Investigating How Budget Plan Contributes to Successful Implementation of Level Two Healthcare Infrastructure Projects in Kiminini Sub-County, Trans Nzoia County, Kenya

Vitalis Barasa Oroni, Njeri. S. Ngacha, and Evans Odhiambo Wabwire

ABSTRACT

Healthcare is a critical pillar of long-term development. It is therefore up to nations and governments to ensure their healthcare systems are up to date to meet the growing needs of their populations. Developing healthcare infrastructure is critical to achieving this goal. The overall goal of this research was to investigate the influence of project planning on successful implementation of functional level two hospital infrastructure projects in Kiminini Sub-County. The specific objective was to investigate how cost and budget plan influences successful implementation of projects in Kiminini sub-County, Trans Nzoia County, Kenya. Kenya Health Policy 2014-2030 was the intervening variable. Explanatory research design that utilizes both qualitative and quantitative data collection methods was used. The target population included the County departments of health, public works, and finance, heads and staff of the sampled facilities, political and community representatives and contractors. Sample size was 100 respondents. Quantitative data was analysed using SPSS version 25. Qualitative data was analysed using content analysis method and presented in narrative form. According to study findings, while some projects were completed within budget, others failed to meet their objectives. Budget estimates and funding were planned though not all were implemented as planned due to delayed disbursement of funds and delay in approving the budgetary allocation for projects due to political differences. The study recommended better collaboration between County and National governments and County assembly, and political good will. The study concluded that planning, and cost and budget plan are crucial in implementation of successful projects. The study aimed at adding value to existing knowledge in the field of study and aiding in implementing successful healthcare infrastructure projects as envisioned in Kenya Vision 2030, and Kenya Health Policy 2014-2030.

Keywords: Implementation, Kiminini, Project planning, Project success, Trans Nzoia.

I. INTRODUCTION

A project, according to PMBOK (Project Management Body of Knowledge), is "a discrete, time-limited effort to deliver a product, service, or outcome" (PMI, 2017, p. 4). The temporal and one-of-a-kind features stem from the fact that projects, though agents of change (Barclay et al. 2016, p. 2), are defined by their location, design, size, and circumstances (PMI, 2017), and according to Werner (2007, p. 193), they have a defined timescale, an approved budget with limited resources, involves risks, but with the aim to achieve a positive change. On the other hand, according to Irfan et al. (2021), planning is the process of figuring out what must be done and how to do it, as well as gathering and allocating all the resources that will be required to do it.

A. Background of the Study

For any project to begin, Arumugam (2017) believes that there must be a motivation, as initiatives are launched to address an issue, satisfy a need, or discover opportunities to improve services and accomplish predetermined objectives. It is widely held that the healthcare industry plays a critical role in maintaining economic growth and prosperity (United Nations, 2015). It is therefore crucial that individuals in charge of healthcare project planning, management, and implementation keep this in mind at all times.

The key motivation for healthcare-related initiatives is Sustainable Development Goal 3, "to ensure healthy lives and the promotion of well-being for all at all ages.” (UN, 2015). As a result, initiatives to improve healthcare facilities have been initiated in many countries to achieve the Sustainable Development Goals.

For the purpose of improving refugee healthcare in Turkey, the European Union and the Turkish government committed €90 million (Council of European Development Bank, 2020) to improve healthcare for all in Turkey. Despite the far-reaching effects of Covid 19, a number of African countries still invested in mega projects to improve the health sector.
Among these are the CapitalMed Medical City in Egypt, the 700 Beds Hospital in Algiers, Algeria, the Code d’Ivoire Regional Hospitals in Côte d’Ivoire, the Komfo Anokye Teaching Hospital in Ghana, and the Zambia District Hospitals Project in Zambia (Abit Business Intelligence, 2020, para. 1).

With the promulgation of the Constitution of Kenya 2010 where most of health services were devolved (The Constitution of Kenya 2010, Fourth Schedule, part 2), the National and the County Governments have the responsibility of ensuring that with the internal and external sources of funding, they provide quality healthcare facilities and services to their population as outlined in the constitution.

In Trans Nzoia County, according to the County Integrated Development Plan (CIDP 2018-2022), the Ministry of Health outlined a number of development and infrastructure projects in the County, as highlighted in the subsequent annual development plans (ADP) with the main goal being reduction of morbidity and mortality and improving quality of life through increased utilization and access to quality health services. Included in the plan were healthcare infrastructure projects within Kiminini Sub-County (CIDP, 2018-2022, p. 14-23, ADP 2019-2020, p. 90-96; ADP, 2020-2021, p. 26-27).

According to research by Klynveld Peat Marwick Goerdeler (KPMG) and Australian Institute of Project Management (2019, p. 6), institutions across the world were faced with ongoing challenges when attempting to complete projects within iron triangle measure of success, scope, time, and cost. The survey found that only one in five projects were completed successfully. 36.0% were completed within budget.

According to Bahra (2019), one of the main challenges for developing infrastructure projects in the United Kingdom (UK) was the escalation of costs and the lengthening of schedules. One third of projects in Sub-Saharan Africa end in failure, with money wasted (Pulse of Profession) (2021, p. 3). According to King et al. (2020, p. 1), in Nigeria, inaccurate costing, poor planning, poor communication, and frequent scope changes were among the causes contributing to the failure of projects.

The scenario in Kenya was not different. Cost overruns affected 35.0%-60.0% of begun projects (Baby et al., 2019, p. 1). The study by Muchiri et al. (2021) indicated that several County-initiated projects in Trans Nzoia County had been delayed. According to Bwayo (2020), the mega project to construct Trans Nzoia Teaching and Referral Hospital has gone over budget and behind time due to unforeseen technical and legal obstacles.

Looking at what constitutes a successful project, for instance completing the project within the approved budget plan, the above statistics are unsatisfactory. Consequently, the general objective of the study was to examine the significance of project planning impact on the successful implementation of functional level two healthcare projects in Kiminini Sub-County, Trans Nzoia County, Kenya.

B. Statement of the Problem

Different studies had been carried out in relation to the successful implementation and completion of projects in Trans Nzoia County (Murithi et al. 2017; Mirembe & Otieno, 2019; Tiluk & Mokaya, 2021). Whereas various recommendations were proposed by different studies on how to implement successful projects, the success rate and completion of healthcare projects has remained a major challenge in Trans Nzoia County (Oeri et al., 2020; Muchiri et al., 2021). Consequently, due to insufficient data that has focused on the healthcare infrastructure projects and specifically on budget planning and successful implementation of projects in Kiminini Sub-County, this study was necessary.

C. The Research Objectives

The study’s general objective was to determine how project planning influences successful implementation and completion of healthcare infrastructure projects in Kiminini Sub-County, Trans Nzoia County, Kenya.

1) The specific objective

To investigate how budget plan contributes to successful implementation of level two healthcare infrastructure projects in Kiminini Sub-County, Trans Nzoia County, Kenya.

D. The Conceptual Framework

The framework was used to illustrate the relationship between the variables and their indicators. The independent variable was budget plan and project success were the dependent variable. Kenya Health Policy 2014-2030 was the intervening variable as shown in Fig. 1.

![Conceptual Framework](source)

Fig. 1. Conceptual Framework.


The study in this chapter analysed the existing body of knowledge on project planning and project success. Research from surveys and studies conducted in Kenya and across the world was analysed. The study's objectives, questions, and assumptions, the study’s significance, scope, and conceptual framework were presented. The organization of the study was also highlighted.

II. LITERATURE REVIEW

A. The Review of the Theoretical Frameworks

The study used two theories: the Theory of Change (TOC) and the Stakeholders theory.

1) The Theory of Change (TOC)

Centre for the Theory of Change (2023) defines theory of Change as an essential comprehensive description and illustration of how and why a desired change is expected to happen in a particular context. Furthermore, the Theory of Change is characterized by the stability with which the cycles are interconnected and fulfilled across time, as stated by the International NGO Training and Research Centre (INTRAC,
and how it might be applied to strategic or policy planning by determining where things stand in terms of needs and possibilities, where things should be, and what steps are necessary to get from where things are to where things ought to be (Kusters, 2017, p. 129).

2) **The stakeholder theory**

Stakeholder theory entails prioritizing the different stakeholders in relation to power, proximity, and urgency with the aim of improving efficiencies throughout the project by strengthening relationships with stakeholders through constant updates (Megan, 2022). Conclusively, any initiated project needs the backup of all the stakeholders for its implementation. Stakeholder theory was therefore of significance in highlighting the different goals and interests both for the organisation, and the involved stakeholders to enhance the success of the projects. In addition, with the Theory of Change that is key in the planning process, the two theories are key in project life cycle for success of any project.

**B. Project Planning and the Success of Projects**

The Project Management Institute (PMI), (2008), as cited by Serradah (2013), states that, of the 42 operations a project manager is expected to conduct during the project life cycle, 48.0% (20) are related with the planning processes, which demonstrates the significance of planning in project management.

Consequently, in emphasizing the pivotal role of developing and implementing a better plan to achieve successful projects, Wafala et al. (2019) maintained that there is positive influence of planning on successful implementation of projects. Research by Mukami (2019, p. 51) while assessing the impact of socioeconomic factors on project completion noted that, planning related issues, such as late material delivery, poor funding program, political influence, incompetent procurement capacity, and incompetent contractors, all contributed to excessive length of time it took to finish projects in Kitale town.

**C. Budget Planning and Successful Implementation of Projects**

Developing a cost breakdown and estimate before beginning any project is essential. Irfan et al. (2021) stated that one indicator of whether a project has succeeded is whether or not it stays within the bounds of the initial budget. According to the global poll conducted by PMI titled "Pulse of the Profession (2020)", 67.0% of all projects fail completely. Therefore, establishing accurate estimates for all the project’s cost that results in a budget plan is necessary, since the budget plan helps in tracking the full project in accordance with the budget (Watt, n.d.). Determining resource cost rates, analysing vendor bids and resources, and calculating the cost of quality are all crucial tools and strategies for carrying out the calculations.

Furthermore, the study by Moses et al. (2021) found that delays in disbursing funds and a lack of available funds as a result of poor budget execution negatively affected the efficiency and effectiveness of the County public healthcare system. During its evaluation of the health sector's 2019-2020 Annual Development Plan, Trans Nzoia County found that, in addition to planning difficulties, limited finance hindered the implementation of the planned projects, causing several to be postponed or cancelled altogether (ADP 2020-2021, p. 29, 106).

3) **Research Gap**

Different studies have been carried out in relation to the successful implementation and completion of projects in Trans Nzoia County. In their study, Murithi et al. (2017), Mirembe and Otieno (2019), and Tiluk and Mokaya (2021). However, there is inadequate literature available in relation to the influence project planning specifically the areas of budget plan in the implementation of successful healthcare infrastructure projects in Kiminini Sub-County, Trans Nzoia County. This is the gap this research endeavored to fill.

**III. RESEARCH METHODOLOGY**

**A. Research Paradigm and Design**

This research adhered to the pragmatic paradigm, which is "a world view that emphasizes what works rather than what might be regarded absolutely and objectively accurate or real" (Wilson, 2021). Explanatory research design which aims to define the why behind a certain phenomenon by connecting different ideas to define cause and effect-based relationships that highlights factors or reasons behind the happening of certain event was used (Voxco, 2021).

**B. Site Description, Study Population and Target Population**

Kiminini Sub-County, one of five Sub-Counties in Trans-Nzoia County, was chosen as the study's location. The landmass that is Kiminini totals 395.3 km² (ADP 2019, p. 3). The 2019 Kenya Population and Housing Census (KPHC, p. 16) estimates that 242,823 call the area home. The target population included all level two health facilities in Kiminini Sub-County, the staff of the health facilities, the County Health Board, the staff at the Departments of Health, Public Works, and Finance, Political class, community representatives, and the contractors.

**C. Sample Frame and Size**

The sampling frame consisted of a list of all healthcare hospitals within Kiminini Sub-County, heads of the health facilities, staff within these facilities, County Health Board, County departments of health, public works, and finance, contractors, community representatives, and political leaders. The study's sample size was one hundred (100) respondents. For the interview purpose, twenty (20) respondents were purposively sampled from the sample size. Table I shows the respondents that were selected for the study.

**D. Sampling Procedure**

The stratified random sampling procedures where each member of the subgroup had an equal chance of being selected was used because results of stratified random sample may be trusted to be fair and accurate (Hayes, 2021).

Purposive sampling, a non-probabilistic method of selecting study participants who have been hand-picked for their unique set of experiences and knowledge on a given issue (Etikan et al., 2016) was also used.
E. Data Collection Methods

5-point Likert scale questionnaire was used to gather primary data for the study. In collecting information from respondents on their perspectives, a questionnaire is typically utilized (Bhandari, 2021). An interview guide was used to gather detailed data from among 20 (Twenty) key informants from the sampled respondents. Professional research assistants were hired to oversee the data collection process to guarantee its integrity.

F. Validity of the Study

According to Middleton (2019), for a method to be considered highly valid, its outcomes must be consistent with the traits, characteristics, and variances seen in the real world. Using content validity, the questionnaire was developed in collaboration with the supervisors to ensure it measured the right things. This was evaluated by comparing the study’s conceptual definition of the variables and indicators with the measurements themselves.

G. Reliability of the Study

O’Brian et al. (2018) define reliability as the capability of a research method or tool to produce consistent outcomes across multiple tests. For the reliability test, fifteen respondents from Cherangani Sub County which boards Kiminini Sub County was sampled for the piloting purpose. The questionnaire was administered, and the Cronbach’s alpha was used to measure the internal consistency, where a reliability coefficient of 0.70 or higher was deemed acceptable.

H. Data Analysis

According to Calzon (2022), data analysis is the process of gathering, cleaning, analysing, and interpreting data to derive insights for decision-making. Errors were cleared from the original data by editing, categorizing, coding, and statistically analysing it. Descriptive statistics in the form of graphs and charts were used to present the quantitative data that was analysed using SPSS version 25. Content analysis was utilized to analyse qualitative data. This was expressed in narrative form. All of the study’s variables were put through a relational analysis to see how they connected to one another.

I. Ethical Considerations

The researcher got approval from the University's research department, permission from National Commission for Science, Technology, and Innovation (NACOSTI), and permission from the County Government of Trans Nzoia’s Ministry of Health for access to the relevant County departments and the selected health facilities. Respondents consent, privacy, security, and well-being were treated with utmost importance. All the relevant works cited in the research were referenced.

IV. DATA PRESENTATION AND INTERPRETATION OF FINDINGS

In this chapter, presentation and interpretation of findings were analysed. Charts and frequency tables were used to present the data.

A. Demographic Characteristics of Respondents

For the purpose of this study, the demographics used were gender and profession of respondents. The demographic results were presented by use of charts.

1) Gender of respondents

Respondents were asked to indicate their gender either as male or female. This was meant to help in analysing the level of participation and representation of both genders in the study. The collected data were presented in Fig. 2.

According to the collected data as represented in Fig. 2, respondents who identified themselves as male were 39 representing 39.0 % while those who identified themselves as female were 60 representing 60.0 %. Only one respondent representing 1.0% did not identify with either gender.

2) The Profession of respondents

Respondents were asked to indicate their profession and the result of their distribution was presented in Fig. 3.

The category of profession from Fig. 3 indicated that, Health Board had seven (7.0%) of respondents, five (5.0%) of respondents were Clinical officers who were the heads of the selected health facilities under the study. Health workers category comprised had 32 (32.0 %) of respondents, two (2.0%) of respondents were political leaders while twelve (12.0%) of respondents were Community representatives. Six (6.0%) of respondents were Contractors. The Departments of Health, Finance, and Public Works had 18 (18%), 10 (10%), and 8 (8%) of respondents respectively.

B. Presentation of Data Analysis

The analysis of data was based on the objective of the study. The variables were examined and presented based on the collected data.
1) **The Analysis of dependent variable**

The study’s dependent variable was project success, which was measured in terms of improved service delivery.

   a) **Improved services to the beneficiaries**

The respondents were asked to respond to the statement that the projects had led to improved services to beneficiaries. Results were presented on Fig. 4.

The results from Fig. 4 indicated that the greatest number of respondents agreed that the projects had led to improved service delivery to beneficiaries at 52.0%. 11.0% of respondents disagreed, as 7.0% of respondents strongly disagreed that service delivery to the beneficiaries had improved due to the projects. Only 1.0% of respondents strongly agreed.

2) **Project Cost and Budget Plan**

The variable was analysed based on four statements: the budget estimates, the funding, budget control, and successful execution of the budget plan. The results were presented by use of pie charts and percentage.

   a) **Funding of the projects was implemented as planned**

The respondents’ summarized responses were presented on Fig. 5.

   b) **Budget was well planned and managed**

The respondents were also asked in the study to respond to the statement that the budget was well planned and managed. The summarized results were presented on Fig. 6.

   c) **The budget was executed successfully as planned**

The respondents’ responses were summarized and presented on Fig. 7. The results on Fig. 7 indicated that the majority of respondents at 41% disagreed that the budget was executed successfully. 31.0% respondents were neutral while 21.0% agreed that the budget was successfully executed. 4.0% strongly disagreed while 3.0% strongly agreed that the budget was successfully executed.
Fig. 5. Implementation of the Funding Plan.

Fig. 6. Management of Budget Control Plan.

Fig. 7. Successful Execution of the Budget Plan.
C. Correlations

<table>
<thead>
<tr>
<th>TABLE II: CORRELATIONS</th>
<th>Success</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>1</td>
<td>0.474**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>-</td>
<td>0.000</td>
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<tr>
<td>N</td>
<td>99</td>
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<td>0.474**</td>
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<td>N</td>
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** Correlation is significant at the 0.01 level (2-tailed).

D. Findings and Discussions of the Study

Consistent with earlier studies and research, the study confirmed the correlation between project parameters such as scope, schedule, and cost. From the findings of the study, successful implementation of functional level two healthcare infrastructure projects in Kiminini Sub-County were largely influenced by lack of available and timely project funding.

The study findings in relation to the cost and budget estimates, funding, budget management and execution were that 60.0% of respondents had a neutral view on the estimates as 39.0% disagreed that the funding of the projects was implemented as planned. This was echoed by respondent 08 who argued that:

**The witnessed delays in the completion of some of the initiated projects is a clear indication that there was a problem in terms of funding of the projects. Either they were not available on time, or the budget was not enough** (Respondent 08, 08/09/2022).

Furthermore, respondent 13 noted that:

**There was a budget in place for every initiated project. It was part of the County Integrated Development Plan (CIDP) which was captured in the County Annual Plan (ADP). However, varied factors affected the implementation of the budget as planned. There was lack of political good will between different political sites that let to delay in budget approval in the County assembly. Secondly, there were delays in the remittance of funds to the County from the National Government. These eventually resulted in the delay in the disbursement of funds meant for the implementation of the projects** (Respondent 13, 09/09/2022).

The above responses offered clarity on the responses collected on whether the budget was successfully executed as planned whereby 41 (41.0%) of respondents disagreed. These findings conquered in part with those of Selina and Willy (2017) who in their analysis of the factors influencing the completion of the County funded projects in Trans Nzoia County found that delays in the disbursement of funding had caused the projects to be delayed or scrapped altogether.

To a similar extent, Masaba et al. (2020) analysis of health structural development through devolution in Kenya found that insufficient funds and resources, primarily from the National Government, posed a significant barrier to service delivery, including healthcare infrastructure projects in the counties. Only one informant attributed the delays to contractors saying that, “the contractor was slow in their work which resulted in delays” (Respondent 07, 06/09/2022).

V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

A. The Summary of the Findings

The findings were presented based on the study’s research question. The extent the budget plan contributes to the successful implementation of functional level two healthcare infrastructure Projects.

The research results showed that cost and budget planning, and estimation were clearly defined. However, the control and the actual execution of the budget plan was influenced by factors that resulted in the delays. The delays in approval of budget allocation by County assembly and the eventual distribution of funds caused the delays. The delay in the disbursement of funds to the County by the National Government was also the cause as to why the budget was not controlled and implemented as earlier planned. Because of this, the project's funding control and schedule plan were unable to be met. However, despite the delays, some projects were completed while others were delayed or were found to have stalled.

B. Conclusion

The study established that the implementation of healthcare infrastructure projects in Kiminini Sub-County was influenced both by the availability of funds and their timely disbursement. All healthcare infrastructure projects started in Kiminini Sub-County would have been completed on time if there was timely budget approval and disbursement of funds from the national and County governments.

C. Recommendations

A successful plan requires cooperation from all key stakeholders. The study recommends better cooperation and coordination between County and National Governments, the County Assembly, and other financing parties. There needs to be a solid and functioning process put in place to speed up the distribution of funds to remedy this situation.

REFERENCE


