
Authors: 1Andrew Kipsang Chepkwony; 2 Yusuf Wanjala Muchelule; 3Samuel Muli Somba

1Student: Jomo Kenyatta University of Agriculture and Technology, Kenya
2Lecturer: Jomo Kenyatta University of Agriculture and Technology, Nairobi, Kenya
3Lecturer: Jomo Kenyatta University of Agriculture and Technology, Nairobi, Kenya

ABSTRACT
Projects from government give recipients or beneficiaries an exceptional premium, success of a project is not a time activity, success of a project must be conducted within the scope and also sufficient financial support should be in place. This includes ensuring and involving all stakeholders. The purpose of the study was to assess the relationship between project cost management and performance of National Housing Corporation projects in Kenya. The study was guided by general system theory. The study adopted positivism research philosophy and explanatory research design was used. The target population of the study was 425 projects of National Housing Corporation Projects from 2013 to 2020 and this was our unit of observation; a simple random sampling was used to select 206 respondents which was our unit of analysis. Primary data was collected using structured self –administered questionnaire while secondary data was collected from publications, annual reports, books, researches dissertations and the internet. Data collection procedure was done using drop and pick method. Data analysis was done using Statistical Package for Social Science (SPSS) version 28 software and descriptive and inferential statistics analysis presented in form of tables. The study was confirmed in National housing corporation projects in all the 47 county governments of Kenya. The findings of the study established that project cost management significantly predicts performance of national housing corporation project in Kenya. Specifically, the findings of the study established that project cost management had a positive correlation on performance of National Housing Corporation Projects in Kenya. The study supports the current theories related to the study. The study recommends National Housing Corporation should enhance adoption of project cost management so that performance of projects to be improved and this will go a long way in ensuring that there is improved performance of National Housing Corporation Projects in Kenya.

Key Words: Project Cost Management, National Housing Projects Performance

I.0 INTRODUCTION

1.1 Background of the Study
Projects are bounded by time and are supposed to be completed within the planned and stipulated time period, covering a predetermined scope, within the planned budget and quality specified by the customer or client (Abdilahi el al, 2020). The successful completion of construction projects within budget constraints is a persistent challenge faced by housing corporations worldwide. The National Housing Corporation, entrusted with the responsibility of providing affordable and sustainable housing solutions, is not exempt from these challenges. Project cost management, encompassing processes such as cost estimation, budgeting, and control, becomes a linchpin in ensuring that resources are allocated judiciously throughout the project lifecycle (Abdilahi el al, 2020).

Housing plays a huge role in revitalizing the economic growth in any country (Gitau & Sang, 2020). Access to adequate and affordable housing is current and growing problem in all countries globally. National Housing Corporation is mandated by Kenyan government to deliver affordable housing. In recent years National Housing Corporation has continued to supply houses but the demand outstrips the supply (K.N.B.S 2021).

Today in the world of disruptive technology, rising software’s solutions, increasing ambiguity of risks, and high client and stakeholder’s expectations, managing projects is more complex than ever. Thus, for a project manager, synchronizing the different aspects of resources and processes of a project often fell over went. Project cost estimation comprises of prediction of expenditure and the achievement which depends on integration of project information, funds and control over project execution. According to Mugo & Moronge, (2018), on their study on causes of construction delay theoretical framework, the framework is developed from
three different authors. The result of his study indicates that financial and economic problems, slow in making decisions, poor instruction, lack of materials on market for the project, poor site management, material shortage on site, construction mistakes and defective work, delay in delivery of material on site as he factors causing project construction delays.

According to the views of Mwangi, (2018) on time and cost overrun in power construction projects in Kenya, the study findings revealed that the major causes of time overrun were late and delay payment to contractor, employer cash flow problems, delay in disbursement of funds by financers, long procedure by government agencies and delay to access the project construction site. In a study done in Benin by Chileshe, Kavishe, & Edwards, (2023). on delay factors for development construction projects and found out that the major causes of delays were contractor’s financial capabilities, owner’s financial difficulties, poor sub-contractor performance, material procurement and change in drawing. Mustapha (2013) as cited by Muhammed, Yakubu, Aboh, Abubakar, & Muhammed, (2022), conducted a study to investigate the factors causing delays in construction in Ghana and the study found out that the major causes of delays were; honoring certificated, delay in payments, lack of credit facilities.

According to Kikwasi (2012) as cited by Murithi, (2018) research findings on the project causes and effects of delays and disruption in building construction projects in Tanzania government, from his study research findings shows that the major critical causes of project delays were as follows delays in payments, project design changes, delays in payments of contra the client, poor information delays, inadequate funding problem and very poor project management. According to Hassan & Adeleke (2019) project construction project can be caused by several parties in a project the client, the contractor, the consultant, acts of God or third party and the delays may occur early or late in a project in whichever stage, negotiating for a fair timely damage settlement is beneficial to all parties involved in a project.

According to Ayekum-Mensah, & Knight, (2017). notes that that the construction industry is have a poor reputation for coping up with delays which frustrate the intended project beneficiaries of the project who are waiting to use it. Delay analysis is normally either ignored or subjectively done by simply adding contingency’s a result many major projects fail to meet schedule deadlines. In construction industry projects whether time truly equals money the management of time is critical. Project cost management is to ensure that project is completed within the budget. Project cost management involves the process of cost estimation, cost budgeting and cost control.

Project performance metrics focus on the project impact at one point in time or over a fixed time frame (Kavita-Musembi, 2019), the impact of the project value should supercede the cost of the intervention. Project performance is directly related to the project potential success. Project is considered to be implemented successful if event is a component of project is completed on schedule, realized the purpose on what it was designed through achieving the set project goals and objectives identified and the project is completed within the budget (Munyori, 2019). Project performance is evaluated differently by stakeholders based on their varying expectations, in relation to the actual quality, cost, and time (Maritim, & Chelule, 2018).

Over the past years a number of projects in Kenya have failed to be completed within the estimated time, scope, budget or the combination of them (Mwangi, & Mutiso, 2018) In the construction industry, the term “delay” is used to describe the time overrun of a project beyond the officially agreed completion time due to causes by the parties in the contract, who are the, employer, contractor and the consultant (Kavita-Musembi, 2019). It is a project spilling over its planned schedule and is considered a common problem in construction projects (Hirpa, 2022). To the owner, delay means loss of revenue through lack of use of proposed facilities. In some cases, to the contractor, delay means higher overhead costs because of longer work period, higher material costs through inflation and labor cost increases (Gitau & Sang, 2020). Housing construction projects industry comprises of a large number of parties which include the clients, contractors, consultants, stakeholders, shareholders, regulators and among others. Many projects in Kenya suffer from many problems and complex issues in performance because of many reasons and factors (Elizabeth, 2020) Research evidence notes that performance of the construction projects in Kenya is minimal as time and cost overruns performance affects their implementation and successful completion (Anderson & Bigby,2021).

1.2. Statement of the Problem

The Kenya Bureau of Statistics (K.N.B.S) reported in 2020 that there is a substantial and increasing need for
housing in Kenya, especially in urban regions, as a result of consistent population increase. The process of urbanization has heightened this requirement, resulting in a significant disparity between the availability and need for housing, which is expected to be over 2.0 million units, with an annual growth of 200,000 units (K.N.B.S, 2019). The government's dedication to building 50,000 residential units each year for individuals with moderate and low incomes was intended to tackle this inequality. Nevertheless, as of the conclusion of 2021, the five-year plan has only achieved the construction of 431 units, which accounts for a meagre 0.8% of the intended goal. Hence, more than 60% of urban households in Kenya reside in slums, facing difficulties in meeting the cost of a monthly rent as little as US$10 (G.O.K, 2020).

The housing issue in Kenya is worsened by a fast population growth rate of 2.5% per year and a high urbanization rate of 4.3%, which surpass the global rates of 1.2% and 2.0%, respectively. Developers encounter difficulties in satisfying the increasing demand because of inadequate credit availability, elevated finance expenses, and the limited purchasing power of citizens (Mwangi, 2018). The current scarcity of housing has led to difficulties in affordability, as the demand continuously exceeds the supply.

Although the building sector is crucial to the economy, the projects carried out by the National Housing Corporation (NHC) in Kenya have been below average in terms of performance. Many initiatives have encountered failure, lack of completion, and abandonment. They do not achieve their intended aims and objectives within the stipulated time and cost parameters (Omondi, 2017). Prevalent issues in project management include incomplete projects, extended schedules, complexity, and stakeholder discontent (Mwangi, 2018). The lack of community engagement in government initiatives has been recognized as a notable issue (Elizabeth, 2020; Kweyu, 2018). Performance measurement is essential for evaluating organizational progress and determining the extent to which goals have been accomplished (Mutua, Karanja, & Namusonge, 2012), as quoted by Gitau & Sang, (2022).

Prior research (Mwangi, 2018; Omondi, 2017; Maritim, & Chelule, 2018) has predominantly examined the elements that affect the completion of projects. However, none of these studies have specifically investigated the utilization of Project Cost Management and its influence on the performance of National Housing Corporation Projects. In light of this research deficiency, the present study aims to investigate the following inquiry: "What is the impact of Project Cost Management on the efficacy of National Housing Corporation Projects in Kenya?" Therefore, it is necessary to closely analyze how Project Cost Management practices affect the overall performance of National Housing Corporation Projects in Kenya. This will provide useful insights to the field.

1.3 Objective of the study
1.3.1 To determine the relationship between project cost management and performance of National Housing Corporation projects in Kenya.

2.0 LITERATURE REVIEW

2.1 Theoretical Review
2.1.1 General System Theory

The term system originates from Ballanfy’s 1993 general system theory with Margaret Mcleald as an influential figure in the theory. According to the theory it treats any organization as an open system; it goes further and states that real systems are open and interact with their environment (Hammond, 2019). An open system interacts with the environment by way of inputs and outputs. According to Von Bertalanffy, (1955), a system is a set of distinct parts that interact to form a complex whole. Giving an example of a working car, if you remove any part from it like the carburetor you no longer have a functioning car any more Plack, Margaret, & Scott, (2019).

The general system theory is constrained synonymous to cybernetics, which is the study of communication and control feedback in living and lifeless system and combination of these. The focus of system theory is how anything controls behavior and processes information to better accomplish primary tasks (Von Bertalanffy, 1955). A project can be viewed as a system which inputs and outputs process. The Inputs are transformed to yield products or services called outputs which are then released into the environment. Every project is dependent on its environment and the project teams. In this study therefore, there is a call for proper management of all the processes with regards to the triple constrains of the project in order for a project to be completed successfully and for a project to meet performance (Charles, & Benson Ochieng, 2023).
To understand a system, you must get to understand first a system of any given firm or an organization. The different parts or elements within and around organization intermingle to affect the way organization operate and therefore a strategy implementation (Chileshe, Edwards, Kavishe, & Haupt, 2020). It can be argued from a system’s approach to strategic management that many of the resources for strategies failure may be attributed to the successive dominance of different reductionism approaches to strategic management. Such partial approaches to project management ignore the complex, embedded and dynamic nature of today’s organizations.

The components act jointly together to achieve specific objective to achieve a goal. For example, an organization in this case National Housing corporation, has independent departments with different teams and members who have different competencies and qualifications working together with sole aim of ensuring successful implementation or realizing the vision of organization. The organization in the current study, National Housing Cooperation is therefore a system with cohesive but different independent departments which coordinate for success in implementation (Omondi, 2017).

2.2 Conceptual model and Hypothesis
The conceptual framework in the study comprise of independent variable project cost management. The dependent variable of the study is performance of National Housing Corporation projects in Kenya. The variables and hypothetic causal paths and relationship are presented in figure 1.

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Dependent Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project cost management</td>
<td>Performance of National Housing Corporation projects</td>
</tr>
<tr>
<td>• Cost estimation</td>
<td>• Stakeholders satisfaction</td>
</tr>
<tr>
<td>• Financial resource mobilization</td>
<td>• Number of successful projects outcome</td>
</tr>
<tr>
<td>• Cost budgeting</td>
<td>• Deliverable attained successful projects outcome</td>
</tr>
<tr>
<td>• Cost control</td>
<td></td>
</tr>
</tbody>
</table>

Figure 1. Conceptual Framework

2.3 Empirical Review
2.3.1 Project Cost Management
According to Elizabeth, (2020) stated that project cost includes all the overall cost that are incurred in a project from the start of the project to its completion. It covers the tender sum, construction cost, costs that arise from variation and modification during construction as well as cost that arise from legal claims such as litigation and arbitration. When the actual project cost exceeds the budget cost, the project is said to experienced cost overrun, cost increases or budget overrun. Kweyu, (2018) emphasis the need to consider cost performance on a project which can be measured in terms of unit cost or as percentage of variation over the overall cost as suggested by Mosha, (2018). Most projects have a finite budget. The approximation of project cost or resources depends on many variables which include work packages such as labor rates or controlling influence factors that create cost variance. Resources cover a broad area and can be classified as tangible or intangible types of resources (Kabiririf & Mojitahedi, 2019). This includes but not limited to financial, human, goodwill, reputation, expertise and material resources. Many studies show that many projects fail due to lack of adequate resources.

According to Rugenyi, & Bwisa, (2016), cited by Elizabeth (2020) Material resources are the physical goods for execution of a project and without those projects are bound not to be implemented in most cases, in a study on conflict of Bygga Villa project, the study discovered that the major reason for the conflict was the scarcity of resources, which contributed to project failure (Fashina, Omar, Sheikh, & Fakunle, 2021).). This lack of resource can create conflicts among various stakeholders of the project which they lead to project failure. Budget limitation is considered one of the greatest constrain to timely implementation of construction projects. Projects can often be compensating for lack of technical capacity through training and out sourcing but they cannot be compensated for lack of money (PMI, 2021). Resources are critical for smooth implementation of projects. Resources are the people, equipment’s and suppliers used to complete tasks in the project. Activity resource estimation indicates how much of a resource is needed in terms of labour, materials (Mwangi, 2018). According to Gitau & Sang (2020) observed that financial resources for construction projects should be
estimated realistically at the time of planning for the project execution together; resources for each function should be separated. In each; project should have two separate budget lines for example for the project and the other for its monitoring and evaluation agreed earlier in advance. The Monitoring and evaluation costs associated with projects can be identified relatively easily and should be charged directly to respective project budgets agreed among partners through inclusion in the project budget. Annual work plan (AWP) signed by partners, sourcing and securities financial resources for construction project or programs can pose additional charge. Wrong estimation of resources is hypothesized to affect negatively on the project schedule which will affect the timely project completion. The Kenya government funded project completion in a timely way or manner has becoming an issue of concern among several project stakeholders in project construction industry. The influencing factor which course delay in timely delivering of construction projects in Kenya is financial difficulty in the part of the contractor, project changes in design by the client or his agent during construction, delays in payments and non-utilization of project professional construction management. Others on their part cause delays when they face labor shortage. In Kenya constructions Laborers are unskilled and lack adequate planning at an early stage (Ahmed, Hussain, & Philbin, 2022). To come up with accurate cost estimation, it’s requiring to understand the types of project costs involved in a project. Management should estimate the cost by use of analogy, group consensus or mathematical relationship. All stakeholders of a project prefer accurate cost and time estimates, but they also know and understand some of the inherent uncertainty in all projects. Inaccurate estimates lead to false expectation and customer dissatisfaction (PMI, 2021). Accuracy is improved with greater effort, but is it worth the time and the cost- estimating cost money. Project estimation becomes a tradeoff balancing the benefits of better accuracy against the cost for securing increased accuracy. Cost, time and budget estimates are the lifeline for control; they serve as the standard for comparison of actual and plan thought the life of the project. Estimates are important in that they support good decisions, needed for schedule work, estimates determine how long the project t is worth doing, and estimates help to develop flow need (Murithi, 2018).

2.3.2 Performance of Projects
To perform is to take a complex series of actions that integrate skills and knowledge to produce a valuable result. Project performance has been defined as the degree of achievement of certain effort or undertaking which relates to the prescribed goals or objectives that form the project parameters (PMI, 2017). The key requirements of suitable performance measures and measurement frameworks are identified as including, having a few but relevant measures, being linked with critical project objectives, providing accurate information, and comprising financial and non-financial the successes of a project construction mainly depend on the success of performance. Project Completion is the degree of achievement of various efforts or undertaking which relates to the described goals or objectives that form the project parameters. In the view of Gitau & Sang, (2020) performance is the complete series of action that integrate skills knowledge to produce a valuable result. Scholars such as (Omondi, 2017, Munyori 2019, Abdulai, & De-graft, 2022). agrees that conventional treatment for project performance is often based on the iron triangle where by committed outputs from the project are delivered based on three criteria namely scope, quality, time and cost. The key performance measure and frame work are identified as probably having few but relevant measure being linked with critical project objective, example providing accurate information and comprising financial and non-financial measures (Maritim, & Chelule, 2018; Charles, & Benson Ochieng, 2023) they are several many potential measures for evaluating the success of a construction project. All these address three key areas that are scope, schedule and cost. The research study discovered and outlined the major seven project performance indicators, as follows project construction cost, project construction time, project cost predictability, project time predictability, client satisfaction with the final product and lastly, client satisfaction with the service and also discovered the three company performance indicators as safety, productivity and profitability

3.0 METHODOLOGY
The research philosophy adopted was positivism, which seek to explain social phenomenon in an objective way through the gathering of verifiable facts using quantitative means. The study adopted explanatory design, the target population for the study comprised of 425 projects which have been undertaken by National Housing Cooperation from the period of 2013 to 2020 while the study unit of observation was the project managers. A
simple random sampling technique was used to select the 206 participants for the study. Questionnaire were the chosen instruments for data collection, and a likert scale was used to record the participants response. Data collection procedure was started by obtaining permission from relevant authorities. Primary data was collected through administration of questionnaire to relevant construction project managers in National Housing Corporation. The collected data was analyzed by descriptive and inferential statistics

4.0 RESULTS AND DISCUSSION

This section provide descriptive and regression analysis

4.1 Descriptive Statistics

4.1.1 Descriptive Statistics for Project Cost Management

The study also examined the opinion of respondents on Project Cost Management the results of analysis are presented in table 1. The study found out that the respondents were undecided on whether cost plan is defined before every project begins or not (mean = 2.73; STD = 1.176). The findings indicate that there was indecisiveness on whether budget determination is considered mandatory before any project is initiated or not (mean = 2.76; STD = 1.224).

The study established that the respondents were undecided on whether cost estimation of the project is done to establish the cost of the entire project before the commencement of the project or not (mean = 3.04; STD = 1.181). It was established that the respondents were undecided on whether funding sources were established at the project planning stage of this project before being implemented (mean = 2.86; STD = 1.334).

It was established that the respondents were undecided on whether project budget provide a clear provision of various project activities (mean = 2.80; STD = 1.243). It was established the respondents were undecided on whether financing of projects is normally secured before the start of any project (mean = 2.74; STD = 1.112). There was indecisiveness on whether mishandling of project cost management can lead to project failure or not (mean = 2.95; STD = 1.249). This result reveals that the respondents are non commutal they do not want to disclose more information about the projects this might be because they do not want the public to know exactly what is results are in agreement with (Murithi,2018, Elizabeth,2020, Omondi,2020, Mosha,2018 Hassan, Adeleke, & Taofeqq, 2019), Points out that these projects which are normally financed by world Bank, IMF and tax payers’ money face several setbacks such as abandonment, cost deviation, schedule deviation and stakeholder dissatisfaction because the government cannot disclose the exact cost of the contract on the project being undertaken.

Table 4.1: Descriptive Statistics for Project Cost Management

<table>
<thead>
<tr>
<th>Statement</th>
<th>Mean</th>
<th>STD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost plan is defined before every project begins</td>
<td>2.73</td>
<td>1.176</td>
</tr>
<tr>
<td>Budget determination is considered before any project commences</td>
<td>2.76</td>
<td>1.224</td>
</tr>
<tr>
<td>Cost estimation of the project is done to establish the cost of the entire project</td>
<td>3.04</td>
<td>1.181</td>
</tr>
<tr>
<td>Funding sources were established before the project commences</td>
<td>2.86</td>
<td>1.334</td>
</tr>
<tr>
<td>Project budget provide a clear provision of various project activities</td>
<td>2.80</td>
<td>1.243</td>
</tr>
<tr>
<td>Financing of was secured before the start of project</td>
<td>2.74</td>
<td>1.112</td>
</tr>
<tr>
<td>The project was implemented within the specified cost</td>
<td>2.95</td>
<td>1.249</td>
</tr>
</tbody>
</table>

4.1.2 Descriptive Statistics for Performance of National Housing Corporation Projects in Kenya

The study sought the opinion of respondents on performance of housing projects in Kenya . The results of analysis are presented in Table 5. The study found out that 47 (27.7%) respondents disagreed that all the projects completed by my organization are always aligned with the stated business requirements. 75 (44.1%) respondents agreed that all the projects completed by my organization are always aligned with the stated business requirements. The respondents were undecided on whether all the projects completed by my organization are always aligned with the stated business requirements or not (mean = 3.17; STD = 1.207). It was noted that 64 (37.6%) respondents disagreed that stakeholder satisfaction is a key indicator of project performance and realization of its objectives. 76 (44.7%) respondents agreed that stakeholder satisfaction is a key indicator of project performance and realization of its objectives or not (mean = 3.05; STD = 1.349).

The study results reveals that that 60 (35.3%) respondents disagreed that aspects of micro economy affect the
number of projects completed. 73 (42.4%) respondents agreed that aspects of micro economy affect the number of projects completed. The respondents were undecided on whether aspects of micro economy affect the number of projects completed (mean = 3.10; STD = 1.281). The study determined that 56 (32.9%) respondents disagreed that with the community being the direct beneficiary of the projects, the success of the project outcomes is always determined by their levels of satisfaction. 77 (45.3%) respondents agreed that with the community being the direct beneficiary of the projects, the success of the project outcomes is always determined by their levels of satisfaction. The respondents were undecided on whether with the community being the direct beneficiary of the projects, the success of the project outcomes is always determined by their levels of satisfaction or not (mean = 3.11; STD = 1.241).

The study determined that 56 (32.9%) respondents disagreed that the current trends and changes in technologies affect the project deliverables to be attained. 69 (40.6%) respondents agreed that the current trends and changes in technologies affect the project deliverables to be attained. The respondents were undecided on whether the current trends and changes in technologies affect the respondents were undecided on whether the time to be taken by each activity is estimated during the planning process to ascertain the required timeframe for every task or not (mean = 3.29; STD = 1.112).

It was noted that 71 (41.8%) respondents disagreed that projects completed are normally delivered within the projected timeframes. 53 (31.2%) respondents agreed that projects completed are normally delivered within the projected timeframes. It was consented that projects completed are normally delivered within the projected timeframes (mean = 2.82; STD = 1.102). Project is considered to be successful implemented and completed if it is on schedule on budget and achieves all goals originally set for and accepted PMI, (2017).

Table 4.2: Descriptive Statistics for Performance of National Housing Corporation Projects in Kenya

<table>
<thead>
<tr>
<th></th>
<th>Mean STD</th>
</tr>
</thead>
<tbody>
<tr>
<td>All the projects completed by my organization are always aligned</td>
<td>3.17 1.207</td>
</tr>
<tr>
<td>with the stated business requirements</td>
<td></td>
</tr>
<tr>
<td>Stakeholders’ satisfaction is a key indicator of project</td>
<td>3.05 1.349</td>
</tr>
<tr>
<td>performance and realization of its objectives</td>
<td></td>
</tr>
<tr>
<td>Aspects of micro economy affect the number of projects</td>
<td>3.10 1.281</td>
</tr>
<tr>
<td>completed</td>
<td></td>
</tr>
<tr>
<td>With the community being the direct beneficiary of the projects</td>
<td>3.11 1.241</td>
</tr>
<tr>
<td>the success of the project outcomes is always determined by</td>
<td></td>
</tr>
<tr>
<td>their levels of satisfaction</td>
<td></td>
</tr>
<tr>
<td>The current trends and changes in technologies affect the</td>
<td>3.15 1.231</td>
</tr>
<tr>
<td>project deliverables to be attained</td>
<td></td>
</tr>
</tbody>
</table>

4.2 Correlation Analysis Results

In order to accomplish this, a Pearson's correlation analysis was conducted due to the fact that both the independent and dependent variables are measured on a ratio scale. Kothari (2004) states that the product moment correlation should only be conducted when both the dependent and independent variables are in either a ratio or interval scale. A correlation coefficient of -1 indicates an inverse relationship, where an increase in the dependent variable is associated with a decrease in the independent variable. On the other hand, a correlation coefficient of +1 indicates a perfect positive significant relationship, where an increase in the dependent variable is associated with an increase in the independent variable (Kothari, 2017; Oso & Onen, 2009). A study revealed a statistically significant, albeit weak, positive correlation (r = 0.362; p > 0.05) between project cost management and the performance of National Housing Corporation Projects in Kenya. This indicates that there is a correlation between improved project cost management and higher performance of National Housing Corporation Projects in Kenya, and vice versa. The present findings align with Omondi’s (2017) research, which demonstrates that project cost management improves project performance. The author also highlights that employing accurate cost estimation methods, incorporating financial budgeting strategies, and involving all project stakeholders further enhance project performance. Kiarie and Wanyoike (2016) argue that cost planning is crucial for improving project performance. They suggest that it is important to avoid late payments and for the project manager to be aware of the project phases, stages, and payment dates to prevent unnecessary delays and project failure. The authors conclude by emphasising that cost planning is essential for completing a project according to the planned specifications. Mwangi (2018) showed similar results, linking improved cost management skills to effective cost planning and financial control, which are essential for achieving project completion within the allocated budget. Proficiency in project financial management is
crucial for assessing capital needs, determining capital structure, selecting funding sources, and effectively managing resources for the housing project. Gitau and Sang (2022) also found a significant positive correlation between project cost management and performance. The author highlights that irresponsible financial practise, such as purchasing on credit and a lack of expenditure control, can result in unforeseen obligations and diminish the ability to invest in long-term projects, such as housing.

**Table. 4.3: Correlation Analysis Results**

<table>
<thead>
<tr>
<th></th>
<th>Project performance</th>
<th>Project cost management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project performance</td>
<td>Pearson Correlation</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>170</td>
</tr>
<tr>
<td>Project cost management</td>
<td>Pearson Correlation</td>
<td>.362**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>170</td>
</tr>
</tbody>
</table>

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

**4.3 ANOVA of Project cost management and Performance**

Table 4 indicate the ANOVA model results. The F statistics value was 9.725 and the p value of 0.000 was less than 0.05, this implies that the regression model predicted significantly the dependent variable (Performance of National Housing Corporation projects). this suggests that project integration was a significant predictor.

**Table 4.4: ANOVA of Project cost management and Performance**

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
<td>Regression</td>
<td>7.256</td>
<td>1</td>
<td>7.256</td>
<td>9.725</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>17.161</td>
<td>95</td>
<td>.187</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>24.418</td>
<td>96</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Performance of National Housing Corporation Projects in Kenya

**4.4 Regression Coefficient Project Cost Management and Performance**

There is no significant relationship between project cost management and performance of National Housing Corporation Projects in Kenya. The study obtained (t = 1.430; p > 0.05). This implies a statistical significant effect of project scope management on performance of National Housing Corporation Projects in Kenya. Further a beta 0.123 was obtained. This implies 1 unit increase project cost management results to 0.123 increases in performance with other variables held constant therefore the null hypothesis that there is no significant relationship between project cost management and performance of National Housing Corporation Programs in Kenya was rejected. It was concluded that there is significant relationship between project cost management and performance of National Housing Corporation Projects in Kenya.

This results agrees with the findings of Kikwasi (2012) as cited by Munyori, (2019) that financial cost management affects the performance of project positively. The study supplements the findings of Kiarie and Wanyoike, 2016 as cited by Mugo & Moronge (2018) that planning of financial cost management and involving the stakeholders promotes performance of a project. It was explained that cost management ensures proper utilization of funds to ensure cost of the project does not vary. It also ensures that the funds were disbursed without delays hence avoiding the cost overruns and delays of implementation of the project. Hirpa,(2022) points out that sufficient funding of the project is one of the basic conditions for smooth project activity operations without stoppage and unnecessary disruption.

**Table 4.5: Regression Coefficient Project Cost Management**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>1.646</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project cost management</td>
<td>.123 (.086)</td>
<td>.155 (.156)</td>
<td>3.549</td>
<td>.001</td>
</tr>
</tbody>
</table>

**a. Dependent variable; Project performance**
The linear regression

\[ Y = 1.646 + 0.123x \]

Where;

\( Y \) = Performance Housing projects
\( X \) = Project Project cost management

**5.0 Conclusions of The Study**

The study found that there is a strong and substantial relationship between project cost management and the performance of National Housing Corporation Projects in Kenya. After completing the study on the relationship between project cost management and the performance of National Housing Corporation (NHC) projects in Kenya, several significant findings have emerged. These findings provide insight into crucial factors that impact the success or failure of housing development projects. The examination of these discoveries offers valuable perspectives and suggestions for improving the efficiency of NHC projects and, consequently, the whole housing industry in Kenya.

**6.0 Recommendations of The Study**

The study suggests that project managers and policy makers in Kenya should integrate project cost management in order to enhance and optimise the performance of National Housing Corporation Projects. In light of the significant housing need in Kenya and the difficulties encountered by National Housing Corporation (NHC) initiatives, it is advisable for the government to investigate inventive and enduring methods of financing. This could entail creating specific funds for housing projects, promoting collaborations between the public and private sectors, and encouraging financial institutions to offer advantageous credit conditions to developers involved in affordable housing efforts.

In order to tackle the ongoing problem of excessive expenses and delays, it is imperative for the NHC to give priority to improving its project cost estimation and budgeting procedures. This can be accomplished by implementing frequent training programmes for project managers and employing sophisticated cost estimation tools. Practical and meticulously organized budgets will enhance the precision of project planning and implementation.

**References**


