practices were not put into consideration.

The role of HR practices such as technical expertise, leadership capabilities, selection, training and the style of management on project success in United States of America companies' dealing with chemical refineries was studied (Becker & Smidt, 2015). The discoveries from this study established a positive correlation that exists between these HR practices and refineries project performance. Nonetheless, the research reported that only under highly involvement systems that these HR practices have positively interrelated project performance of a firm. The study only focused on chemical refinery projects.

Homayounfard and Safakish (2015) did a research study on effects of HRM practices on workers output in terms of intention to leave, level of job satisfaction and commitment to the organization they serve in Panama. This study focused on workers in road construction sector. It was found out that a firm's HRM practices that are favourable to workers result to improved output and thus aid in developing and gaining continuous competitive advantage to the organization. This research attempted to give details on the association amongst HRM practices on the performance of an organization financially and continuous advantage in terms of competition in a changing business environment but failed to take in consideration the project success areas. The study only focused on HR practices without considering other practices that affect project performance.

Jin *et al.* (2017) studied the effect of HRMP on the success factors of water project firms in China. This study used a descriptive research approach and the results were analyzed through

inferential analysis, descriptive and correlation. They found out that methodologies of incentives are important components of HRM of a company and there in essence of combining them with other HRMP so as to complement and strengthen each other for the objective of enhancing project performance. Nonetheless, the findings contradicted with Shahzad *et al.*, (2016) study on HRMP on construction projects' performance. They discovered that motivation that accrues through a proper enticement system can lead to enhanced output of employees in construction. The study was done in china and focused on water projects while this study will focus on commercial housing projects in Nairobi City County, Kenya.

Rugenyi and Bwisa (2017) did a research study about influence of HR planning and performance of irrigation projects in Kenya. This study paid attention senior HR managers and it adopted inferential research design. It found out that planning of human resource assists firms in forecasting how change in their policy will influence what HR needs. It suggested that proper HR needs planning of any firm impacts on the accomplishment of the firm especially in fast-changing labour market. This research focused only on the HR requirements in irrigation projects and ways in which they impact firm's success. It didn't expound the findings to other projects like commercial housing projects and how they are influenced by HR planning.

2.3.2 Financial Resource Management and Project Performance

Günhan and Arditi (2007) conducted a survey on how planning of a budget and its impact on the performance of a project in USA. They made use of descriptive research design, and they focused on delayed housing projects. This study discovered a professionally made budget

monitors the expenses of a project and results to better returns in the housing projects. It also pointed out that inadequate funds leads to frequent project stalling and huge extra costs, because there is high threat for a momentary stopping of the housing project as a whole. This research did not study entirely how planning of a budget affects the performance of a project.

Khodakarami and Abdi (2014) did a study the influence of project cost in software projects output in Iran. It adopted a census and discovered approximation of project expenses and costs should be done on the basis of coverage of the project, work breakdown structure should be linked to the initial design of that project. It also discovered that a correct estimation of the entire project needs to be done cautiously for that project to attain its objective. Estimation of each activity is important since each activity can be affected differently by circumstances. Because of different environmental aspects that are uncertain in software projects, a contingency budget need to be devoted to events with greater threat and with insufficient information. The study only focused on project cost aspects in software projects without considering other resource practices.

Alam and Gühl, (2016) examined the effect of proper planning of cost on construction projects level of output. They applied descriptive research design and had a target population of the project managers. They established that proper approaches of planning of cost planning that comprise of cost budgeting and cost estimating practices have an impact on the overall performance on projects. With regard to this study, proper approaches on planning of cost are vital when it comes to finishing a particular project within the set budget. A budget to a project is important and affects it in all parts both in planning and project execution. The study suggested that tracking of project expenses is very important and critical for several

project jobs and on the overall cost of the entire project. Though, this study didn't give the level of association amongst performance of a project and planning of cost.

Auma (2017) conducted a research on factors influencing achievement of various projects involved in construction in Kenya. Descriptive and Quantitative investigation approach was used in this study that had a target population consisting of projects involving housing construction in Kenya. They used questionnaires to gather data that comprised of likert kind of questions. They analyzed data with the use of descriptive as well as inferential statistics. This research found empirical evidence on poor quality budgets was that of the 40.912% of the projects deteriorated on budgeted cost up to about 20.1%, whereas 53.551% of the projects had deteriorated on budgeted cost to the extent between 21% to 50% and 4.551% of the projects were completed above the budget to the extent of more than 50%. It is clear that budgeting positively affected the construction project performance but the study only focused on budgeting and performance of residential housing projects.

Mwenda (2012) did a research survey concerning the influence of financial planning on geothermal projects performance in Kenya. Descriptive survey design was employed and it focused on power generating projects in rift valley. He discovered that level of literacy, way of life and financial position are the key management factors that influence the geothermal projects. Even though a number of many lower level staff have minimal authority in their work stations, they have a duty on a given area where they can formulate resolutions on and this is a challenge because it was not factored when this study was done. Geothermal firms are mostly flat and authority is widely allocated to operational managers. Upper level managers are as well associated with this in an organization and may influence how financial

resources are put into use. This study only focused on geothermal projects without considering effects of financial planning in commercial housing projects.

2.3.3 Material Usage Management and Project Performance

(Ren et al., 2011) did a survey on material handling in mining the physical infrastructure in UK. It used a Descriptive research analysis and it was discovered that a lot of Just-In Time benefits on cost are derived during high inflation resulting to great rise in the cost of holding stock of materials. It suggested that companies should be able to focus on planning of materials required, and the time they are required. The study didn't show evidently the level of association that exist between material consumption and the performance of a project. The study only focused on materials and performance of construction projects.

Ren *et al.*, (2011) did a survey on effects of planning of materials on project performance on a number of agricultural organizations. It focused on large scale agricultural projects that have taken long to be completed in London. This survey discovered that the management of a project has the main objective attaining the level of materials the financiers had projected towards that project. With this study, these expectations can be articulated in three groups; projects producing favored performance with least anomalies, projects producing desired outcome within the anticipated budget, project producing desired outcome contained in the stipulated time. Nonetheless, the study failed to contemplate a lot of other factors prevailing and trying to take projects out of their desired outcome.

Kangwana and Dutches (2015) studied project cost control procedure and the impact it has on project performance. It made use of descriptive research approach. This survey focused on

the projects within Mwanza, Tanzania. This survey concluded that control of cost notes areas that need remedial including activities, cost budgets and project duration, and measures of project performance that can cause doing well in project execution and attainment objectives in a project. This survey also established that a plan should consider human resources, tools, resources, amenities and other items that are important in ensuring timely completion of a project. Allocation of resources and making plans on a timely manner will not always give an assurance that the expected objective will be attained. The unanticipated issues arise in between the project life no matter how intense the process of planning has been. The project focused on projects within MwanzaTanzania only.

Sanchezz and Hayas (2018) studied impact of material management on project delivery. He used descriptive analysis. They discovered that Materials management is made challenging by price fluctuations, materials shortages, damage and wastage, delays in supply and lack of storage space. Consequently, they recommended on adopting ICT-based method in managing materials on construction projects. They further explored the ICT techniques presently being used on construction projects. Proper management of the materials used in construction influences the chances of overall project success in construction sector on the basis of productivity, project duration, cost and quality. Wastage of materials should as well be reduced during construction so that profit in construction companies can be maximized. The study only recommended on ICT-based approach as a better way of managing construction materials thus overlooking other material management practices like proper material planning, ordering and controlling.

2.4 Summary of Literature Reviewed and Research Gaps

Table 2.1 Summary of Literature Reviewed and Research Gaps

Author	Purpose	Major Findings	Research Gap
Zwikael & Unger-Aviram, 2010	HR Practices and project performance within the service sector	The results established that human resource practices influence the performance of projects	This study dwelt on the service industry in which the major resources are human resources
Tansley et al.,(2014)	Factors that determine labor productivity in project performance	This study established a positive correlation on HR practices and the success of projects	This research study focused only on the personality factors
Becker & Smidt, 2015	The role of HR practices such as technical expertise, leadership capabilities, selection, training and the style of management on project success	The discoveries from this study established a positive correlation that exists between these HR practices and refineries project performance.	The study only focused on chemical refinery projects.
Homayou nfard and Safakish (2015)	study on effects of HRM practices on workers output	It was found out that a firm's HRM practices that are favourable to workers result to improved output	The study only focused on HR practices without considering other practices that affect project performance.
Jin et al. (2017)	Effects of HRMP on the success factors of water project firms.	They found out that methodologies of incentives are important components of HRM and together with other HRMP enhance project performance.	The study was done in china and focused on water projects while this study will focus on commercial housing projects in Nairobi City County, Kenya.
Rugenyi and Bwisa (2017)	Influence of HR planning and performance of irrigation projects in	They found that proper HR needs planning of any firm impacts on the accomplishment of its	This research focused only on the HR requirements in irrigation projects and

	Kenya.	objectives	ways in which they impact firm's success. It didn't expound the findings to other projects like commercial housing projects
Günhan and Arditi (2007)	Planning of a budget and its impact on the performance of a project	This study discovered a professionally made budget monitors the expenses of a project and results to better returns in the housing projects	This research did not study entirely how planning of a budget affects the performance of a project.
Khodakar ami and Abdi (2014)	Influence of project cost in software projects output	It also discovered that a correct estimation of the entire project needs to be done cautiously for that project to attain its objective.	The study only focused on project cost aspects in software projects without considering other resource practices.
Alam and Gühl, (2016)	Effects of proper planning of cost on construction projects level of output.	They discovered that proper approaches on planning of cost are vital when it comes to finishing a particular project within the set budget	The study didn't give the level of association amongst performance of a project and planning of cost.
Auma (2017)	Factors influencing achievement of various projects involved in construction in Kenya	The study found out that proper budgeting positively affected the construction project performance	The study only focused on budgeting and performance of residential housing projects.
Mwenda (2012)	Influence of financial planning on geothermal projects performance in Kenya.	He discovered that level of financial literacy and financial position are the key management factors that influence the performance of geothermal projects	This study only focused on geothermal projects without considering effects of financial planning in commercial housing projects.
Ren et al., 2011	Material handling practices in mining the physical infrastructure in UK	It suggested that companies should be able to focus on planning of materials required, and the	The study only focused on materials handling practices on performance of

		time they are required.	construction projects
Ren et al., (2011)	Effects of planning of materials on project performance on a number of agricultural organizations.	This survey discovered that the management of a project has the main objective attaining the level of materials the financiers had projected towards that project.	The study failed to contemplate a lot of other factors that affect projects from achieving their desired outcome.
Kangwana and Dutches (2015)	Project cost control procedure and the impact it has on project performance.	This survey concluded that control of cost detects areas that need remedial including activities, cost budgets and project duration, and measures of project performance	The project focused on projects within Mwanza, Tanzania only.
Sanchezz and Hayas (2018)	Impact of material management on project delivery	Proper management of the materials used in construction influences the chances of overall project success in construction sector on the basis of project duration, cost and quality.	The study only recommended on ICT-based approach as a better way of managing construction materials thus overlooking other material management practices like proper material planning, ordering and controlling.

Source: Research Data (2020)

2.5 Conceptual Framework

Oppong, G. D., Chan, A. P. C., and Dansoh, A.(2019) characterize a concept being a theoretical or general thought gathered or got from explicit examples. It is the thing that exists in the mind as a researcher. The researchers further characterize conceptual framework as thoughts which have been widely sought and standards derived from important areas of

enquiry and incorporated to design a consequent introduction. The objectives of a conceptual framework are triple. Firstly, to portray existing practice, second, to endorse future practice; and thirdly, to characterize key terms and basic issues. A conceptual framework means to comprehensively characterize various key terms and ideas that can be utilized in recognizing and discussing the issues.

The aim of the conceptual framework designed for this study is to offer assistance the person doing the research to come up with consciousness and know how resource management practices has affected commercial housing projects' performance. This framework has been adopted for its importance as a device to assist the study researcher in coming up with meaningful conclusions. The conceptual framework was therefore based on independent and dependent variables. Figure 2.1 show the conceptualized association among these variables. The conceptual framework shows how variables interact in a diagram format.

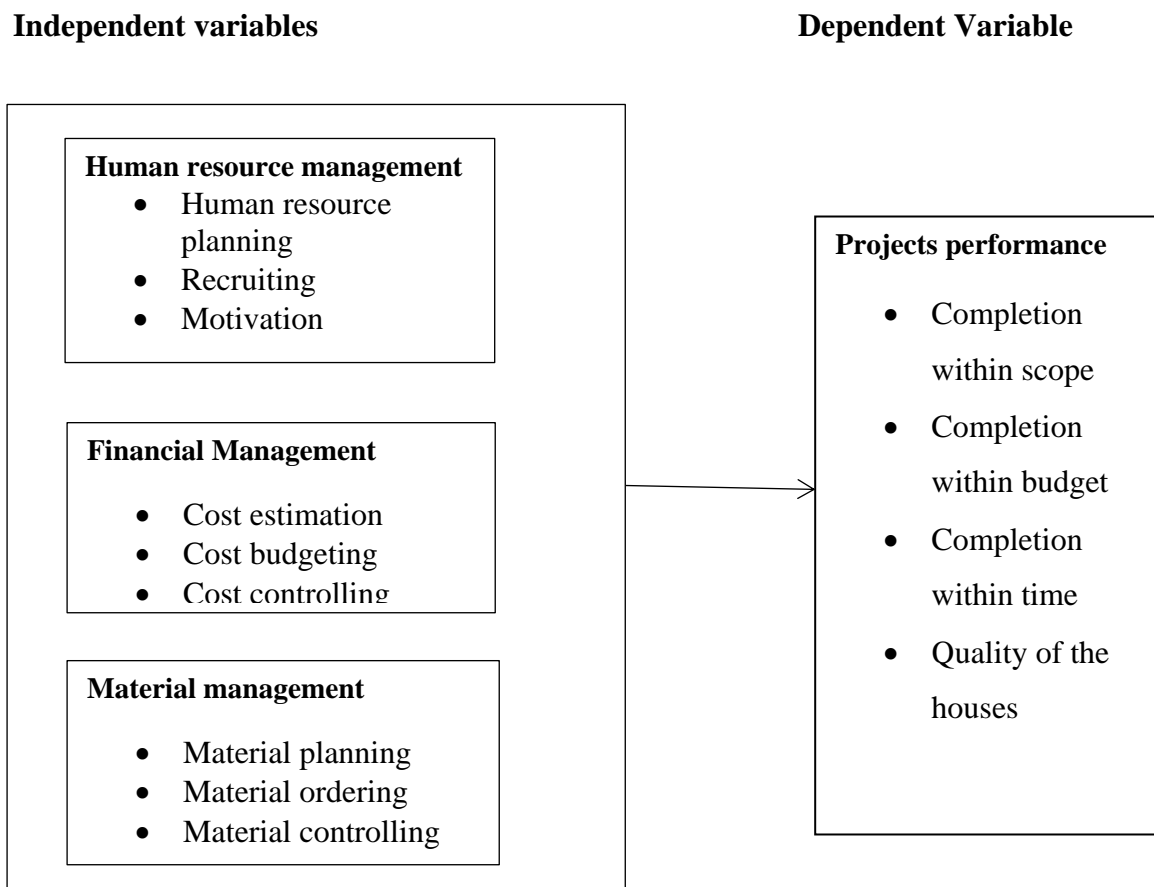


Figure2.1: Conceptual framework

Source: Author (2020)

From figure 2.1 above, dependent variable is performance of commercial housing projects which was considered in terms of completion within scope, budget, scheduled time and predetermined quality. Resource management practices are the independent variable and were considered in terms of human resource management, financial management and material management.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses procedures of application in this research so that adequate coverage of the targeted goals of this study is met. Research procedure covers the research design, target population, sample and sampling techniques, research instruments, validity and reliability of the instruments, data collection procedures and how data was analyzed.

3.2 Research Design

Research design involves precise techniques for gathering and examination data in order to make informed suggestions on the field regarding study (Skinner, 2016). A research design guarantees that the investigation is significant to the issue and that it is an economical procedure for obtaining data (Shipworth & Huebner, 2017). It alludes to the arrangement the analyst expects to utilize to create answers to the examination that addresses dependent variable in the study objectives and the research problem.

The study employed descriptive research design. J. Skulmoski, T. Hartman, and Krahn (2017) explains descriptive research as a research plan that does not give the researcher any power on the factors and it permits the science to give the relationship between the variables keeping minimal interference on them. The choice to use descriptive study approach was favored because this survey will focus on the way things are as there will be no variable to be manipulated. Descriptive study is concerned with determining the relationship between variables (Shipworth & Huebner, 2017). The design is favored because of its capability of minimizing biasness and increase reliability of the results through random selection of

housing projects owners and a well-designed research protocol that explicitly outline data collection and analysis.

3.3 Target Population

It indicates the whole gathering of people or items to which researchers are keen on making conclusion at the ends. The target Population incorporates an assortment of objects, people or things from where samples are chosen to signify the general population conclusion (Story & Tait, 2019).

The unit of analysis was 40 almost to be completed commercial housing projects distributed in four sub counties in Nairobi as follows; 14 projects in Kasarani, 8 projects in Westlands, 10 projects in Langata and 8 projects in Embakasi which were shared equally between Kimisitu and HFC. Completed projects were preferred since their performance can be measured based on predetermined specifications (Bah et al., 2018).

This study targeted 100 respondents who were technical staff in the projects across the four sub counties. These respondents were selected since they were deemed influential in housing project delivery. Secondly they own adequate knowledge on completed commercial housing projects within Nairobi County and their experiences in housing project performance hence were used as the population of target as indicated in Table 3.1

Table 3.1 Target Population

Sub County	Number of projects	Technical Staff	Percentage
Kasarani	14	35	35%
Westlands	8	20	20%
Lang'ata	10	25	25%
Embakasi	8	20	20%
Total	40	100	100%

Source: Knight Frank (2018)

3.4 Sampling Design

Sampling can be said to be the procedure where the elements in the population of target which formed part of a certain study are chosen to form a sample that will represent the entire population (Geteria, 2016). Because the population size is controllable, census on the entire forty projects was done.

3.5 Data Collection Instruments

Questionnaires which were self-administered were employed to gather data. A questionnaire is an instrument used for examination containing a number of inquiries with the aim of collecting data from respondents (Nardi and Nardi, 2018). Semi structured self-administered questionnaires were utilized since they gave a moderately modest, quick and proficient method of obtaining considerable amount of data given a big sample of respondents. Data can

be collected faster since the researchers need not to be there when the respondents are filling the questionnaires. They are likewise helpful for large populaces (Trochim, 2016).

The questionnaires comprised 5 parts with part A designed to collect data concerning the background of the respondents, part B was designed to collect data concerning human resource management, part C to collect data concerning financial management variable, part D to collect data concerning material management variable and part E to collect data concerning the dependent variable; performance of commercial housing projects. Structured questions adopted a likert scale in which the respondents rate the questions according to their level of acceptance. Semi structured questionnaire was used in order to restrict the participants to giving only the relevant information while at allowing them a chance to express their personal views that helped analyze the influence the independent variables have on the dependent variable.

3.6 Data Collection Procedure

Letter of introduction was requested from Kenyatta University which acted as an introduction to the respondents. Permission was sought from commercial housing projects in the selected areas within the selected sub counties in Nairobi City County to carry out the research. With the help of two assistants, questionnaires were distributed to project managers, Kimisitu and HFC relationship managers and project owners which were picked after two weeks from the distribution date.

3.7 Pilot Study

To diminish the deficiencies and guarantee viability of the questionnaire, a pre-test was done on an alternate sample of comparable attributes to the real sample (Hintze, 2015). According to Viechtbauer *et al.*, (2015), the respondents in the pre-test are supposed to be between 1%

to 10% of the sample size. A total of four commercial housing projects in Mavoko Sub County in the neighboring Machakos County were used to conduct the pre-test. The figure was derived from 10% of the sample size i.e. $(0.1 * 40 = 4)$. The four commercial housing projects were obtained through simple random sampling where respondents from the four commercial housing projects were used for testing. Piloting helped the researcher to build up acceptable and error free research instrument. It likewise helped with expelling ambiguities of the inquiries and only focused on evaluating the potential answers and the investigation of information to be gathered.

3.7.1 Validity Test

Validity is how much a test measure what it has been designed to measure. It can be said to be how far the variables in the study were accurately represented using the data collected (Morse *et al.*, 2017). When validity is high, the derivations made dependent on such information will be exact and significant. Nicolella, Torres-Ronda, Saylor, and Schelling, (2018), assert that a unit of measurement is thought to be valid if it gauges whatever it has been planned to gauge. This research ensured content validity test in ensuring the research instrument is designed in modest language the participants could simply comprehend and also ensure the questions are clear. Improvement in content validity shall be achieved through consultation with a data collection expert. It also enhanced through constant consultation with the supervisor. The pilot study results also enhanced content validity. Validity of a data collection instrument can be improved through expert judgment (Taherdoost, 2018).

3.7.2 Reliability Test

Reliability can be characterized as the level to which a research instrument, test, perceive or any estimation system, delivers similar outcomes on repetitive trials (Taherdoost, 2018). This is about how consistent does the research instrument give comparable outcome (Patten, Newhart, Patten, and Newhart, 2018). Since the study was a census on all the forty selected projects, a pilot trial of four completed commercial housing projects in Mavoko Sub County in Machakos County was used to assess the reliability of the questionnaires. For reliability of the questionnaires to be examined, internal consistency strategies employed Cronbach's Alpha. This is a value with a range of 0 and 1. Reliability increases when its close to 1. An alpha value of 0.7 is the usually the acceptable parameter which demonstrates recommended reliability of the instrument (Salkind, 2015).

3.8 Data Analysis

This is the procedure of methodically using scientific or reasonable procedures in describing and illustrating, condensing and recapping, and evaluating facts. For this study, content analysis was employed in analysing data that was of qualitative nature while inferential and descriptive statistics was used in analyzing data that was of quantitative nature. For descriptive analysis, frequencies, means, standard deviations and percentages were included. For inferential statistics, regression and correlation analysis were included. Data processing was undertaken through coding the completed questionnaires, entry into SPSS version 21 and then be checked for accuracy of data input.

To achieve the objectives set forth for this research, several analytical tools were applied. ANOVA was applied in measuring the models' goodness of fit and measure the overall significance of multiple regression model based on a 5 % level of significance.

Multiple-regression was an appropriate method of analyzing the relationship between the multiple variables requiring simultaneous comparison. In predicting the changes on the dependent variables because of variation on the predicting variables, multiple linear regression was adopted. The analysis of multiple linear regression analysis was adopted in order to predict the value or effect experienced on the dependent variable as a result of change in the independent variables.

The multiple regression model took the form below:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where:

Y = Performance of commercial housing projects in Nairobi City County, Kenya (dependent variable)

X₁ = Human resource management

X₂ = Financial resource management

X₃ = Material resource management

β₁ - β₃ = Regression coefficients for each independent variable

ε = error term

3.9 Ethical Considerations

Application of principle of voluntary participation that requires respondents not to be forced into participating in the study was adopted. The study did not put participants in a situation where they are at risk of harm as a result of their participation. The questionnaires that were used as data collection instrument did not contain a section to reveal the identity of the respondent. Respondents were assured that the data was purely meant for academic purpose.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSIONS

4.1 Introduction

This part has a discussion on explanation and presentation of research results. An examination on the effects of RMP on performance of commercial housing projects in Nairobi City County, Kenya is presented. This section provides main outcomes of this study as well.

4.2: Response Rate

Collection of research data was done using questionnaires. Out of the one hundred (100) questionnaires issued to 40 Project managers, 20 project supervisors and 40 clients/owners of completed projects, seventy seven (77) questionnaires were filled correctly and received back representing a feedback rate of 77% and a non-reply rate of 23% as presented in table 4.1. This rate of feedback is taken to be adequate as per Salkind N. (2013) who gives an assertion that a feedback rate of 50% and above is adequate for examination and recommendation.

This feedback rate was high since the researcher had pre-determined participants in the mind and made use of questionnaires that were self-administered. The researcher was also available to answer and clarify any queries the respondents had.

Table 4.1 Response Rate

Response rate	Frequency	Percentage
Returned Questionnaires	77	77%
Not Returned Questionnaires	23	23%
Total	100	100%

Source: Field data, (2020)

4.3 Pilot Test Results

4.3.1 Validity Analysis

In determining how valid data collection tools, the researcher issued questionnaires to 4 respondents from the selected four commercial housing projects in Mavoko Sub County in the neighboring Machakos County. The participants were required to mark if the content captured in the questionnaires address the effects of RMP on performance of commercial housing projects. Response content received from the participants was compared with the study goals and ranked using a scale of 5 (Strongly agree) to 1 (Strongly disagree). The incorporation of content validity index helped establish validity through summing up entire elements ranked by a range of 3 to 4 by respondents then dividing the entire figure by the entire elements in the questionnaires. The pilot study coefficient from the data collected was calculated with the help of SPSS. Since the validity coefficient index was over 0.75, the questionnaires were considered as suitable instruments for research in this study.

4.3.2 Reliability Analysis

In determining how reliable the questionnaires were at a tool for collecting data, Cronbach's alpha was calculated and analyzed using SPSS to determine internal consistency of the tool. Questionnaires from 4 respondents from four completed commercial housing projects in

Mavoko Sub County in Machakos County made up our Pilot study comprised. In accordance to Shirish, (2012) Cronbach's alpha forms a reliability-testing coefficient that gives impartial prediction of collected data being interpreted.

The table 4.2 gives an indication of the data gathered being reliable because data received Cronbach's alpha figures between 0.761 and 0.861 on independent variables that were over 0.75. This is in accordance to Shirish (2012) where a value greater than 0.75 gives an indication that the collected data had an internal consistency that is moderately high and is indiscriminative to give comments of the entire participants in the target population on the effects of RMP on performance of commercial housing projects.

Table 4.2: Reliability Results

Constructs	Cronbach's Alpha Values	Comments
Human resource management	0.838	Acceptable
Financial resource management	0.861	Acceptable
Material resource management	0.833	Acceptable

Source: Field data, (2020)

4.4 Background Information Analysis

The study found it useful to gather background information about the participants that included gender, educational level, age, and experience of work.

4.4.1 Distribution of Respondents by Gender

The study chose to incorporate the participant's gender in order to establish if gender parity was considered in the positions given to the respondents. Results of the findings of this study are given in figure 4.1

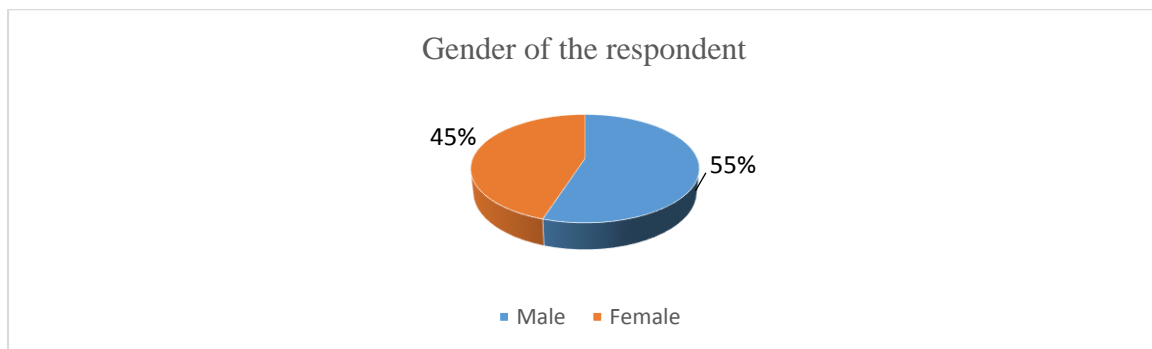


Figure 4.1: Gender of the respondent

Source: Field data, (2020)

The results indicate that a greater part of the respondents were of male gender with a representation of 55% whereas 45% were of female gender. From this data it can be deduced that males are the major players in commercial housing projects in Nairobi City County, Kenya. Since the gap was not big, it can be said that commercial housing projects in Nairobi City County, give similar chance to both male and female workers.

4.4.2 Distribution of Respondents by Age

This research study considered the participants age. Their feedback is as indicated in figure 4.2

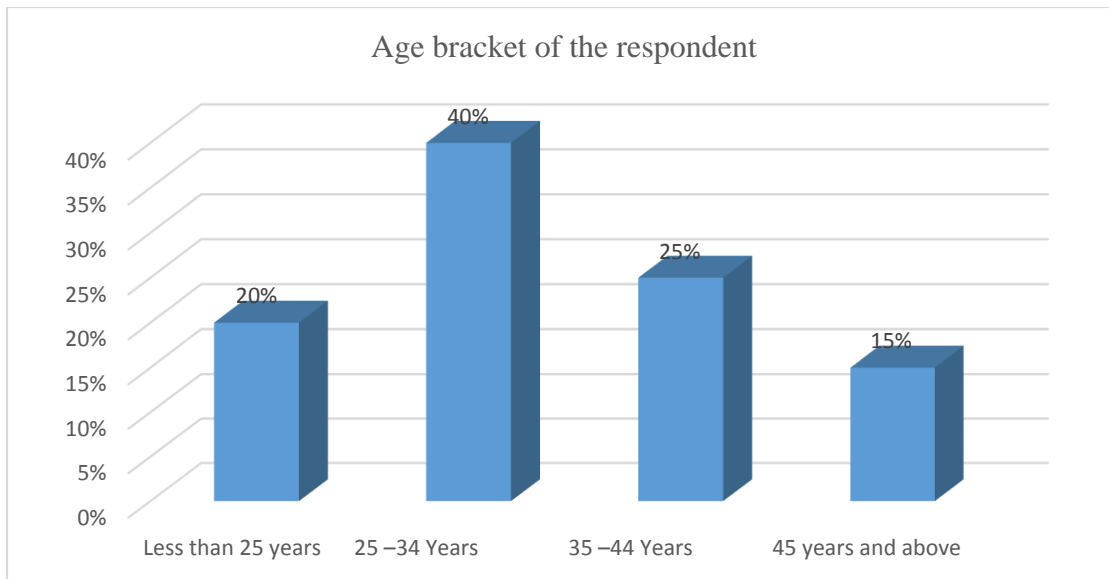


Figure 4.2: Age bracket of the respondent

Source: Field data, (2020)

The findings pointed out that greater part of the respondents (40%) were between 25 and 34 years while 25% were between 35 and 44 years of age. It was further found out that 20% were less than 25 years while 15% were above 45 years.

Jenster and Hussey (2011) did a study to determine organizational performance in firms in connection with employee age and their efficiency in delivering service. They gave a suggestion that positive association exists between worker's age and their performance. They gave an argument indicating the more advanced an employee is in terms of age, the better the output in the job until a particular age is attained where the performance will start going down.

The finding thus indicates that the research participants were of good age to give important and needed feedback that relates to effects of RMP on performance of commercial housing projects. This point is also strengthened by the reality that some of the research participants

had participated in commercial housing projects for extensive duration hence knowledgeable about housing projects' performance.

4.4.3 Distribution of Respondents by Level of Education

This research study found it important to find out participant's education level so that to confirm if professional and academic qualification has an effect on RMP on performance of commercial housing projects. Research outcome is as indicated in figure 4.3

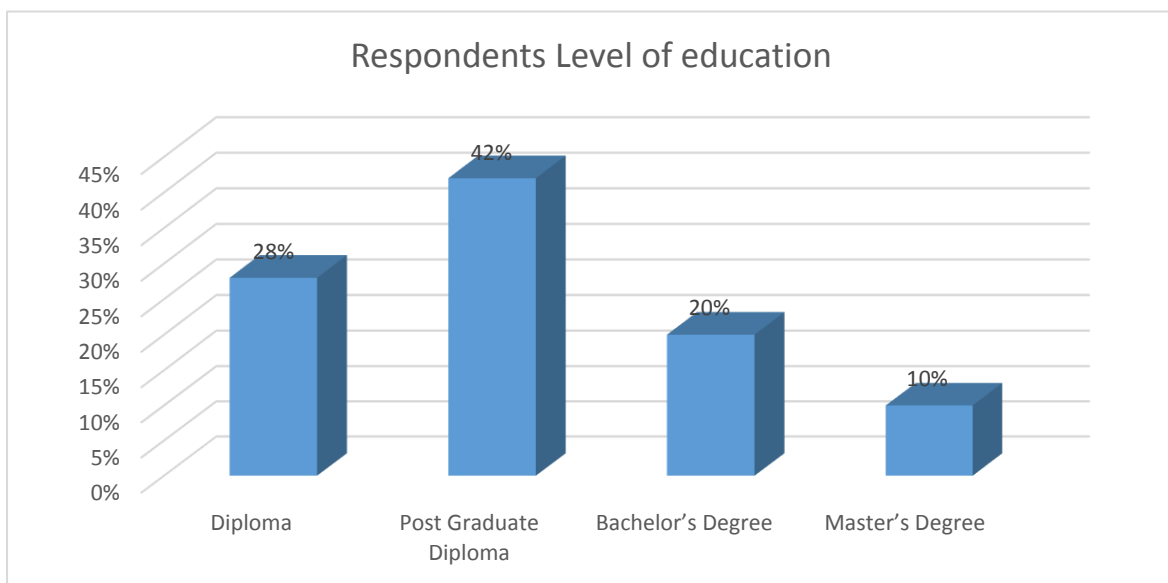


Figure 4.3 Respondents Education Level

Source: Field data, (2020)

According to the findings, majority (42%) were post graduate diplomas while 28% of the participants showed that they had attained diplomas in their fields of academic study. The bigger number of respondents with a minimum college level of education can be because this research study focused on Project managers, clients/owners and project supervisors. The individuals who occupy the highlighted positions were required to attain a post secondary

qualification. This study also showed that there were 20% bachelor degree holders while (10%) had attained master's qualifications.

This study outcome is in agreement with Ngulube and Tafor (2016). They found out that every organization had their unique structure of organizational that suits its cost budget to give support to the business functions and those individuals who are placed on different roles must have attained necessary academic and professional qualifications for that position. Study findings indicate that greater part of the study participants had achieved the level of education required to occupy the job position they hold thus it can be concluded that the level of education has effects of RMP on performance of commercial housing projects.

4.4.4 Respondents Work Experience

It was important for this study to know the years of service the participants had in commercial housing projects. These results are in figure 4.5

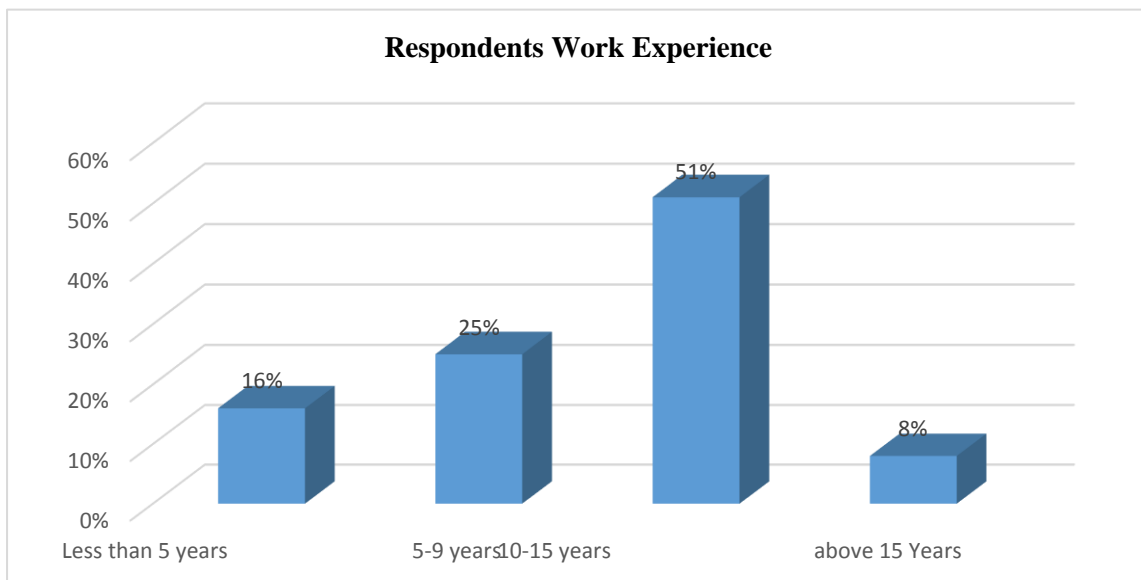


Figure 4.4: Respondents Work Experience

Source: Field data, (2020)

Going by these research results, a bigger part (51%) of the participants had 10 to 15 experience years where as 25% had experience of 5-9 years. 16.1% of participants had experience of 5 years and above, 8% of the respondents had an experience above than ` 15 years. A study on association between management and performance, (Maria, 2013) established that management rely to a large extent on management experience.

The study findings thus indicates that a greater part of research participants had necessary work experience and consequently they had enough skills and information on matters relating to commercial housing projects' performance.

4.5 Descriptive Statistics

This section of the study sought to look into details on specific objectives of the study. This specific objectives of the study were to; determine the effects of HRM, FRM and MRM on the performance of commercial housing projects in Nairobi City County, Kenya. The specific objectives were analyzed as follows.

4.5.1 Human Resource Management and Project Performance

One of the research objectives was to find out how far participants were in agreement / disagreement with statement about the effect of HRM on commercial housing projects' performance. The level of agreement / disagreement on this statement was determined using a likert Scale of 1-5 in which: 5= strongly agree, 4= agree, 3= Neutral, 2=Disagree, and 1=strongly disagree. These results are as presented in table 4.3

Table 4.3: Human Resource Management and Project Performance

Parameter	N	Mean	Standard Deviation
Availability of competent personnel leads to better quality and timely project performance	77	4.37	.63
Three point estimating is ideal in dynamic housing projects environment	77	3.89	.89
Top project managers should seek estimation assistance from experienced project supervisors	77	4.11	.80
Analogous estimates may give inaccurate figure	77	4.21	.89
Overall	77	3.99	1.04

Source: Field data, (2020)

Table 4.3 results indicate that research respondents had a strong agreement that HRM practices had an effect commercial housing projects' performance in Nairobi City County, Kenya as indicated by an overall mean of 3.99 and a standard deviation of 1.04. It was established from the results that the participants were having similar opinion that that the availability of competent personnel leads to better quality and timely project performance with mean of 4.37 and 0.63 as the standard deviation. On three point estimates, respondents found it was ideal in dynamic housing projects environment with a mean of 3.89 and 0.89 as standard deviation. It was established that top project managers should seek estimation assistance from experienced project supervisors this had a mean of 4.11 and a standard

deviation of 0.8. Based on analogous estimates, many had an opinion that it gives inaccurate figure with mean of 4.21 and standard deviation of 0.89.

The results are in line with the research findings of Tansley *et al.*,(2014). He did a survey on what determines labor output in project performance. They used descriptive approach of analysis and focused on workers in a number of projects initiatives. This research survey established existence of a positive correlation among HR practices and performance of projects. This research gave a suggestion of worker participation program which should be embraced by workers in companies that will equip them with ability to focus on their work lessons and experience for the attainments of their future desires.

4.5.2 Financial Resource Management and Project Performance

This survey objective was meant to establish how far the respondents were in agreement on statements concerning effect of FRM on commercial housing projects' performance in Nairobi City County, Kenya. It was determined using a Likert Scale of 1-5 in which: 5=strongly agree, 4=agree, 3=Neutral, 2=disagree, and 1=strongly disagree. These findings are shown in table 4.4 below.

Table 4.4: Financial Resource Management and Project Performance

Parameter	N	Mean	Standard Deviation
Most project managers use cost budgeting as a of tool of project cost management	77	4.07	.92
Without a budget, top project managers are likely to misuse allocated funds by exaggerating the costs	77	3.85	.13
Housing projects budgets require expert judgment for them to be realistic	77	3.59	1.19
Contracted projects managers mostly rely on historical relationships in coming up with a budget	77	3.89	.85
Lack of well-defined budget leads to impulse buying that makes resources expensive	77	4.09	.93
Available project funds are mostly inadequate	77	3.85	1.13
A good cost budget should be an aggregate of all individual work units cost	77	3.69	1.29
Overall	77	3.78	1.01

Source: Field data, (2020)

Table 4.4 results indicate that research respondents had a strong agreement that FRM practices had an effect on commercial housing projects' performance in Nairobi City County, Kenya as indicated by an overall mean of 3.78 and a standard deviation of 1.01. The findings indicates that respondents agreed to the statement that most project managers use cost budgeting as a tool of project cost management with a mean of 4.07 and 0.92 as the standard deviation. With a mean of 3.85 and 0.13 as the standard deviation, results indicates that

without a budget, top project managers are likely to misuse allocated funds by exaggerating the project costs. The study results indicated that housing projects budgets require expert judgment for them to be realistic with a mean of 3.59 and 1.19 as the standard deviation. It was as well pointed out that contracted projects managers mostly rely on historical relationships in coming up with a project budget with a mean of 3.89 and 0.85 as the standard deviation. Lack of well-defined budget will lead to impulse buying that makes resources expensive when available project funds are mostly inadequate with a mean of 4.09 and 0.93 as the standard deviation. Lastly, it was noted that a good cost budget should be an aggregate of all individual work units' costs with a mean of 3.69 and 1.29 as the standard deviation.

This study is in harmony with literature reviewed by Alam and Gühl, (2016) who looked into effects of planning of cost on construction projects' performance. The survey applied the design of descriptive research and had focused on research population comprising of project managers. This survey established that approaches of planning on the cost of a project like budgeting of cost and estimating on cost have effects on the performance of a project.

4.5.3 Material Resource Management and Project Performance

This was the third research objective that was meant to explore how far the respondents were in agreement on statements concerning effects of MRM on performance of commercial housing projects.

Table 4.5: Material Resource Management and Project performance

Parameters	N	Mean	Standard Deviation
Cost controlling when properly done leads to efficient use of resources	77	4.03	.93
Forecasting activities are positively embraced by all personnel	77	3.74	1.09
Timely feedback improves cost and completion time of housing projects	77	3.41	1.18
There is a close link between work value and employee involvement	77	3.85	.86
Value management has been critical in ensuring good project performance	77	4.13	.96
Performance reviews have been applied throughout the entire project	77	3.84	1.19
Performance review when done throughout the project ensures timely corrections on deviations and enhance project success	77	3.44	1.29
Through cost forecasting, top project managers material wastage is avoided	77	3.76	.81
Overall	77	3.86	0.87

Source: Field data, (2020)

Table 4.5 results indicate that research respondents had a strong agreement that MRM practices had an influence the performance of commercial housing projects in Nairobi City County, Kenya as indicated by an overall mean of 3.86 and a standard deviation of 0.87. From these findings respondents agreed to the statement that Cost controlling when properly

done leads to efficient use of resources which had a mean of 4.03 with a Std dev. of 0.93. Forecasting activities were positively embraced by all personnel with a mean of 3.74 and standard deviation of 1.09. Timely feedback was found to improve cost and completion time of housing projects with mean of 3.41 and standard deviation of 1.18. It was established that a close link exist between work value and employee involvement with a mean of 3.850 and 0.86 as the standard deviation. Value management was established as critical in ensuring good project performance with a mean of 4.13 and standard deviation of 0.96. Performance reviews were found to be applied throughout the entire project with a mean of 3.84 and standard deviation of 1.19. Through cost forecasting, top project managers material wastage can be avoided with a mean of 3.76 and 0.81 as the standard deviation.

The study findings are in agreement with the literature reviewed by Ren *et al.*, (2011) who did a study on the effects of materials planning on the performance of projects on a number agricultural organizations. This research study focused on large scale agricultural projects that had not been completed within the stipulated time in London city. This survey discovered that the main objective of project managers was to ensure projects attain or even exceed the material consumption stakeholders anticipated on the project being undertaken.

4.5.4 Project Performance

The research study had an objective of establishing effects of RMP on commercial housing projects' performance in Nairobi city County, Kenya in terms of quality, cost, duration and scope. Research outcome is as indicated in Table 4.6

Table 4.6: Performance of commercial housing projects in Nairobi City County, Kenya

Statement	N	Mean	Standard Deviation
Housing projects completed in right quality standards	77	2.14	0.16
Timely delivery of housing projects	77	2.99	0.85
Housing projects completed within budgeted cost	77	2.56	0.83
Projects meet clients specification in scope	77	2.27	0.63
Overall	77	2.49	1.99

Source: Field data, (2020)

On the findings on the above statements, respondents indicated to a great extent housing projects were not completed in right quality standards as indicated by a mean of 2.14 and standard deviation of 0.16. On whether projects were delivered within the scheduled timeline, majority of the housing projects respondents indicated to a great extent that there was no timely delivery of housing projects as indicated by mean of 2.99 and standard deviation of 0.85. Most of the respondents indicated that to a great extent housing projects were not completed within budgeted cost as indicated by a mean of 2.56 and standard deviation of 0.83. On scope, respondents indicated to a great extent that Projects did not meet clients specification in scope as indicated by a mean of 2.27 and standard deviation of 0.63. The overall mean of 2.49 and standard deviation of 1.99 respectively also indicate the performance of housing projects was not good.

Rhodes C. (2015) indicated that appropriate indicators should be known before a project is started to give a structure for evaluating the project. The findings are in agreement with Kerzner H. (2017) who made use of related parameters of evaluating performance that is; performance on duration, performance on cost budget, performance on quality, satisfaction of client, proper functioning and health & safety.

4.6 Inferential Statistics

The research study employed multiple regression analysis to explore the effect of RMP on performance of commercial housing projects. The summary of the model is as shown in Table 4.7.

Table 4.7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.953 ^a	0.881	0.718	1.780

Source: Field data, (2020)

a. Predictors: (Constant), HRM, FRM, and MRM.

Adjusted coefficient of determination (R^2) was 0.718 implying that 71.8% of the variations in performance of commercial housing projects that forms the dependent variable can be attributed to the three independent variables that were used in this study; HRM, FRM and MRM. The other 28.2% can be attributed to other factors which were not part of this study and affect the performance of commercial housing projects.

Table 4.8: ANOVA

		Sum of				
Model		Squares	Df	Mean Square	F	Sig.
1	Regression	152.151	18	43.038	14.365	.000
	Residual	63.2	45	3.220		
	Total	225.351	63			

Source: Field data, (2020)

- a. Predictors: (Constant), Human resource management, financial resource management, and material resource management.

The ANOVA output indicates that the p-value is < 0.05 which is an indication performance of commercial housing projects in Nairobi County was influenced significantly by at least one of the independent variables. This indicates that generally regression model was important.

Table 4.9: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	T	
1	(1Constant)	1.359	0.473		2.825	0.0105
	Human resource management	0.639	0.172	0.505	3.709	0.0430
	Financial resource management	0.624	0.155	0.493	3.716	0.0436
	Material resource management	0.570	0.127	0.302	3.235	0.0451

Source: Field data, (2020)

- a. Dependent Variable: performance of commercial housing projects in Nairobi City County, Kenya.

From the findings from table 4.9, the equation $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$

Becomes: $Y = 1.359 + 0.639X_1 + 0.624X_2 + 0.570X_3$

Where,

X_1 is human resource management

X_2 is financial resource management

X_3 is material resource management

These regression results shown in table 4.9 has established that holding all other factors (HRM, FRM, and MRM) constant at zero, performance of commercial housing projects in Nairobi City County, Kenya was 1.359.

From Table 4.9, the regression coefficient for human resource management was positive implying that improvement in human resource management led to improvement in commercial housing projects' performance. The coefficient had a p-value of 0.0430 which was less than 0.05 and the conclusion is that human resource management had a considerable effect on performance of commercial housing projects. This study agrees with the survey outcome of Armstrong and Murllis (2015) on impact of HR planning approaches on the performance of organizations. They found out that policies of reward as a motivation factor are crucial and certainly become a key component that determines performance of an organization. Nonetheless, the results were not in agreement with Bratton and Gold (2007)

who did a study on HR planning policies on performance of an organization. Their discovery was that HR planning policies do not greatly influence organizational performance but good system of remuneration can result to a propagation in the productivity of workers.

On financial resource planning practices, the regression coefficient was found to be positive. This implied that application of financial resource management results in better project performance. The coefficient had a p-value of 0.0436 which is less than 0.05 implying that financial resource management plays a critical role on the performance of construction projects in Nairobi City County, Kenya. This is in agreement with the study done by Antvik and Sjöholm (2013) on effect of financial planning on the performance of projects. They came with a conclusion that cost budgeting need to be anchored project scope and recognized that managing financial resources positively and greatly influence the performance of projects. The study is also in conformity with the research study outcome of PMBOK (2014) on effect of planning of cost on performance of projects. This study discovered that practices of planning project cost that also include the budgeting of cost and cost estimating practice have positive effects on the performance of projects.

On material resource management, the regression coefficient was found to be positive. This implied that by applying material resource management, commercial housing projects' performance in Nairobi City County improved. The coefficient had a p-value of 0.0451 which is less than 0.05. This implies that a material management practice is critical in the performance of commercial housing projects. There is agreement with the findings of the study done by Plenert and Best (2012) on effect of material management on the performance of projects. Their study discovered that material planning practices result in an increase in the

performance of projects since they result in a big decrease on the cost charge of holding construction materials inventory. This study also agrees with Kress (2014) research study on effect of material management on project performance that came with a conclusion that appropriate material usage results into improved project output.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents summary of findings, conclusions and recommendations of the study on RMP on commercial housing projects' performance.

5.2 Summary

Housing projects have gained a lot of attention in almost every country both industrialized and developing economies. This is because it is among the fundamental human needs and is a source of income to the housing developers. It is one of the big four agenda to the current government of the republic of Kenya. However, many commercial housing projects in Kenya are facing performance challenges in the sense that some projects remain stalled; others get completed late beyond the planned time, reduced scope while others collapse because of poor quality. The research study sought to examine the effects of RMP on the performance of commercial housing projects. Particularly the study aimed to establish the effects of HRM, FRM and MRM on commercial housing projects' performance in Nairobi City County, Kenya.

The study established that availability of competent personnel leads to better quality and timely project performance. It also show that three point estimating is ideal in dynamic housing projects environment. The respondents indicated that top project managers should seek estimation assistance from experienced project supervisors. They were of the view that analogous estimates may give inaccurate figure. Majority were in agreement on whether cost estimates give a clear baseline on which a budget is build. Finally, Properly constructed cost estimates positively influence project performance.

Based on the research findings, it was revealed that financial resource management plays a key role on project performance. It was noted that most project managers use cost budgeting as a of tool of project cost management and without a budget, top project managers are likely to misuse allocated funds by exaggerating the costs. The study revealed that housing projects budgets require expert judgment for them to be realistic and contracted projects managers mostly rely on historical relationships in coming up with a budget. It was noted that Lack of well-defined budget leads to impulse buying that makes resources expensive. The findings revealed that project funds are mostly inadequate and a good cost budget should be an aggregate of all individual work units cost.

Research findings show that when cost controlling is properly applied, efficient use of project resources is witnessed. The study revealed that forecasting activities are positively embraced by all personnel and timely feedback improves cost and completion time of housing projects. The results show that there is a close link between work value and employee involvement. The findings also indicate that value management has been critical in ensuring good project performance and Performance reviews have been applied throughout the entire project. Finally, through cost forecasting and top project managers' involvement, material wastage is avoided.

5.3 Conclusion

The study drew conclusion that human resource management practices have a notable positive level of association on commercial housing projects performance in Nairobi City County, Kenya.

Based on the outcomes of the research study, it can be concluded that financial resource management has a bigger influence on commercial housing projects' performance in Nairobi City County, Kenya. Further, the survey found that financial resource management ensures that management undertakes activities of the Nairobi County within the appropriate financial management reporting framework such as cost estimation, cost budgeting and cost controlling. In this respect where the financial resource management standards are clearly understood and adhered to, prudence use of resources is likely to be experienced thus enhancing commercial housing projects' performance in Nairobi City County.

This study further found out the importance of managing all resource materials from the material planning, material ordering and material controlling stage. From the orderly literature review it can be identified that materials resource management procedures need a revolution to advance the entire process in materials handling for greater efficiency and effectiveness on commercial housing construction projects. The reason is that housing materials handling has a big influence on the entire commercial housing projects' performance on the basis of project duration, budgeted cost, scope and quality. Of more importance is to create consciousness and responsibility on how materials need to be handled within the Nairobi County.

5.4 Recommendations

Based on the outcome that human resource management practices have a positive correlation on performance of housing project, this study recommends that commercial housing projects managers in Nairobi City County should employ human resource practices that will ensure qualified personnel who are well trained and highly motivated are employed in projects in order to achieve projects which are completed within scope, completed within budget,

completed within time and achieve quality of the houses. Nairobi City County in Kenya needs to develop and document techniques for proper human resource planning, recruiting and motivation of commercial housing projects employees in order to boost employee and commercial housing projects performance. County that want to improve their productivity must make sure they properly make use of human resource management strategies in order for them to acquire a competitive advantage compared to other counties.

On financial resource management the study recommends that Nairobi county management need to adhere to cost estimation, cost budgeting and cost controlling management practices in order to enhance performance of commercial housing projects. It is therefore recommended that proper cost estimation need to be carried out based on project scope in order to come up with a project budget that is more accurate. Secondly, it is also important that the management of commercial housing projects establish appropriate strategies for cost controlling in order to foster project performance.

The study recommends that project materials which form a very significant resource if well planned and monitored can help in managing project cost to a big degree, more so Class A materials. Once the procedures of material ordering are correctly and efficiently followed in a housing construction project, total material cost of the project can greatly be reduced. The study also recommends that there should be a central place for managing and co-coordinating material handling operations from the site and the head office and a call for of resourceful Management Information System (MIS) that will help in material controlling and ensure project success.

5.5 Suggestions for Further Research

The study was carried out on effects of RMP on performance of commercial housing projects in Nairobi City County, Kenya. The study has a suggestion that further research should be done to find out the effects of other project management practices on commercial housing projects' performance. It also suggests that further research should target other counties for comparison purpose.

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APPENDECIES

Appendix I: Questionnaire

Section A: Background Information

Please tick on the box corresponding to your response.

1. What is your Gender: Male Female

2. What is your age?

Less than 25 years 25 –34 Years

35 –44 Years 45 years and above

3. What is your highest level of education?

Diploma Post Graduate Diploma

Bachelor's Degree Master's Degree

4. How long have you worked in this housing project in your position?

Less than 5 years 10 – 15 years

5 – 10 years Above 15 years

Section B: Human resource management and performance of commercial housing projects

Kindly indicate your level of agreement that the following human resource management aspects have on commercial housing projects' performance?

Use a scale of 1-5 where: Strongly agree(SA)=5, Agree(A)=4, Neutral(U)=3,

Disagree(D)=2, and Strongly Disagree(SD)=1.

Statement	1	2	3	4	5
Cost estimation is key to housing success					

Availability of competent personnel leads to better quality and timely project performance					
Three point estimating is ideal in dynamic housing projects environment					
Top project managers should seek estimation assistance from experienced project supervisors					
Analogous estimates may give inaccurate figure					
Cost estimates give a clear baseline on which a budget is build					
Properly constructed cost estimates positively influence project performance					

5. In your opinion, to what degree does human resource management practices have effect on commercial housing projects' performance in Nairobi city county, Kenya?

.....

.....

Section C: Financial management and performance of commercial housing projects

Kindly indicate your level of agreement that the following financial management aspects have on commercial housing projects' performance?

Use a scale of 1-5 where: Strongly agree(SA)=**5**, Agree(A)=**4**, Neutral(U)=**3**, Disagree(D)=**2**, and Strongly Disagree(SD)=**1**.

Statement	1	2	3	4	5
Most project managers use cost budgeting as a of tool of project cost management					
Without a budget, top project managers are likely to misuse allocated funds by exaggerating the costs					
Housing projects budgets require expert judgment for them to be realistic					
Contracted projects managers mostly rely on historical relationships in coming up with a budget					
Lack of well-defined budget leads to impulse buying that makes resources expensive					
Available project funds are mostly inadequate					
A good cost budget should be an aggregate of all individual work units cost					

6. In your opinion, to what degree does financial management affect commercial housing projects' performance in Nairobi city county, Kenya?

.....

.....

.....

.....

Section D: Material management and performance of commercial housing projects

Kindly indicate your level of agreement that the following material management aspects have on performance of commercial housing projects?

Use a scale of 1-5 where: Strongly agree(SA)=5, Agree(A)=4, Neutral(U)=3, Disagree(D)=2, and Strongly Disagree(SD)=1.

Statement	1	2	3	4	5
Cost controlling when properly done leads to efficient use of resources					
Forecasting activities are positively embraced by all personnel					
Timely feedback improves cost and completion time of housing projects					
There is a close link between work value and employee involvement					
Value management has been critical in ensuring good project performance					
Performance reviews have been applied throughout the entire project					
Performance review when done throughout the project ensures timely corrections on deviations and enhance project success					
Through cost forecasting, top project managers material					

wastage is avoided					
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7. In your opinion, to what extent does material management affect the performance of commercial housing projects in Nairobi city county, Kenya?

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Section E: Commercial housing project performance

Kindly indicate your level of agreement with the following statements on pointers to housing projects performance

Key: Great Improvement (GI)=**5**, Improvement (I)=**4**, No change (C)=**3**, Declined (D)=**2**, and Greatly Declined (GD)=**1**.

Statement	1	2	3	4	5
Housing projects were completed in right quality standards					
There is timely delivery of housing projects					
Housing projects were completed within budgeted cost					
Projects meet clients specification in scope					

Appendix II: Sampling frame

Housing projects in Embakasi Sub County

1. Uwezo plaza funded by Kimisitu Sacco
2. Daima apartment funded by Kimisitu Sacco
3. Umoja shelters funded by HFC
4. Tassia heights funded by Kimisitu Sacco
5. Eclipse Apartment funded by Kimisitu Sacco
6. Sweet dreams Apartment funded by Kimisitu Sacco
7. Minto Home funded by HFC
8. Utawala apartments funded by HFC

Housing projects in Westlands sub county

1. Watery homes funded by HFC
2. Hill top apartments funded by Kimisitu Sacco
3. Kangemi shelters funded by Kimisitu Sacco
4. Hill view apartments funded by HFC
5. Amani apartments funded by Kimisitu Sacco
6. Signature apartments funded by HFC
7. Sacred Homes funded by HFC
8. Mastery Apartments funded by Kimisitu Sacco

Housing projects in Kasarani sub county

1. Mwiki best homes funded by HFC
2. Silver Apartments funded by HFC
3. Kasarani heights funded by Kimisitu Sacco
4. Ruaka shelters funded by Kimisitu Sacco
5. Victory apartments funded by HFC
6. Diamond apartment funded by HFC
7. Heroes apartment funded by HFC
8. Smart Homes funded by Kimisitu Sacco

9. Buffalo apartment funded by HFC
10. Hygiene apartment funded by HFC
11. Thayo apartment funded by Kimisitu Sacco
12. Hyper homes funded by Kimisitu Sacco
13. Big dad shelters funded by Kimisitu Sacco
14. Genius apartment funded by Kimisitu Sacco

Housing projects in Langata sub county

1. Episode apartment funded by HFC
2. Airport view shelters funded by Kimisitu Sacco
3. Fragrance homes funded by HFC
4. Royal paradise apartment funded by HFC
5. Digital homes funded by Kimisitu Sacco
6. Climax apartments funded by HFC
7. Mwaki shelters funded by Kimisitu Sacco
8. Hotline apartment funded by Kimisitu Sacco
9. Pumzika shelters funded by HFC
10. Jumuia homes funded by Kimisitu Sacco

Source: Kimisitu Sacco and Housing Finance Corporation website

APPENDIX III: University Letter of Approval



KENYATTA UNIVERSITY GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 810901 Ext. 4150

Website: www.ku.ac.ke

Internal Memo

FROM: Dean, Graduate School

DATE: 22nd October, 2020

TO: Wycliffe Makori
C/o Management Science Dept.

REF: D53/CTY/PT/37295/2017

SUBJECT: APPROVAL OF RESEARCH PROJECT PROPOSAL

This is to inform you that Graduate School Board at its meeting of 21st October, 2020 approved your Research Project Proposal for the MBA Degree Entitled, "Resource Management Practices and Performance of Commercial Housing Projects in Nairobi City County, Kenya".

You may now proceed with your Data Collection, Subject to Clearance with Director General, National Commission for Science, Technology and Innovation.

As you embark on your data collection, please note that you will be required to submit to Graduate School completed Supervision Tracking and Progress Report Forms per semester. The forms are available at the University's Website under Graduate School webpage downloads.

Thank you.

A handwritten signature in blue ink, appearing to read 'Eljah Mutua'.

ELJAH MUTUA
FOR: DEAN, GRADUATE SCHOOL


c.c: Chairman, Management Science Department.


Supervisors:

1. Dr. Rosemary James
C/o Department of Management Science
Kenyatta University

EM/enj


APPENDIX IV: Nacosti License


REPUBLIC OF KENYA


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

Ref No: **856471** Date of Issue: **23/November/2020**

RESEARCH LICENSE




This is to Certify that Mr.. Wycliffe - Makori of Kenyatta University, has been licensed to conduct research in Nairobi on the topic: Resource Management Practices and Performance of Commercial Housing Projects in Nairobi City County, Kenya for the period ending : 23/November/2021.


License No: **NACOSTI/P/20/7852**

856471

Applicant Identification Number


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

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