

**INFLUENCE OF LOCAL CONTRACTORS' CAPACITY ON PERFORMANCE OF
ROAD CONSTRUCTION PROJECTS:
A CASE OF NAROK COUNTY, KENYA**

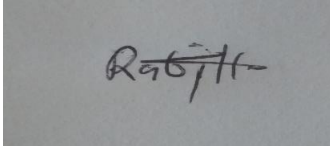
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**A Research Project Submitted in Partial Fulfillment of the Requirements for the Award
of Degree of Master of Arts in Project Planning and Management of the University of
Nairobi**

2021

DECLARATION

I, the undersigned declare that this research project is my original work and has not been previously presented to any other institution of learning for the award of any degree or examination.

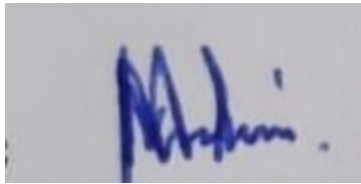


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This research project has been submitted with our approval as the university Supervisors.

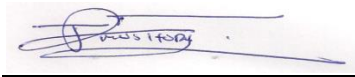


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DEDICATION

This research project is dedicated to my family, my father Simon Saundu Mungu, my mother Beatrice Achieng Mungu and my brothers Shem Manyu Mungu and Noble Ahomo Mungu for their continuous moral support and sacrifice when I was out to undertake my studies.

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ABBREVIATIONS AND ACRONYMS

ANOVA	Analysis of Variance
BSC	Balanced Score Card
KENHA	Kenya National Highway Authority
KERRA	Kenya Rural Road Authority
KPDA	Kenya Private Developers association
KURA	Kenya Urban Road Authority
NACOSTI	National Commission of Science, Technology and Innovation
NCA	National Construction Authority
SANRAL	South African National Road Agency Ltd
S.D	Standard Deviation
ToC	Theory of Constraints
UK	United Kingdom
USA	United State of America
VFM	Value for Money

ABSTRACT

Road projects in Narok County just like the rest of the country continue to perform poorly especially in terms of durability. The influence of Contractors is very critical to any Road construction and maintenance project since the success of implementation largely depends on the contractor handling the project. The purpose of the study was to explore influence of local contractors' capacity on performance of construction projects in Narok County, Kenya. The indicators of contractors' capacities included skilled manpower of local contractors, working capital of local contractors, organization structure of local contractors and client support by local contractors. Correlational research design and descriptive analysis was used as the research design in this study. The target population was 190 comprising of employees from KENHA, KURA, KERRA, NCA and local contractors in Narok County. The choice of this target population was based on their understanding of road construction projects in Narok County. Using Fisher formula 1998 a sample size of 96 respondents was selected using a proportionate stratified sampling technique where by 13 are from KENHA, 14 from KURA, 12 from KERRA, 2 from NCA and 55 officials from road contractor in Narok County. Data collection in this study relied on structured questionnaire which was measured using Likert scale statement and an interview guide. Data collected was cleaned and coded in preparation of data analysis. Descriptive statistics which include mean, percentages, frequencies and standard deviation was employed. The study used inferential statistics which included correlation and regression analysis to test the relationship between the independent and dependent variables and establish the predicting influence on the road performance. The study found that the level of professional training of the project team influences performance of road construction projects in Narok County, local contractors were knowledgeable about road construction projects, the level of skills among local contractors in their respective area is usually very high, local contractors have worked in the construction sector before, have employees with requisite experience in road construction, and had relevant experience in civil engineering and related courses. The research found that local contractors had access to adequate credit to finance projects, the level of access to credit by local contractors from financial institutions was high, financial institutions had flexible lending terms, local contractors' operational resources were adequate to manage the projects and had enough cash in the bank to facilitate road construction projects. Moreover, the study found that there was no clear communication between subproject teams, clients and suppliers and other stakeholders, local contractors had no clear definition of work plans and task management, and decision-making structure is not clearly defined among the local contractors in the road sector. The study also found that local contractors were not paid promptly and as agreed by their clients, called meetings were not fully attended by the clients, approval of work plans by clients was not done in a structured manner and time, and local contractors were not adequately allocated enough funds for road construction. The research concluded that organizational structure ($r=0.793$, $p=0.007<0.05$) had the greatest significant influence on performance of road construction projects in Narok County, followed by working capital ($r=0.662$, $p=0.001<0.05$), then client support ($r=0.694$, $p=0.012<0.05$), while skilled manpower ($r=0.601$, $p=0.003<0.05$) had the least significant influence on performance of road construction projects in Narok County. Road construction projects in Narok County ought to adopt unwavering checks on local contractors' financial stability and technical resources at their disposal before awarding them the road construction contract. There is need for clients to undertake a critical financial evaluation of prospective local contractors before awarding them the road construction project. This helps in

curbing operational challenges which delays the project completion and resulting in budget overrun.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Globally, roads are critical to financial advancement by giving admittance to assets, occupations and markets among others. Access is a key determinant of poverty, and communities without physical access face far greater barriers to health, education and other social services globally. In addition, the capacity of the society to take full advantage of the production of surplus crops and employment opportunities is heavily limited. Roads are a crucial component in the delivery of physical reach. However, the advantages of increased accessibility are short-lived if roads are not preserved, as noted by World Bank (2017) that “roads can quickly fall into desolation without routine maintenance, preventing the long-term effects of road enhancement on development, such as amplified agricultural production and growth in school enrollment”

The World Bank (2017) also found that tracks “are one of the highly valuable public assets in any region, so it is crucial to keep them in proper working order whether the road is paved or unpaved. In its essence, the road construction and maintenance sector is multilayered since it is carried out by a large amount of players, among them consumers, policymakers, contractors, shareholders, and advisors (Dadzie et al., 2012). It is among the world’s most unstable markets in the opulence of the globe. It encounters volatile cycles of demand, project-specific requests, unclear conditions, and blends with many variables. Contractors assume a quite prominent role in this field and the performance of projects relies primarily on the contractors.

As Mostafa (2018) observed in his paper on Road maintenance in Africa, approaches and perspectives in Africa noted that the prevalent means of transport of cargo and passengers in Africa is road, from which the need is rapidly rising. Most African nations have established institutional reforms, such as the South African National Road Agency Ltd (SANRAL), which involves the sprouting of road trusts and agencies and has made substantial strides in road construction.

Problems need to be answered in all African nations to promote adequate construction and maintenance, including as reported by Burningham and Stankerich (2005) that many countries typically invest only 20-50 percent of the full cost for road maintenance, resulting in roads being impaired by premature degradation to varying degrees, not only in Africa. A study by Ofori *et al.* (2012) on the problems facing Ghanaian contractors and consultants found that the issues are the similar as others commonly observed in other third world nations' studies on construction industries. Inadequacy of means of obtaining sufficient working capital, inadequate organization, inadequate engineering skills and shoddy construction and maintenance are the challenges described by Ofori et al. (2012) as especially the one that affect the performance of Ghanaian contractors. The efficiency of Ghanaian contractors is also affected by challenges in securing required funds for the project (Badu *et al.*, 2012).

The road construction and maintenance sector is affected by similar experiences. Capital was identified as the crucial challenge confronting local contractors in the construction sector, according to the Kenya Private Developers Association (KPSA) publication on the problems facing Kenya's construction industry in May 2011 (Alzahrani & Emsley, 2013). This is combined with the passivity of construction firms as they prefer to lull on their accomplishments. Poor project planning, contract variations & policies, pending payments from execution agencies and customers, poor management and structuring of construction companies, complicated processing of payments, poor credit access, broken procurement system, lack of skilled workforce, inequitable contest with international competitors, duplicity & corruption, archaic technology failure. The government of Kenya through its Vision 2030, aims to guarantee development in all parts of the nation by 2030 by ensuring no area is referenced as remote. Vision 2030 recognizes infrastructure development to be among the main drivers of economic growth, and Vision 2030 seeks a nation that is highly intertwined via highways network, rail lines, ports, airfields, water supply and sanitation amenities and telecommunications (African Development Bank, 2010). Kenya has made heavy investments in infrastructure as per the Road Sector Investment Plan 2010-2024, which is evident through many projects, such as the Feasibility study and Preliminary Design Project on Narok and Kajiado Town Roads, 10,000 Kilometer Road annuity project, the Mau Mau Roads Project, the development of Lamu Port through the LAPSSSET Project, to mention a few.

Despite the significance, social and financial worth of stable and productive infrastructure, there has been a delay in the meeting deadlines of any projects in Kenya. Nyika (2012) indicated that, in time and budget, 20.7 percent of Kenyan projects were executed while 79.2 percent showed still other sort of failings. According to the report, inadequate execution ability, ineffective project management, bad design architecture and political intervention were the key factors of failures. Accordingly, the successful implementation of infrastructure projects requires the construction industry to create adequate ability to take on projects in order to guarantee the prompt and effective, quality and cost-friendly realization of these growth projects (Mwangi, 2016). This study looked at the influence of skilled manpower of local contractors, working capital of local contractors, organizational structure of local contractors and client support by local contractors on performance of road construction projects in Narok County.

1.2 Statement of the Problem

Execution of projects is measured against the established triple constraints of budget, timeliness, and effectiveness, but well-being has become equally important (Adegbembo, Bamisaye, & Aghimien, 2016). Addressing other technical details stipulated in the agreements has also been used as a guideline for the construction of roadway projects. A look at Ololulunga – Olmekenyo road which is among one of the five roads in Narok county that were launched by KeRRA for construction, the 20-kilometer stretch was assigned to Trans-Nile Enterprises Limited at a cost of Sh644 Million under the supervision of Kenya Rural Roads Authority (KeRRA). The contractor is said to have delayed the construction from the time the works was scheduled to be completed (Salaton, 2021). This begs the question whether the contractor had capacity and adequate team to undertake the works.

Further, a look at the road leading to amenities such as referral hospital, police station and county offices has large potholes and some have crevices. The severities of the roads condition in Narok have led to the leaders opting to use helicopters to stay away from the distress that accompanies utilizing the roads (Kekanae, 2019).

It has been established that the roads built by KeNHA are an example of the National Government's has so far supported construction of the Narok county government in carrying

out its town plan. The National Government gave it's hand in building the, Narok road, Narok- Mau and the highway will soon be in use, decongesting the Mai Mahiu – Bomet highway that runs through Narok town. The tarmacking of the Maji Moto – Sekenani route, which leads to the famed Mara, is nearing completion (Kekanae, 2019). This shows improvement however there is still a lingering issue with roads constructed under KeRRA for instance the 22km Ololulunga – Olmekenyio stretch that was assigned to Trans-Nile Enterprises Limited started in 2016 and up to date it is yet to be completed questions has been raised on the level of manpower the contractor had and advised the contractor to speed up the progress by engaging and maintaining qualified staff to avoid further delays. (Salaton, 2021).

These challenges of road projects performance in Narok County ranges from helpless utilization of road project reserves, termination delays alongside poor service delivery to drivers and pedestrians, and over-dependence. Furthermore, the contracting companies' road project execution strategies are unethical. Multiple reliable publications and empirical research have documented these challenges, as well as their links to the number of active contractors (Kekanae, 2019; Salaton, 2021).

Among other things, achieving success in executing road construction programs depends primarily on the contractor running the project. For any construction and maintenance project, the effect of contractors is very important. Several researches (Wafula, 2017; Medugu *et al*, 2011; Mwangi, 2016; Mushori *et al*, 2020) have been performed on the variables impacting the full implementation or deployment of road construction projects. However, there is no research which has been studied on the impact of local contractors' capacity on road construction projects in Kenya's Narok County. Hence, the goal of this study was to close the gap by thorough investigation on local contractors' capabilities on execution of road projects in Kenya's Narok County.

1.3 Purpose of the Study

The study purpose was to investigate the influence of local contractors' capacity on performance of construction projects in Narok County, Kenya.

1.4 Research Objectives

The following objectives guided the study:

- i. To assess how local contractors' skilled manpower influences execution of road construction projects in Narok County.
- ii. To establish how local contractors' working capital influences execution of road construction projects in Narok County.
- iii. To determine how local contractors' organizational structure influences execution of road construction projects in Narok County.
- iv. To examine how local contractors' client support influence execution of road construction projects in Narok County.

1.5 Research Questions

The following research questions were sought to be answered by the study:

- i. To what extent does local contractors' skilled manpower influence execution of road construction projects in Narok County?
- ii. How does local contractors' working capital influence execution of road construction projects in Narok County?
- iii. How does local contractors' organizational structure influence execution of road construction projects in Narok County?
- iv. How does local contractors' client support influence execution of road construction projects in Narok County?

1.6 Significance of the Study

The results of the study are hoped to be crucial in providing insights on the role of contractors' capacity in the execution of construction projects in Narok. These insights might be used by Local contractors to enhance the execution of road construction and maintenance projects in Narok County. The output of this study can also be used by county and National Government in forming policy and regulations to ensure capacity building and sustainable growth in regulation of the construction industry towards achieving the county and national development goals.

In an effort to increase their competitiveness and credibility, the research results might be of service for local contractors to understand the problems that may constrain their efficacy and thus guarantee that they enhance the organization of their financial matters and incorporate

proficient qualified workers. For other researchers affiliated with policy formulation, the output of the study could be important and provide scholars with additional information and data on the impact of local contractors on road construction projects. The research work might be helpful for construction supervision and road sector customers who can understand how their services affect local contractors involved in the construction projects.

The research study can be used by other studies conducted in other parts of Kenya and other regions outside the country for comparative analysis of influence of local contractors on road construction projects to make it easier to investigate strategies for bettering the execution of road building projects. The research could still offer various additions to literature on influence of local contractors on road construction projects.

1.7 Limitation of the Study

Due to Covid-19 restrictions limitation of movements and accessibility of respondents was encountered. The study adopted the use of Google document in data collection to ensure adherence to Covid-19 restrictions. The study also used phone interviews to collect qualitative data from top management of KENHA, KERRA, KURA and NCA to mitigate this limitation.

1.8 Delimitation of the Study

The study's aim was to see how the capacity of local contractors affected the performance of road building projects. Factors that were looked into were: skilled manpower of local contractors, working capital of local contractors, organizational structure of local contractors and client support by local contractors. Data collection was limited to employees from KENHA, KERRA, KURA, NCA and Local contractors in road construction projects in Narok County since they were the most knowledgeable in matters of local contractors' capacity in the county.

1.9 Assumption of the Study

It was overlooked that the spread of Covid -19 would be managed within the country which led to the government's removal of travel restrictions to enable movement during data collection. It was also assumed that the governing bodies of the institutions selected would grant permission to gather information from their employees. Further, it was assumed that the

composition of the target population would not be major and that the selected respondents would be available to give responses to the research instrument in good time and that they would be candid, and dependable in their insights to the research instrument.

1.10 Definitions of Significant Terms

Client support: Means critical support extended by the client to the local contractor in terms of budget allocations, level of involvement of stakeholders and the payment frequency.

Local Contractor: Firms that undertake road construction Project within Narok County

Organization structure refers to contractor's critical management components that encompass decision-making process, definition of work plans and effectiveness of communication within local contractors

Project Performance: Refers to the project's key performance indicators which include durability, quality and level of client's satisfaction on the road projects constructed by local contractors

Skilled manpower: Refers to the level of training of the road project staff, skill possessed and the experience gathered in previous projects to enable completion of tasks and subsequently improve road project performance.

Working capital: Refer to the credit availability, operating resources, and bank cash available for contractors to use in financing road construction projects.

1.11 Organization of the Study

The research report project has five chapters. The first chapter covers the research study context, the problem statement, the purpose or intent of the study, the objectives or goals of the study, research questions, the significance or meaning of the study, the limitation and delimitation of the study, the study assumption, and finally the definition of selected key and significant terms as used in this study.

Chapter two presents the literature review which covers various aspects concerning influence of local contractors on road construction projects: skilled manpower of local contractors and

road construction, working capital for local contractors and road construction, organization structure of local contractors and road construction, clients support for local contractors and road construction. Chapter three illustrates the following topics; design of the research, targeted population, test size and examining methodology, research instruments, Piloting and research instruments, validity and relevance of research instruments, data collection and data analysis techniques, ethical consideration and finally operationalization of variables.

Chapter four has data analysis, presentation, interpretation and the discussion. Chapter five has summary of finding, the conclusion and recommendation.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter entails review of existing literature on the influence of local contractors' capacity on performance of road construction projects. The literature was mainly on the following study theme; performance of road construction projects, skilled manpower and performance of road construction projects, working capital and performance of road construction projects, organization structure and performance of road construction projects, client support and performance of road construction projects. The chapter further presents the theoretical framework that the study was anchored on and further shows the conceptual framework which shows the hypothesized relationship between the study variables. Finally, this chapter summarized the research gaps that the current study sought to address.

2.2 Performance of Road Construction Projects

To improve execution of projects, venture implementers, donors and different investors should surrender to the undertaking targets (Zulu &Chileshe, 2010). They ought to be steered by clear standards so that whatever has been accomplished meet the intended users' needs and that execution is completed as per the schedule. The process of implementing the project is required be specified as well as the critical activities to be completed and potential risks evaluated. It is important that project implementers have a realistic perspective on the project's scope, which includes portraying objective setting and coordinating the stages involved.

The venture implementer ought to be well versed so as to handle all movements and be able to look for solutions to deal with challenges arising while adjusting to the changes effectively. The efficiency in handling projects can be cultivated through fostering a culture of correspondence between the partners of the endeavor. As the project implementers consider what they are generally anticipated to perform, productivity increases (Cheruiyot & Wanyoike, 2015). The organization and task supporters should know the circumstance with the endeavor, various exercises crash and burn due to helpless correspondence.

Top administration adjusts venture's assets and implementers in pursuing execution; this exceptionally persuades them to submit their assets and backing to guarantee continuity of the project. Weak top administration support is a significant factor behind the fizzling of numerous development projects. Enshassi, Abdul-Aziz and Abushaban (2011) posit that effective task execution adds to decrease of expenses. In developed economies, most road construction projects are very much executed because of various purposes for instance top administration support, accessibility of assets and successful correspondence and coordination of exercises by every one of the partners associated with road development projects. When road projects are completed as per the scheduled time and yield satisfaction to all stakeholders, including contractors, customers, and end-users, they are considered successful. Street improvement projects are being completed due to cost reduction and timely completion (Mwangi, 2016).

Recent records have demonstrated that execution of project entails a complex process; it increases the scope of execution to include components, such as project performance, in the execution process itself. Wongrassamee *et al.* (2013) argue that various types of individuals view project execution in various manners at various occasions. Zulu and Chileshe (2010) clarify that accomplishing the fulfillment of the primary undertaking partners including the client is one of the principal objectives of task execution. Project stakeholders tend to be satisfied when task is completed on schedule and at a high standard. This prevents cost overruns, saving the company money. The Balanced Score Card (BSC) is a commonly used tool for assessing execution, and its indicators include Key Performance Indicators.

The Balanced Scorecard (BSC) was formulated by Kaplan and Norton (2001). It's a measurement framework that applies four key measurement classes that incorporates monetary, client, inner business cycles and learning and development; every one of which has a wide scope of possible sub-measures. BSC applies monetary and non-monetary markers in estimating performance. Monetary measures portray the aftereffects of activities taken while non-monetary markers are driven by future execution. Kaplan and Norton (2001) argue that a firm can be seen from the following accompanying points of view; monetary, development and learning, inside business cycle and client viewpoints. When estimating organization

performance, the administration ought to foster its norms through gathering information and examining it according to the four viewpoints.

Performance estimation model is gotten from a cybernetic view where performance estimation is comprised by monetary pointers in which planning and control cycles to a healthy view is arranged on a few non-budgetary methodologies in which performance measurement play as a self-sufficient process combined with a wide extent of exercises (Meng and Minogue, 2011). Performance estimation is a constituent of planning and control cycle that uses performance information and permitting controlled input while observing execution of a strategy (Wu, 2010). Kaplan (2008) note that performance measurement is supported by a monetary viewpoint. In a comprehensive view, Performance measurement is an essential segment while creating strategic plans and execution assessment when planning to accomplish organizational objectives. It is imperative to understand that before the organization enhances something, it ought to consider quantifying and qualifying it; this suggests that what should be improved ought to be quantifiable (Kaplan and Norton, 2001).

2.3 Skilled Labour and Performance of Road Construction Projects

Skilled labour in the construction sector is critical to the firm's development, growth and success because they are inextricably linked to the road work endeavor. This is supported through studies by Meduguet *et al.*,(2011) and Rafee (2012). There is a severe lack of skilled manpower in Kenya notwithstanding the numerous Road Construction projects the country is performing. The promotion of intermediary colleges to universities has furthered the erosion of creation of skilled manpower hence leaving a major pothole of skilled manpower.

A study conducted by Wafula (2017) focused on elements affecting road projects execution in Kenya using an instance of road contractors in Machakos County. The study used descriptive survey. The population and sample were derived from contractors in the County of Machakos. It was found that four main factors influenced road projects' performance in Machakos County, which were capital availability, organization culture, management's skill and technical skill.

Lack of adequate skills is a challenge posed by many nations in the entire world and the buying power of the end consumer brings about the development of professional labour

within the construction industry framework. This is backed by research done by Wang (2010) In his study *Introduction to Environmental Impact Assessment*. Therefore, there is a need for extra qualified staff. Meduguet *al.* (2011) found that the impact of skilled labour in the construction sector is highly evident in its final product where highly competent workers are in work. The reason to this is their direct involvement in timely attainment of construction projects finalization for they deal with the technical stage of such ventures. There is a major drop in low quality, low performance, untimely completion of the works, expense and schedule delays in projects where qualified skilled labor is involved. Abiola (2004) is convinced that the redoing of faulty or undesirable job is mostly due to a low standard of workmanship that typically stems from the involvement of unqualified workers. Qualified manpower also aids to improve productivity, minimize injuries, reduce oversight, increase the stability of the company. Trendle (2008) indicated the presence of quite a number of causes of skill shortages; a rise in labor demand resulting from continued expansion of the infrastructure.

Foreign labor hiring costs are high incurred as a result of taxes, health checks, protection bonds and medical expenses that lead to labor shortages in Malaysia. Hanim, (2010). This is also advocated by Sambasivan &Yau (2007), through a study done in Malaysia. The discovery was that of the twenty seven triggers of the construction delays, human labor is placed at number seven. This suggests that the main contributor to delays in the construction industry in Malaysia is labor supply.

In the literature, the influence of the supply of skilled labor has been sufficiently recorded with the exponentially inflating demand on construction contractors to carry out proficient, cost-effective and on-time projects (Medugu*etal.*, 2011). The value of more professional workers in the road construction industry should not be underestimated because, due to inadequate road maintenance programs, they have the potential to eliminate shortfalls. Bustani (2000) came to the conclusion that the quality and supply of skilled labor is perceived to be a critical element to the construction sector's effectiveness. The challenge of skilled labor shortages is a significant risk to the financial well-being of many nations in the world. Medugu*etal.* (2011) indicated that skilled labor shortages have an impact on many areas of construction activities and have an effect on timeliness, cost of the project and work's quality.

The researcher acknowledged that these shortages can have a negative effect on the financial wealth realization in which these projects are premeditated.

The deficiency of skilled labor is not a lack of employees (Dantongetal. 2011), but rather a lack of adequately trained, competent and industrious employees eligible for unique kinds of work. Attar *et al.* (2012) identified causes for the skilled labour shortages, such as a lack of training and up skilling, an ageing workforce, and an environment that still does not attract young people as prospective employees. Kabacia (2018) illuminated out that the efficiency and number of skilled labors is regarded to be a critical element in the construction sector's effectiveness. Primary reason responsible for scarcity entail: ageing of the industry's skilled labor force, lowering of the number of new applicants to the technical fields, inadequate economic assistance, and ineffective condition of the country's vocational education and training / retraining system.

Capacity building is important for sustaining economic growth and growth training, because intellectual capital is by far the most valuable asset of any contractor (Long *et al*, 2012). Many local contractors concentrate on monetary benefit while ignoring people who genuinely contribute to job and benefit generation (Mushori, Rambo & Wafula, 2020). Dantong (2015) stated that these are amongst the many workforce training challenges, as most contractors in Nigeria seldom think about their employees' training. Onukaet (2012) suggested that insufficient training, retraining programs in road construction companies frequently leads to a lack of expertise, lack of quality and inefficiency. It implies, therefore, that such difficulties will be inevitable without the indulgence of a training strategy offered by contractors. In that report, it is advocated that training and the growth of manpower must be seen as required factors that help to boost the obsolete state of the road industry through improving employees developing workforce.

In Nigeria, labor is a key element of construction work. Unlike in industrialized nations such as the United Kingdom, the United States and Germany, where construction site activities are very automated, construction work is still labor intensive in developing nations and, in specific, Kenya. This coincides with a survey done by Alinaitwe (2007) graded dual most important issue of poor performance of construction workforce in developing countries as

incompetent managers and absence of employee expertise. The preceding parameters were considered to influence the access to skilled labor in the construction industry in many of these developing countries from studies undertaken in developing countries on the skilled labour shortages; relatively high labor volatility, limited knowledge on the production of manpower, poor education, lack of apprenticeship programs and increasing costs of training sessions.

2.4 Working Capital and Performance of Road Construction Projects

Infrastructure development in Africa is expensive to the extent that projects that are commissioned without adequate financial resources fail before completion. Although mega projects are funded by World Bank, Africa Development Bank among other international donors, total cost of construction always supersedes the initially planned for budget. According to Ugochukwu and Onyekwena (2014), the working capital or finance of the contractor is the asset he wants to ease the advancement of implementing on-site construction work. Operating expenses necessitates services that are required to butter the construction firm's everyday operation. Working capital was described by Pilcher (2011) as disparity between present assets and liabilities. Working capital's criteria, their structure and usage, shifts as construction work is being made. Akinsulire (2002) equated the ceaseless flow of blood in the human body to the predicted flow of working capital during the construction phase. According to the findings by Mushori, Rambo and Wafula (2020), road construction projects are capital intensive and the need to assess a road contractor on the same basis is vital.

The financial well-being of road projects is dependent on the management of working capital by balancing the proportions of the working capital's management components. A study by Kahura (2014) on influencing factors of the efficient and effective delivery of projects for road construction using the case of Nairobi County focused on, Benchmarking, procurement method, duration, IT and weak project management. The study found out that the successful and effective implementation of road construction projects is affected by benchmarking, ineffective procurement method, duration, IT and weak project management. To guarantee effective venture execution there should be satisfactory working capital. Mwangi (2016) on the other hand centered around factors impacting contractors' execution in road development

using chosen Kenyan contractors. The examination factors included skilled labor, hierarchical structure, working capital and customer support.

The administration of working capital is crucial. The best degree of working capital requirements of an enterprise must be developed to guarantee that capital investment is managed and that a sufficient amount of money is set aside to fund outstanding assets in order for the project to complete on schedule and on budget. The influence of contractors' financial capacity in execution of projects was investigated by Akali and Sakaja (2018). The study included a rigorous survey. A representative sample of 137 people was drawn from 204 people through Yamane (1967) formula. The study showed that working capital is important for the success of road construction projects. Mushori, Rambo and Wafula (2020) used a detailed survey and correlation research designs and set up that the monetary capacity of contractors has a positive and unignorable influence on road performance. This study subsequently showed that it is essential to set up a solid monetary foundation by the contractors for successful project completion which may prompt astound execution.

Working capital management requires strategizing, purchasing and managing the usage of working capital throughout the road construction processes. The adequacy of working capital during Road Construction depends on the right makeup and adequate funding throughout. Nwude (2010) noted that the contractor needs a focused positive effort as mismanagement will undermine efficiency and level of benefit. Working capital management is very important in execution of projects. In order to guarantee that the working capital level is preserved and in a cost-effective and time-conservative manner, it is important to assess the appropriate level of the project's working capital needs. In addition, the quantity of the individual parts forming the working capital must be constantly reviewed and controlled to ensure that the specifications are not surpassed.

In developing countries, accolades of major construction contracts are biased in favor of international competitors against resident contractors as international firms are perceived to be more practically and organizationally experienced and very well-organized in the acquisition of funds, along with professionalism. Conversely, over the years, citizen contractors have encountered problems resulting from a lack of working resources; weak project success is a

function of sticking to delivery deadlines, poor quality of work and fund management, which has resulted to bankruptcy in plenty of many instances and abandonment of projects in extreme cases. In other terms, inside introductory contract amounts and barely inside planned fruition periods, most resident contractors typically fail to finalize construction contracts. In their Nigerian construction industry reports, Ogbebor (2002), Oseni (2002) and Akintude (2003) reported that local construction firms have under-capitalization hurdles.

There needs to be sufficient working capital to guarantee effective project execution. Rahman (2013) noted that contractors' financial capacity and adequate funds flow are critical to sustaining progress in construction as expected. Ameh and Osegbo (2011) indicated that financial constraints lead to schedule overruns and appropriate financing ensures fair cash flow. Kenyatta *et al.* (2015) discovered that payment of singular or on the other hand more authentications, inconsistent underpayment or installment and inability to pay prompted project workers having income challenges. This has brought about deferred fulfillment of projects, building debates and maybe insolvency. Street development is empowered by factors which may include: availability to credits, redirection of agreement assets for various purposes from the venture, deficient task arranging and control, instability in conversion scale and high money costs. The examination asked market players to reconsider enacting on a specific installment framework as it has happened in a few different countries.

2.5 Organizational Structure and Performance of Road Construction Projects

Construction works and industry in Kenya has been facing pressure to increase efficiency, reduce resource waste and maximize performance assurance. Contractors ought to have the aptitude to use science and domain expertise in an organized fashion to incorporate different community contributors. To achieve the company's aim, individual actions must be harmonized and amplified in the best of ways. Wolf (2002) noted that a successful organizational framework has a positive influence on a company's implementation culture, directing the competitiveness of the company, including the process of success. Clemmer (2013) was of the view that performance is improved by organizational structure. Communication within the organization's employees is enhanced and leads to better contractors' results.

Task assignment ought to be done productively to improve contractor's efficiency. Mostafa (2018) correlated architecture with performance, recognizing that organizational reform is structured not only to improve the building company's competence, but also productivity. The weak organizational structure of too many construction companies in developing nations has led to low job efficiency. To mitigate these operational problems, companies should be well designed for both consumers and contractors. Individual members and teams are given responsibility for tasks and decision-making, plans are made to prepare, steer, coordinate and manage them (Armstrong & Stephens, 2008). Such organizational frameworks need to provide the context in which organizational processes obtain the opportunity to realize desired outcome in the interest of the target of the business, thus building industry performance.

Organizations of both customer and contractors ought to be very much intended to reduce these organization challenges. Undertaking obligation and dynamic is given to people, individuals and groups and courses of action are made to arrange, direct, coordinate and control them. Ofori et al. (2012) note that the framework of the organization determines how people and groups are structured or how their roles are distributed and orchestrated. He describes the structure of the organization to be the sum of the overall wherein his work is split into various tasks and thereafter his collaboration is accomplished between these tasks. So as to boost contractor efficiency, work allocation must be carried out effectively. Ubani (2012) mentioned that the structure of the organization is the framework embraced to handle the different exercises of a building project as well as other organizational exercises.

The project organization team is supported by an adequate organizational framework to attain high project success through increase in productivity and effectiveness. This is backed by Maduenyi (2015)'s research on the organizational success of the organizational structure. As per Tian and Tran (2014) concerning intent of the organization's start, cooperation between heads of departments in a construction company improves company productivity They can be represented as faring well (financially beneficial) or hardly a triumphant (non – profit making) one. To achieve these objectives, organizations create internal arrangements and relationships between organization's components that are identified as the 'structure of the organization'.

Top management sets up a timetable of tasks in an organization to accomplish the task, plans position description, organizes workers into units and assigns them to supervisors (Ganesh 2013). He pins routines and develops activities' expectations. Established work schemes help organizational processes in obtaining optimum efficiency in the value of the target of the business, thus building industry performance. Winfred (2011) mentions that by increasing efficiency, an effective managerial framework could assist management teams in achieving improved project output, decision making, individual participants, including teams, should be allowed to participate for specified project aims to be accomplished around the finish of the projects. Yinghui and Chengs (2014) examined effects of organization structure on a project's success. The performance in road construction contracts had been linked to the shortage of effective integration among workers.

2.6 Client Support and Performance of Construction Projects

Project clients have sizeable task to carry out in setting formidable standards and demanding refinement. This is supported by a research carried out by Latham (1994) on the official government report on industry assessment of procuring and contract arrangement in UK's construction industry. According to the Business Round Tables (1994), cost feasibility improves when consumers exercise authority and clients and contractors work together. Customer's support incorporates execution of works that customers are relied upon to do to guarantee practical finish of construction of road projects that offers sense of direction when it comes to contractors' works. These functions entail, and are hardly constrained to, the issuance of detailed project designs, spending assignment and timely reimbursement of pro tempore milestone payments, rapid issuance of guidelines to begin construction work, timely approval of contract adjustments, quick purchase of land necessary for road construction, involvement of stakeholders, monitoring of the project to ensure high standards including obtainment of significant worth for money and opportune assuming control over examination and certificate of works whenever project is finished.

To improve cost viability, customers are to financially plan for the task as one of their fundamental jobs. The effect of a plan on contractors' execution is all around recognized. Compelling association of the design phase is vital for achievement of projects' success. It incorporates the advancement of precise plan briefs that affirm customer prerequisites as well

as incorporation of works by designs, alterations, resulting in smooth execution. Matu, Gatotoh and Mushori (2021) presumed that accessibility of customer support upgrades the exhibition of contractors. Quick payment as well as endorsements are thought to be significant while working with convenient task time limit and that deficient help is probably going to cause cost overruns, intervention expenses and law suits. By and large, construction and maintenance projects will introduce a few occurrences with variations.

Client assistance job means installment of works by contractors, in an undertaking proposed by clients. Rosli (2011) diagram installment in development business as money related thought for contractor's presentation for works well done. As shown by Kenyatta (2015) payments are beyond question that supports project in development business. Obstructions to smooth stream can in this manner causes genuine results. Lack of installment by contractors, late installment, under payment, sporadic installment and non-installment make endowment challenge, delays in undertakings, development questions and liquidations. Kenyatta et al. (2015) explored Kundan Singh Construction whereby contractors acquired projects assets from business bank based on agreements by the government. Project workers fell into liquidations because of disappointment of the customer payment. Disanayaka and Kumara (1999) noticed the expense in giving sufficient finances could be very enormous. Accordingly, governments or proprietors of activities ought to allot more spending plans to project to empower its consummation since it can't proceed with deficient finance that can influence contractors' execution of works that meets targeted goals.

Exact projects configurations are basic as they dispose of needs to adjust project agreement. Governments are likewise liable in endorsement of tasks that propagates contractors' execution. It supports expenses, plans and various project phases. It influences project developments phase. Variation of tasks normally leads to increments of expenses of a project leading to time overrun. When the extension expands it requires the customer to plan for the additional expense of expanded work. This in itself can possibly cause disputes, mediation expenses, projects relinquishment leading to bending of task spending plans. Lacking assistance results in costs overrun. Trann and Carmicheal (2013) assumed that unpredictable installment too as non-installments can essentially impact execution of a contractor. Flemming and Koppelman (2008) mentioned that legitimate installment conceded and

defaulted the business and designated as interval achievement, settlements ahead of time, installment of maintenance monies and last installments. These components sway contractor's execution in the road sector. Kenya has been going through infrastructure progression with various improvement practices being finished in the country. Broadened time and projects costs are normal in construction of roads, leading to poor workmanship and execution of contractor (Ramachandra, 2013).

Kenyan government has expanded road budget since 2004, however lamentably the forthcoming expenses keeps on plaguing the budget making it non-feasible to carry out any project inside designated budgets. Proof from paper report and industry's analysts shows numerous project contractors confronts inconceivable difficulties because of late or delinquency default (Kenyatta, Alkizim and Mbiti, 2015). Exploration studies showed inadequate subsidizing, irregular financing and inadequate financing, leading to inadequately subsidized projects. Kenyan government has deficient monetary assets neglecting bills to contractors prompting significant project delays. In a survey of the basic challenges faced by contractors, Pro-Invest (2011) noticed payments deferred for over 6 years, increasing the probability of clients leaving business. Income issues can push contractors to bankruptcy with the challenge of termination of the project work, Uffi, (2009). A study in Ghana appears affirms the point of view, with monetary challenges were positioned among plausible impacts of late payments of project workers (Ansah, 2011). Malaysian construction industry revealed the monetary troubles emerging from delayed payments and non-payment impacted heavily on projects (Danuriet al., 2006).

It is essential that project employees receive instructions quickly so that they can get started on the task. Client delaying the release of rules to be followed in undertaking projects creates room for variation in material and labor costs that have an impact on the overall project's budget. As a result of the unexpected need for more resources, this has a negative impact on contractor's performance. Cost instabilities can be caused by changes in a country's working capital or depreciation of the cash being used among other factors (Zulu and Chileshe, 2010).

In order to achieve the project goals, it is necessary to provide contractors with the maximum assistance, such as land ownership for the Road Construction without encumbrances. Hence,

property should be acquired early on in the project cycle, which should be immune from any obstacles in the process of designs, administration lines or other developments that might delay the commencement of road works (Wu, 2010). Land procurement in Kenya is both testing as far as the prowess and the expenses of the land are concerned.

The Kenya 2010 constitution stipulates that the individuals affected in the process of owning land for the project to be repaid before the government claims their property. This has introduced extreme difficulties to the execution of activities and has created genuine setbacks to culmination of tasks considering the fact that land has grown prohibitively costly, while the government does not sufficiently budget for remuneration payments. Inability to gain land ownership implies that project contractors need to hang tight for over the top time frames without sufficient movement and utilization of gear which stay inactive and accumulate hefty expense to them making them perform ineffectively on the project (Mwangi, 2016).

Monitoring of road project or oversight is a critical customer service function which doesn't exist without which Value for Money (VFM), is not guaranteed. Work quality must be monitored and evaluated against established standards, and different inputs must be approved in order to keep up with the pace of technological advancement. Contracts may choose to do the work themselves or outsource it to private professionals depending on the complexity of their road development or their own ability. A lack of monitoring on project results to an overabundance of costs and activities that directly affect contractors' performance (Rafee, 2012).

Mbaabu (2012) noted that the participation of stakeholders is crucial in projects for development. The participation of stakeholders assists in the smooth execution of programs. He argued that stakeholder involvement is necessary as customers are to make decisions about complicated circumstances with severe consequences on the project execution. In order to prevent unexpected issues, stakeholder engagement must be carried out proactively, rather than in reaction to a crisis. It is the duty of the client to engage the stakeholders in a timely manner to prevent project delays. The stakeholders might involve the community for which path to the project is maintained, water, energy and communication systems agencies, federal and local roads, as well as county government agencies. As per him, the focus of public

consultations is on collecting and providing data to individuals impacted by the project participants. The 2010 Kenyan Constitution provides people with the right to engage in affairs that concern their lives, according to Mbaabu (2012). If the involvement of stakeholders is not treated properly, it might bear a significant effect on the contractor's results.

2.7 Theoretical Framework

The study was underpinned in the Goldratt's Theory of Constraints (ToC) and the Competency Theory.

2.7.1 Goldratt's Theory of Constraints (ToC)

This theory was founded by Dr. Eliyahu Goldratt. The theory stipulates that there are constraints faced in a system that prevent it from attaining its goals. An analysis of the theory of constraints that spotlights this thesis is covered within this portion; it addresses the theory's assumptions and its importance to this report. Any of these restricting factors derive from a project's development, planning, production management, logistics, bookkeeping, performance assessment among other business lines that might influence performance. Constraints describe the output of a system, whether known or otherwise, in this theory. The objective of upper optimization is to plan suitable strategies to alleviate the constraints of an organizational structure. This helps the company to successfully achieve its priorities and increase profits.

In furtherance of set objectives, a system can have a description of a set of individual and intimately connected processes that work together to transform raw materials into final products. The drawback of this model is a limitation that inhibits the system from attempting to accomplish organizational objectives (Noreen, Smith & Mackey, 2008).

In this research, the principle of limitations is applicable because professional workers operating resources, organizational structure and customer service are constraints facing local contractors in the process of implementing road construction projects. The ideal way to deal with such an issue is to establish means to overcome these problems in order to eliminate obstacles to the execution of road construction programs. Stakeholders have been a crucial component of road construction projects and ought to engage to boost their participation in the successful management of road construction projects (Ruhl, 2011).

Previous studies that have adopted this theory include Balderstone and Mabin (1998) and Mabin (2015) who used in reviewing some of the constraints that limit organization from achieving high performance. The theory definition of constraints is inclusive which among the major strengths while the theory limitation of this theory is when a company manages a

particular limitation in a framework, another imperative grows, so it gets troublesome and at some point difficult to get an ideal level, all things considered,.

Lack of funding, poor governance and insufficient technical skills are the main challenges that impact the success of road construction projects. Such constraints add significantly to the inability to complete the project, culminating to inadequacies and delays that can lead to a rise in project costs. The proponents of this theory, however, Noreen *et al.* (2008) placed greater focus on the importance of work groups recognizing the constraints and implementing appropriate ways to overcome these constraints at preliminary phase to minimize their effect on road construction projects.

2.7.2 Competency Theory

This hypothesis was proposed by Ryan, Emmerling and Spencer (2009). As per defenders the worldwide move to Competence Based Training has presented various new ideas and the main among these ideas is the idea of skill. The idea has made disarrays and a large amount of reasonable mistaken assumptions worldwide. The students recognize and select the necessary ideas, from the significant area of information, which is worked with by an instructor. The students are directed to recognize ideas and necessary information and execute standards utilizing abilities as the interaction components or joins, and, at last, from execution models to the issue.

Greatest execution is accepted to happen when the individual's ability or capability is steady with the necessities of the work requests (jobs and duties) and the hierarchical environment, frameworks and designs (Ryan et al., 2009). Capabilities are outlined as capacities identified with intention and character constructs that impact the recurrence and inborn full of feeling esteem related with the execution of explicit conduct and psychological emotional cycles. The hypothesis was recently utilized by Tippins and Soni (2003) and King and Zeithaml (2001) on their exploration on the connection among skills and hierarchical execution. This hypothesis adequacy is in the operationalization of representatives' abilities while its shortcoming incorporate supposition that there is a one-sided connection among capabilities and firm execution.

This hypothesis is applicable to the current examination since it joins the presence of gifted labor to execution. As per the hypothesis, capabilities not only just suggest what an individual can do but what they want to do. Subsequently, for a viable forecast of work execution, both of these elements must be considered. This infers that capabilities contrast essentially from capacities, since motives structure a basic component of the hypothetical system. At the end of the day, capacities advise you about what an individual can do, while capabilities give knowledge into what an individual can and will do.

2.8 Conceptual Framework

Conceptual frameworks show how essential factors cooperate with one another, accordingly characterizing the factors required for the examination. The Independent, Dependent and Moderating Variables are the variables diverse here. The free factor influences changes in the reliant variable. The independent variable is alluded to as the criterion's variable. It clarified the aftereffects of the impact of the Independent Variables. The moderating variable is estimated and influenced to decide if anything changes the connection between independent and dependent variables. Independent variables are skilled manpower, working capital, organizational structure and finally client support. Dependent variable refer to the performance of road construction. As moderating factors, government policies and building laws are pointed out.

The conceptual framework is shown in Figure 1.

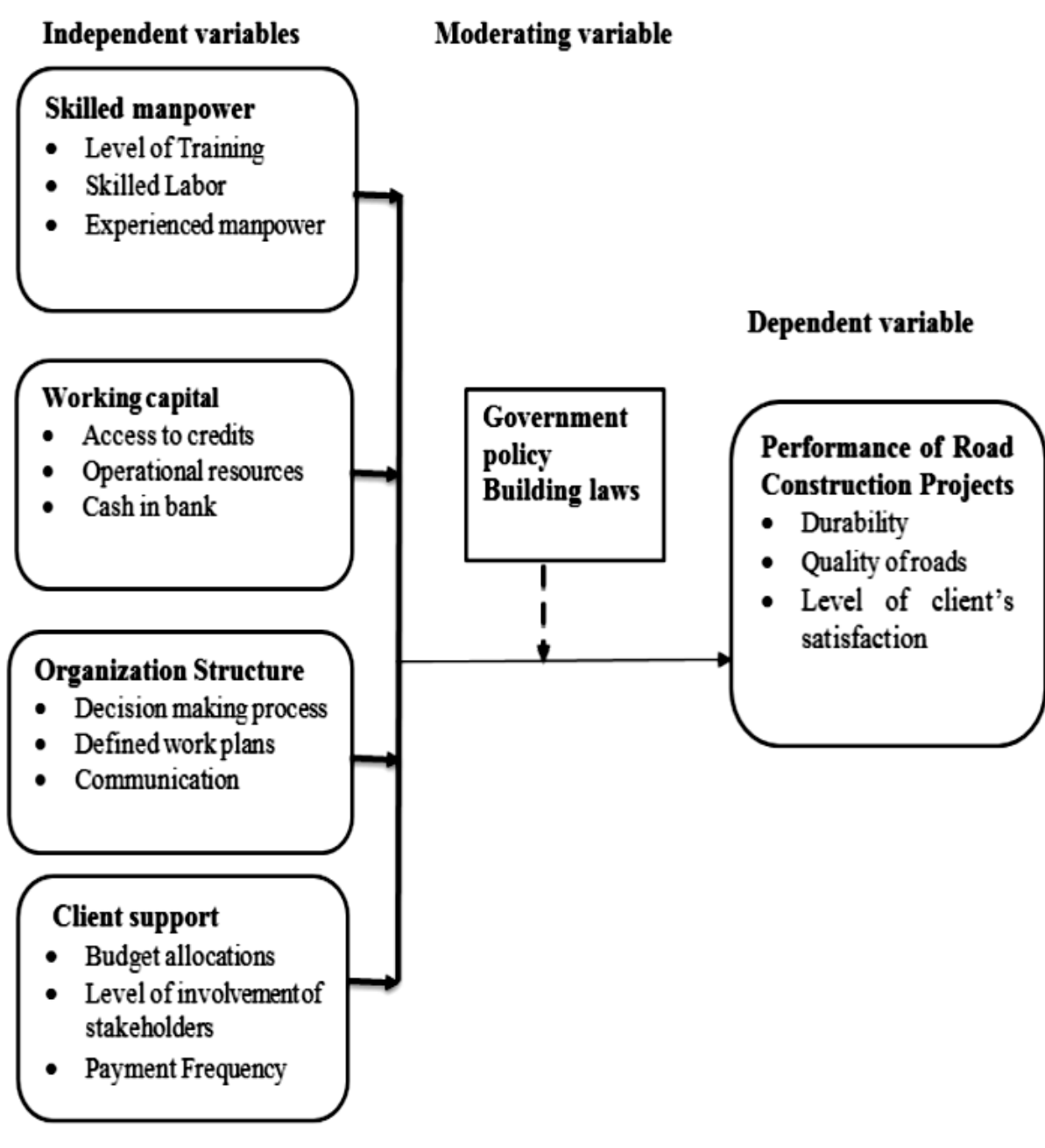


Figure 1: Conceptual Framework

2.9 Research Gaps

Existent studies dwelt on factors affecting the construction project only (Meduguet *et al.*, 2011; Rafee, 2012; Wafula, 2017; Ugochukwu & Onyekwena, 2014), little focus was laid on Performance of construction projects especially in the Rural Roads. As such, various studies limited themselves to Construction of Roads and mainly on the National trunk roads (Mushori, Rambo & Wafula, 2020; Kahura, 2014; Mwangi, 2016). Secondly, a shallow focus

was given on the impact of local contractors on the performance of road construction project in Kenya laying more concentration on roads in Narok County. This triggered the need to research the impact of local contractors' capacity on the sustainability of road construction projects in Narok County. Table 2.1 shows the summary of research gaps.

Table 2-1 Summary of Research Gaps

Author(s)	Title of the Study	Methodology	Findings	Knowledge Gap
Skilled Manpower				
Wafula (2017)	Factors influencing construction of a road Kenyan performance: A case study of Machakos County road contractors.	Descriptive survey design, pearson moment correlation coefficient	Four main factors influenced performances of road projects in Machakos County included Capital availability, management skills, technical skills and organizational culture	The study took place in Machakos County while this study focused on Narok County.
Medugu, Rafee Majid, Bustani, Bala, Abdullahi and Mbamal (2011)	Craft Skills: Availability in the Nigerian Construction Industry: Perception of Contractors and Consultants. Craft Skills Availability in the Nigerian Construction Industry: Perception of Contractors and Consultants.	structured questionnaire, regression analysis	Findings indicated shortages and poor quality of craftsmen.	The study did not focus on other capacities such as working capital, structures and client support hence there is conceptual gap
Mwangi (2016)	Factors affecting	descriptive research	Working capitals have influence	The focused of the

Author(s)	Title of the Study	Methodology	Findings	Knowledge Gap
	contractor performance in the road building sector: A case of a few Kenyan contractors (Doctoral dissertation, University of Nairobi).	design, self-administered questionnaire	on performance of contractors.	study was nationally while this study is on contractors at the county Level with focus on performance of construction projects hence there exists contextual gaps that the current study addressed
Working Capital				
Mushori <i>et al.</i> (2020)	A remedy for the Performance of Road Construction Infrastructural Projects in Sustainable Cities is the evaluation of contractors' financial ability.	Designing cross-sectional survey research and correlation studies by Pearson, Karl Analysis of Variance (ANOVA), multiple regression, and hierarchical analysis are all examples of correlation coefficients.	Because road building infrastructural projects are typically finance-intensive, the study discovered a substantial association between contractor financial competence and project performance. As a result of this research, contractors must develop a solid financial foundation in	Focus was on infrastructure project in Nairobi, Kenya while the current study focuses on local Contractors in Narok county there exist contextual gaps that the current study addressed

Author(s)	Title of the Study	Methodology	Findings	Knowledge Gap
			order to successfully complete projects and achieve exceptional results.	
Akali and Sakaja (2018)	The impact of contractors' financial capability on road construction performance in Kakamega County	Descriptive survey design, questionnaire and interview guide, Pearson moment correlation	The study showed that working capital is important for the success of the road construction projects	The study did not include other capacity such as client support, organization structure and skills hence there is a conceptual gap that the current study will address
Mwangi (2016).	Factors impacting contractor performance in the road building sector: A case study of selected Kenyan contractors (Doctoral dissertation, University of Nairobi).	Descriptive research design, self-administered questionnaire, Regression analysis	The findings showed working capital has influence on performances of contractors in the road sector.	Focus was on contractors at a national level while this research is on contractors at the county Level with focus on performance of construction projects hence there exists contextual gaps that the

Author(s)	Title of the Study	Methodology	Findings	Knowledge Gap
				current study addressed
Sweis <i>et al.</i> (2008)	Critical factors that affect time overrun in state construction projects in Jordan	descriptive study, PCFA technique, Severity Index	The study showed that among the main causes of delays included numerous changes by clients, improper plans and project schedule by contractors, mistakes and ambiguities in drawing and specification, sluggish decision making by the owners, lack of qualified Consultants, engineers and employees accorded to the project.	The study was conducted in Jordan, the same can be conducted in Narok, Kenya.
Mwangi (2016)	Factors impacting contractor performance in the road building sector: A case study of selected Kenyan contractors (Doctoral dissertation,	descriptive research design, self-administered questionnaire	Financial leverage, skilled labor, organizational structure, and customer support are all elements that have an impact on construction processes in the road sector, according to the research.	The study focused on contractors at a national level while this study is on contractors at the county Level with focus on performance of

Author(s)	Title of the Study	Methodology	Findings	Knowledge Gap
	University of Nairobi).			construction projects hence there exists contextual gaps that the current study addressed
Organizational Structure				
Wolf (2002)	Relationship between organisation framework and project success	Descriptive research design, Structured questionnaires	The study findings showed that organisation framework was significant in enhancing project success	The study only focused on organisation framework hence there is conceptual gap on influence of working capital, client support on project success
Ubani (2012)	Effect of organisation structure on performance efficiency	multiple regression and correlation analyses	The study found that organisation structure improves organisation efficiency	The study was conducted in a different context hence there is contextual gap
Maduenyi (2015)	organizational success effect of the organizational structure	correlation research design, survey questionnaire, positivist paradigm, correlation	The study found that organisation success is significantly dependent on organisation structure	The study only focused on organisation structure hence the current study focused

Author(s)	Title of the Study	Methodology	Findings	Knowledge Gap
		analysis		on client support, working capital and skills to bridge the conceptual gap
Client Support				
Fleming and Koppelman (2008)	Effect of contractor mode of payment and performance of the projects	Descriptive research design, stratified sampling, questionnaires, regression analysis	Intermediate, phase or progress payments, promissory notes, withholding money payments, and final payments are some of the different forms of contract payment delayed and defaulted by employers.	The study focused on mode of payment by clients and failed to include other aspects such as working capital and technical skills
Matu, Gatotoh and Mushori (2021)	Client Prediction of Contractor Performance as a Key Success Factor	Survey research design, correlation and regression analysis (ANOVA), structured questionnaire	Contractor in the road construction industry benefit from the existence of client support. • That inadequate assistance is likely to result in project cost overruns, disagreements, arbitration expenses, arbitration, and project termination if reimbursements and	The study was not conducted in Narok and therefore the findings could not be inferred on the contractors' performance in Narok County.

Author(s)	Title of the Study	Methodology	Findings	Knowledge Gap
			approvals are not received promptly.	
Tran and Carmichael (2013)	Influencing factors and Impact of organizational structure to a firm	Descriptive research design, questionnaires, interviews, Regression analysis	Late or intermittent payment/ lack of payments critically affects performances of contractors	Working capital, technical skills and organisation structure on performance are areas that have a gap.

2.10 Summary of Literature Review

The literature conducted evaluated the core ideas in the field are and what other academics have observed in their earlier research. In the analysis of empirical review on the effect of skilled manpower, working capital, organisational structure and client support on road projects, literature show that these contractors' capacities are critical in achieving high performing and sustainable projects. There is a clear lack of studies on genuine contractors' limits in the road construction segment however there is a developing assortment of writing on contractors jobs. The majority of the studies evaluated, zeroed in on monetary limits. For example, Akalli and Sakanja (2018) on Influence of contractors' monetary limit and execution of road constructin in Kakamega County affirmed that native development companies have difficulties of under-capitalization. Rahman (2013) recommended that contractors should design and apportion assets for the whole activities to stay away from stoppages by virtue of absence of assets. Ameh and Osegbo (2011) recommended that arrangement ought to be made for less expensive credit to contractors who have set up themselves in the business. Pilcher (2011) saw that it's anything but a decided positive exertion by the contractor as blunder can debilitate efficiency and benefit level.

Furthermore, it was seen that different examinations on contractors' capacity were conveyed outside Kenya and focused on specialized limit and abilities. For example, Medugu *et al.* (2011) found that insufficiency in specialized administration of staff prompted deficient workmanship, lead to poor roads in Nigeria, failure of contractors, accidents on roads and absence of hierarchical solidity. Wang (2010) foun a lack of initiative of managers to make relationship with staff. Dantong et al. (2011) announced that absence of gifted labor influenced contractors. Further, from the experimental audit it was noticed that few investigations on contractors limit harped on hierarchical limit of project workers. For example, Wolf (2002) saw that proficient association structure has a beneficial outcome in the association's execution culture, it directs the company's usefulness, including execution measure. Mostafa (2018) detailed that hierarchical design ought to be set up to manage the endeavor of undertakings and have arrangements for arranging, coordinating, putting together and controlling errands. Ofori et al. (2012) tracked down that a large portion of the components are individuals based, group choice, group insight and group responsibility.

Also, the observational survey concentrates on contractors' capacity included customer support among contractors. For example, Kenyatta et al. (2015) detailed that the contractors went in liquidation because of the disappointment of the customer's payment. Dissananyaka and Kumarang (1999) noticed expense of giving sufficient finances is very enormous. In this manner, a government as well as proprietors of activities ought to designate more spending plans to project to empower its finish since it can't proceed with insufficient financing. The existing literature show that contractors that have high capacities in terms of high skilled manpower, adequate working capital, good organisation structure and client support realize high performing projects. The theoretical analysis was also presented in the chapter and the conceptual structure displays the relation between independent and dependent variables. Lastly the analysis analyzes the description of the study as per every variable.

CHAPTER THREE RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents information on research design, the target population, sample size and sampling procedure, research instruments, piloting, validity and reliability of research instruments, data collection procedure, data analysis techniques and lastly ethical considerations in research.

3.2 Research Design

The study adopted descriptive survey research design and correlation research design. The descriptive survey design is deemed appropriate when collecting both quantitative and qualitative (Rubin & Babbie, 2009). On the other hand, correlation design is chosen to assist in testing the relationship between the variables. The descriptive design seeks to provide answers to the what, why and when questions in regards to the situations under investigation. The combination of these research designs aimed to help the investigator to evaluate the degree to which local contractors' skilled manpower, working capital, organizational structure, and client support influence road construction projects in Narok County.

3.3 Target Population

The target population was 190 was drawn from various road construction agencies which included 26 employees from KENHA, 27 employees from KURA, 25 employees from KERRA, 4 employees from NCA and 108 staff from 18 NCA registered road contractors' firms in Narok County. A universal sample collection of all members of an actual or theoretical subset of people, incidents, or objects to whom an analyst choose to draw conclusion from defines the target population (Borg & Gall, 2009).

Table 3. 1: Target Population

Category	Population
KENHA officials in Narok County	26
KURA officials in Narok County	27
KERRA officials in Narok County	25
NCA officials in Narok County	4
Road Contractors' staff in Narok County	(18*6)108
Total	190

Source: KENHA2021; KURA2021; NCA2021; KERRA2021; Kenya Gazette Notice. Nairobi,

20th January 2020

3.4 Sample Size and Sampling Procedure

3.4.1 Sample Size

Sample is a small section of the population representing an entire population (Kothari 2011).

The study adopted Fisher formula 1998 to calculate the sample size.

$$n = \frac{Z^2 * p * (1-p)}{d^2}$$

Where:

n stands for Number of samples Z stands for normal distribution. a score of Z (1.96)

p = Proportional unit in the sample size that contain the variables being studied, which is set as 50% in this study.

d stands for significance level, set at 0.1 in this study.

The following are the substituted values for determining the sample size for a big population

$$n = \frac{(1.96)^2(0.5)(0.5)}{(0.1)^2} = 96$$

A summary of the sample size for each stratum is presented in Table 3.2.

Table 3.1: Sample Size

Category	Population	Sample Size
KENHA officials in Narok County	26	13
KURA officials in Narok County	27	14
KERRA officials in Narok County	25	12
NCA officials in Narok County	4	2
Road Contractors' staff in Narok County	(18*6)108	55
Total	190	96

3.4.2 Sampling Procedure

Sampling is a method of selecting people for a study so that the person picked represents the larger portion where they were drawn from. An example size of somewhere in the range of 10% and 40% is considered satisfactory for definite or inside and out examinations. As indicated by Kothari (2011), stratification is a methodology of isolation of the populace

individuals into homogeneous sub-divisions prior to testing. The study chose the respondents (classifications of road construction organization) utilizing defined proportionate arbitrary inspecting method. Stratified random sampling technique was employed for dividing a diverse population into homogeneous subsets to attain representation. The aim or random selection is to realize the best representativeness of the population. Subjects are chosen in stratified random testing such that sub-groups in the population are well represented (Rubin and Babbie, 2009). The responders in each tier were also chosen using basic irregular testing. The proportion was thus $96/190=0.505$. This was utilized across every one of the layers to get the example for every layer.

3.5 Research Instruments

Questionnaires were the tools in use in this study. Primary data was sampled by using questionnaires. The five divisions of the questionnaire are: Part A sought to put into light the personal information of the respondent; Part B contained how skilled manpower of local contractors influence on road performance in Narok County; Part C contained how working capital for local contractors influence on road performance projects in Narok County; Part D contained how organization structure of local contractors influence on road performance projects in Narok County and lastly Part E contained how client support by local contractors influence road performance projects in Narok County. The aim of the structured questions was to conserve time and finances and the facilitation of easier analysis for they can be immediately used (Wilkinson & Birmingham, 2003). Besides the questionnaires the study also used interviews that were conducted through phones targeting one senior management each from the selected organizations in Table 3.2 above. The interview guide was attached in Appendix III

3.5.1 Piloting the Research Instruments

Based on the size of the study sample, Mugenda and Mugenda (2003) suggested that piloting should account for 10% of the total sample. Surveys were reviewed by experienced coworkers and the research study's supervisor before being tested on a small pilot sample of participants who shared the same characteristic as the statistical sample. The pilot sample consisted of 6 road contractors from the neighboring Nakuru Counties 1 official each from KENHA, KURA, KERRA and NCA who was randomly selected. Proposed ideas for questionnaire

enhancement were obtained and improvements were rendered to achieve a refined instrument. Before administering this to the respondents, the self-administered questionnaire had to be pre-tested, owing to the importance and the need to recognize the defects in the instruments being used in the present study. Piloting helps to reveal questions that might be ambiguous, which encourages their analysis before all subjects are given the same interpretation.

3.5.2 Validity of the Research Instruments

Validity refers to the extent to which an instrument tests and performs as interpreted by the researcher the expected goals for the analysis (Rubin & Babbie, 2009). Validity is the extent wherein the specimen intended to be measured reflects the specimen of the test object. Both constructs and content validity was determined. In this analysis, key collaborators from the target group was identified and pre-test questionnaires provided so as to establish if the methodological measures are accurate and capable of achieving the objectives under study. Following a review of the theoretical underpinnings as well as the pertinence of the questionnaires to test conceptual models, the questionnaires were assessed for content validity with the aid of the supervisor. This ensured that the component of the questionnaire is grasped by all respondents and ensure that the tool tests the real and relevant concepts for the sample, hence its validity. Construct validity was tested by factor analysis where items with factor loading of above 0.40 was considered to have high construct validity as recommended by Drost(2011).

The study utilized exploratory factor examination to decide the development legitimacy of the survey. Exploratory factor analysis distinguishes the factors that underlie a dataset dependent on the connections between variable (for this situation, questionnaire items) (Joppe, 2009). The elements that clarify the most noteworthy extent of fluctuation the factors share was required to address the fundamental developments. Consequently, assuming the aftereffects of an examination are not considered to be legitimate, they are negligible to the investigation and subsequently do not gauge what is to be estimated. These results or outcomes hence cannot then be utilized to sum up any findings or discoveries.

The outcomes as displayed in Appendix X took into consideration the identification of factors that fall under the category of the 13 significant extricated factors. Each of the 45 parameters

were taken into consideration and put to one of the 4 elements relying upon the level of inconstancy it clarified the all-out fluctuation of each factor. From the factor analysis, every one of the factors marks high build legitimacy since all surpassed the recommended edge of 0.40 (Drost, 2011) and this implies the examination will quantify what it is generally anticipated to gauge.

3.5.3 Reliability of Research Instruments

Reliability approximates the stability and quality of which the analysis method can help address the research questions (Jackson, 2014). Questionnaire’s reliability was evaluated by Cronbach alpha in this analysis. Owing to its capacity to operate in non-dichotomous and continuous data, Cronbach alpha is favored to other tests (Flanagan, 2005). By testing the metric used throughout research, Cronbach alpha evaluated internal data accuracy. Cronbach alpha varies between 0 and 1, with high values close to 1, reflected in the accuracy of the data sets. Table 3.2 illustrates the connection between the alpha values and the degree of accuracy of the data sets.

Table 3.2: Cronbach Alpha Values

Cronbach Alpha α	Internal Consistency
$\alpha \geq 0.9$	Excellent
$0.7 \leq \alpha < 0.9$	Good
$0.6 \leq \alpha < 0.7$	Acceptable
$0.5 \leq \alpha < 0.6$	Poor
$\alpha < 0.5$	Unacceptable

Given the scales in Table 3.2 and for the purpose of this study, the reliability test was performed (Table 3.3) to determine data suitability.

Table 3.3: Reliability Analysis

	Cronbach Alpha	Decision
Performance of road construction projects	0.858	Good
Skilled Manpower	0.863	Good
Working Capital	0.773	Good
Organization Structure	0.831	Good
Client Support	0.730	Good

Cronbach Alpha was set up for each target (Table 3.3), forming a scale. Skilled labor attained an alpha of 0.863, performance of road construction projects had an alpha of 0.858, then, organization structure with an alpha of 0.831, working capital with an alpha of 0.773 while client support was the most un-solid with an alpha of 0.730. This outlines that every one of the five factors were dependable as their dependability esteems surpassed the endorsed edge of 0.7, according to (Kothari, 2011).

3.6 Data Collection Procedure

After the University of Nairobi approved the request to collect data, the researcher got a permit from NACOSTI. The researcher started the data gathering procedure by using the University's authorization letter and after gaining approval by the appropriate road authorities as well as the owners of the research-related construction and consulting firms. In order to fully comprehend the research tools, a research assistant was involved and educated on the study intent and moral principles of research. The questionnaires were administered person to person and by email to the respondents while the interviews were conducted through phone calls due to the Covid 19 pandemic from 22nd January 2021 to 11th June 2021. Deliveries was rolled out and notifications followed and the researcher and the assistant conducted personal compilation.

3.7 Data Analysis Techniques

Sorting, cleaning, and categorizing the data from the questionnaire was the first step in the analysis and checking whether the questionnaires were responded to properly. Percentages, means and S.D were applied for descriptive statistics. The Pearson Coefficient determined the

correlation between independent variable and dependent variables.

Multiple regression analysis was used to assess degree of importance of each independent variable on dependent variable (Rubin & Babbie, 2009), using the following equation.

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \alpha$$

Where: Y represents dependent variable

β_0 represents regression coefficient

$\beta_1, \beta_2, \beta_3,$ and β_4 represent the equation's slope

X_1 represents working capital

X_2 represents skilled manpower

X_3 represents organization structure

X_4 represents client support

α is an error that is generally distributed around a mean. It's assumed to be 0 for the purposes of computation.

3.8 Ethical Consideration

Ethics are standards administering human behaviors which essentially affect human welfare. It's nothing but a judgment spot on right and wrong conduct. Borg and Gall (2009) express that in sociology it's the duty of the researcher to painstakingly evaluate chances of damage to study's participants; Chances of harming participants ought to be limited. The researcher perceived that the study required acquiring sensitive information. Consequently, protection of the identity of the respondents was ensured. The researcher acquired a research permit from NACOSTI and an introductory letter from the school to KeNHA, KURA, KeRRA and NCA for endorsement to visit their activities to gather the study's data. Letters for conveyance of data were composed disclosing to the respondent's reasons why the exploration is significant and significance of respondents taking an interest in answering questions as well as giving honest responds. The researcher ensured that the morals of the investigation were noticed and that obscurity and classification is kept up for the respondents. Prior to performing interviews, it was unmistakably settled that all information assembled was exclusively for research

reasons only. To ensure straightforwardness, the respondents were told about the research objectives.

3.9 Operationalization of Variables

This section presents operationalization which show how the variables were measured and the tools and techniques that were used in data analysis to achieve the specific objectives.

Table 3. 5: Operationalization of Variables

Objective	Variables	Indicator	Measurement Scale	Type of Analysis	Tools of Analysis
To assess how Skilled Manpower of Local contractors influence on performance of road construction Projects in Narok County.	Independent Variable: Skilled Manpower of Local Contractors	<ul style="list-style-type: none"> • Level of Training • Skilled Labor • Experienced manpower 	<ul style="list-style-type: none"> • Nominal • Ordinal • Interval 	<ul style="list-style-type: none"> • Descriptive Statistic • Inferential analysis 	Frequency, Percentage, mean. S.D, Pearson Co-efficient and Regression analysis
To assess how Working Capital for Local contractors influence on performance of road construction Projects In Narok County.	Independent Variable: Working Capital of Local Contractors	<ul style="list-style-type: none"> • Access to credit • Cash in bank • Operational resources 	<ul style="list-style-type: none"> • Nominal • Ordinal • Interval 	<ul style="list-style-type: none"> • Descriptive Statistic • Inferential analysis 	Frequency, Percentage, mean. S.D, Pearson Co-efficient and Regression analysis

To establish how Organization Structure of Local Contractors Influence performance of road construction Projects in Narok County.	Independent Variable: Structure of Local Contractors	<ul style="list-style-type: none"> ● Decision making process ● Defined work plans ● Communication 	<ul style="list-style-type: none"> ● Nominal ● Ordinal ● Interval 	<ul style="list-style-type: none"> ● Descriptive Statistic ● Inferential analysis 	Frequency, Percentage, mean. S.D, Pearson Co-efficient and Regression analysis
To examine how Client Support by Local contractors influence on performance of road construction Projects in Narok County.	Independent Variable: Client support by Local Contractors	<ul style="list-style-type: none"> ● Budget allocations ● Level of involvement of stakeholders ● Payment Frequency 	<ul style="list-style-type: none"> ● Nominal ● Ordinal ● Interval 	<ul style="list-style-type: none"> ● Descriptive Statistic ● Inferential analysis 	Frequency, Percentage, mean. S.D, Pearson Co-efficient and Regression analysis
Dependent Variable					
Performance of road construction Projects	Dependent Variable: performance of road construction Projects	<ul style="list-style-type: none"> ● Durability ● Quality of roads ● Level of client's satisfaction 	<ul style="list-style-type: none"> ● Nominal ● Ordinal ● Interval 	<ul style="list-style-type: none"> ● Descriptive Statistic 	Frequency, Percentage, mean. S.D, Pearson Co-efficient and Regression analysis

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSION

4.1 Introduction

This chapter covers sections that have the analysis of the data collected with respect to the objectives of the study. It presents questionnaire return rate, background information of the respondents, performance of road construction projects, skilled manpower and performance of road construction projects, working capital and performance of road construction projects, organization structure and performance of road construction projects, client support and performance of road construction projects.

4.2 Questionnaire Return Rate

The researcher determined the questionnaire return rate and results are as indicated in Table 4.1.

Table 4.1: Questionnaire Return Rate

	Questionnaire	
	Frequency	Percentage (%)
Returned	88	91.7
Not returned	8	8.3
Total	96	100.0

Table 4.1 shows that out of 96 questionnaires distributed to employees from KENHA, KURA, KERRA, NCA and Officials from Road Contractors staff in Narok County, only 88 were successfully filled and returned back. According to Kothari (2011), a return rate exceeding 50% was sufficiently enough for conducting analysis, hence, the return rate of (91.7%), proved satisfactory to carry on the study.

4.3 Background Information of the Respondents

The study sought to know the respondents' general information by establishing their age bracket, years of experience and education background. The exercise was important as it furnished the researcher with the idea of those who filled the questionnaires and being able to know if the targeted respondents were reached and the level of reliance on gathered information.

4.3.1 Distribution of Respondent by Age Bracket

The respondents were required to indicate their age bracket. This helped in establishing age bracket distribution of participants. The results were as tabulated in the Table 4.2.

Table 4.2: Distribution of Respondents by Age Bracket

	Frequency	Percent
Less than 25 years	7	8.0
26-36 years	7	8.0
37-47 years	32	36.4
Above 47 years	42	47.7
Total	88	100.0

From the results in Table 4.2, 47.7% of the respondents were aged above 47 years, 36.4% were aged between 37-47 years, 8% were aged less than 25 years, while 8.0% were aged between 26-36 years. This shows that the majority was mature enough and were able to give accurate information in relation to local contractors' capacity and performance of construction projects.

4.3.2 Distribution of Respondents by Years of Experience in Road Construction Projects

The researcher sought the respondents' years of experience in road construction. The results were as displayed in Table 4.3.

Table 4.3: Years of Experience of the Respondents

	Frequency	Percent
Less than 1 years	11	12.5
2-4 Years	7	8.0
5-7 years	37	42.0
Above 7 Years	33	37.5
Total	88	100.0

Table 4.3 revealed that 42.0% of the respondents had experience in road construction for a period between 5-7 years, 37.5% for above 7 years, 12.5% for less than 1 year, while 8.0% for

between 2-4 years. This implies that majority had participated in construction industry for a long duration which was enough to gauge the accuracy of information shared in relation to local contractors' capacity and performance of construction projects. Hence, the researcher believed that having gathered data from respondents of varied expertise in the construction industry bolstered the quality of the data obtained.

4.3.3 Distribution of Respondents by Level of Education

The respondents were asked to indicate their level of education. Their responses were as shown in Table 4.4.

Table 4.4: Distribution of Respondents by Level of Education

	Frequency	Percent
Graduate	58	65.9
Diploma	24	27.3
Certificate	6	6.8
Total	88	100.0

As per the results (Table 4.4), 65.9% of the respondents were graduate, 27.3% had attained the diploma level, while 6.8% had reached the certificate level. This showed that all the respondents had attained adequate education level to participate in data collection. Additionally, possession of suitable academic qualifications boosted the accuracy of information to gather from the respondents about local contractors' capacity and performance of construction projects.

4.4 Performance of Road Construction Projects

The research also aimed to establish respondents' level of agreement on aspects of performance of road construction projects using the scale of 1 to 5 where 1= strongly disagree, 2=disagree, 3 = neutral, 4 = agree, and, 5 = strongly agree. The results of the study were recorded on Table 4.5.

Table 4.5: Performance of Road Construction Projects

Code	Statements	SD F (%)	D F (%)	N F (%)	A F (%)	SA F (%)	Mean	Std. Dev.
Durability								
PORC 1	Road constructed by local contractors take long to wear out	2 (2.3)	8 (9.1)	12 (13.6)	32 (36.4)	34 (38.6)	4.00	0.550
PORC 2	There are usually low maintenance costs of road project constructed by local contractors	3 (3.4)	31 (35.2)	11 (12.5)	9 (10.2)	34 (38.6)	3.45	0.613
PORC 3	Local contractors construct high durable roads	9 (10.2)	6 (6.8)	8 (9.1)	37 (42.0)	28 (31.8)	3.78	0.743
Quality of roads								
PORC 4	Quality of the road construction project by local contractors is of high standard	6 (6.8)	7 (8.0)	10 (11.4)	31 (35.2)	34 (38.6)	3.91	0.700
PORC 5	The roads constructed by local contractors meets specified standards	9 (10.2)	5 (5.7)	34 (38.6)	33 (37.5)	7 (8.0)	3.27	0.701
PORC 6	Quality is usually prioritized by local contractors	7 (8.0)	5 (5.7)	21 (23.9)	28 (31.8)	27 (30.7)	3.72	0.693
Level of client's satisfaction								
PORC 7	Delivery of road projects by local contractors are usually within schedule	25 (28.4)	24 (27.3)	26 (29.5)	8 (9.1)	5 (5.7)	2.36	0.757
PORC 8	Delivery of road contraction projects are usually within budget	2 (2.3)	21 (23.9)	30 (34.1)	23 (26.1)	12 (13.6)	3.25	0.786
PORC 9	There is high Level of client's satisfaction with the road project by local contractors	3 (3.4)	11 (12.5)	24 (27.3)	25 (28.4)	25 (28.4)	3.66	0.785
Composite mean and Standard deviation(S.D)							3.49	0.703

As per the results in Table 4.5, the statement PORC1, road constructed by local contractors take long to wear out 34 (38.6%) of the respondents strongly agreed 32 (36.4%) agreed, 12 (13.6%) were neutral, 8 (9.1%) disagreed, whereas 2 (2.3%) strongly disagreed. The statement recorded a mean score of 4.00 and S.D of 0.550. The mean was above the

composite mean of 3.49. This meant that most of the respondents were in agreement that road constructed by local contractors take long to wear out. Further, given that the S.D was lower than the composite of 0.703, the study thus concluded that the opinions converged. Mwangi (2016) added that road construction projects tend to satisfy the stakeholders, i.e. the contracting organizations and the users, if completed successfully on the time scheduled and within the budget. Cost reduction and on-time project completion are two important factors that bolster the performance of road construction projects.

The statement PORC2, there were usually low maintenance costs of road project constructed by local contractors, 34 (38.6%) of the respondents strongly agreed, 31 (35.2%) disagreed, 11 (12.5%) were neutral, 9 (10.2%) agreed, whereas 3 (3.4%) strongly disagreed. The statement recorded a mean score of 3.45 and S.D of 0.613. The mean was lower than the composite mean of 3.49. This implied that most of the respondents were in disagreement that there were usually low maintenance costs of road project constructed by local contractors. Further, given that the S.D was lower than the composite of 0.703, the study thus concluded that the opinions converged. Kaplan and Norton (2001) contend that a firm can be viewed from the following perspectives; financial, growth and learning, internal business process and customer perspectives. When measuring organization performance, the management should develop its standards through collecting data and analyzing it as per the four perspectives.

The statement PORC3, local contractors constructed high durable roads, 37 (42.0%) of the respondents agreed, 28 (31.8%) strongly agreed, 9 (10.2%) strongly disagreed, 8 (9.1%) were neutral, while 6 (6.8%) disagreed. The statement recorded a mean score of 3.78 and S.D of 0.743. The mean was above the composite mean of 3.49. This implied that most of the respondents were in agreement that local contractors constructed high durable roads. Further, given that the S.D was more than the composite of 0.703, the study thus concluded that the opinions were inconsistent. Cheruiyot and Wanyoike (2015) affirms that top management have the responsibility of aligning resources and implementers to work towards project objective; this significantly encourages them to dedicate resources and assistance in ensuring that the project is well implemented. Many development initiatives fail because of a lack of senior management support.

The statement PORC4, Quality of the road construction project by local contractors is of high standard 34 (38.6%) of the respondents strongly agreed, 31 (35.2%) agreed, 10 (11.4%) were neutral, 7 (8.0%) disagreed, while 6 (6.8%) strongly disagreed. The statement recorded a mean score of 3.91 and S.D of 0.700. The mean was above the composite mean of 3.49. This implied that most of the respondents were in agreement that quality of the road construction project by local contractors was of high standard. Further, given that the S.D was lower than the composite of 0.703, the study thus concluded that the opinions converged. Wongrassamee *et al.* (2013) contend that project stakeholders tend to be satisfied when task is completed on schedule and at a high standard. This prevents cost overruns, saving the company money. The Balanced Score Card (BSC) is a commonly used tool for assessing execution, and its indicators include Key Performance Indicators.

The statement PORC5, roads constructed by local contractors met specified standards, 34 (38.6%) of the respondents were neutral, 33 (37.5%) agreed, 9 (10.2%) were strongly disagreed, 5 (5.7%) disagreed, while 7 (8.0%) strongly agreed. The statement recorded a mean score of 3.27 and SD of 0.701. The mean was lower than the composite mean of 3.49. This implied that most of the respondents were in disagreement that the roads constructed by local contractors met specified standards. Further, given that the S.D was lower than the composite of 0.703, the study thus concluded that the opinions converged. Zulu and Chileshe (2010) contradicts with the findings by stating that project sponsors, managers and other stakeholders must come to agreement on the goals to be achieved by the project in order to improve its performance. A defined set of rules should lead them to guarantee that projects meet the expectations of their target audiences, as well as a timely completion of the implementation process.

The statement PORC6, quality was usually prioritized by local contractors, 28 (31.8%) of the respondents agreed, 27 (30.7%) strongly agreed, 21 (23.9%) were neutral, 7 (8.0%) strongly disagreed, while 5 (5.7%) disagreed. The statement recorded a mean score of 3.72 and S.D of 0.693. The mean was above the composite mean of 3.49. This implied that most of the respondents were in agreement that quality was usually prioritized by local contractors. Further, given that the S.D was lower than the composite of 0.703, the study thus concluded that the opinions converged. Enshassi, Abdul-Aziz and Abushaban (2011) posit that costs

reduction is a direct result of effective project implementation. A variety of factors bolster success of most road construction projects in developed economies. These factors include top management support, the availability of finances, as well as proper coordination of operations and communication by all stakeholders participating in road construction projects.

The statement PORC7, delivery of road projects by local contractors are usually within schedule 26 (29.5%) of the respondents were neutral, 25 (28.4%) strongly disagreed, 24 (27.3%) disagreed, 8 (9.1%) agreed, while 5 (5.7%) strongly agreed. The statement recorded a mean score of 2.36 and S.D of 0.757. The mean was lower than the composite mean of 3.49. This implied that majority were in disagreement that delivery of road projects by local contractors were usually within schedule. Further, given that the S.D was more than the composite of 0.703, the study therefore concluded that the views were inconsistent. Zulu and Chileshe (2010) explain that one of the most important aims of project performance is to satisfy the key project stakeholders, including the users.

The statement PORC8, delivery of road contraction projects were usually within budget, 30 (34.1%) of the respondents were neutral, 23 (26.1%) agreed, 21 (23.9%) disagreed, 12 (13.6%) strongly agreed, while 2 (2.3%) strongly disagreed. The statement recorded a mean score of 3.25 and SD of 0.786. The mean was lower than the composite mean of 3.49. This implied that most of the respondents were in disagreement that delivery of road contraction projects were usually within budget. Further, given that the SD was more than the composite of 0.703, the study thus concluded that the opinions were inconsistent. Kaplan (2008) note that performance measurement is underpinned by a financial perspective. In a holistic view, performance measurement is a vital component while developing strategic plans and performance evaluation when aiming to achieve organisational goals.

The statement PORC9, there was high level of client's satisfaction with the road project by local contractors, 25 (28.4%) of the respondents strongly agreed, 25 (28.4%) agreed, 24 (27.3%) were neutral, 11(12.5%) disagreed, while 3 (3.4%) strongly disagreed. The statement recorded a mean score of 3.66 and S.D of 0.785. The mean was more than the composite mean of 3.49. This implied that majority agreed there was high level of client's satisfaction with the road project by local contractors. Further, given that the S.D was more than the

composite of 0.703, the study somewhat concluded that the opinions converged. Kaplan and Norton (2001) affirms that it is important to realize that before the organization improves on something, it should be able to measure and qualify it; this implies that what needs to be improved should be quantifiable.

The interviewees were asked to give suggestions for improving the performance of road construction projects in Narok County. They indicated that they could increase support from client, facilitate faster payment process, prompt payments, engage qualified contractors, make capital acquisition (through financing) more accessible, engage experienced personnel with the required skills, county government to allocate more funds to the road sector, improving project management and utilization of resources.

4.5 Skilled Manpower and Performance of Road Construction Projects

The study aimed to assess how skilled manpower of local contractors influences performance of road construction projects in Narok County. The respondents were therefore required to rate the project teams in term of skilled manpower aspects presented using the scale of 1 to 5 where 1= strongly disagree, 2=disagree, 3 = neutral, 4 = agree, and, 5 = strongly agree. The study results were recorded on Table 4.6.

Table 4.6: Influence of Skilled Manpower on Performance of Road Construction Projects

Code	Statements	SD F (%)	D F (%)	N F (%)	A F (%)	SA F (%)	Mea n	Std Dev
Level of Training								
SMP1	Level of professional training of your project team	7 (8.0)	7 (8.0)	1 (1.1)	30 (34.1)	43 (48.9)	4.08	0.743
SMP2	There is frequent on-job training for employees in road construction sector	30 (34.1)	32 (36.4)	15 (17.0)	10 (11.4)	1 (1.1)	2.09	0.535
SMP3	Local contractors are Knowledgeable about Road Construction projects	5 (5.7)	9 (10.2)	12 (13.6)	26 (29.5)	36 (40.9)	3.90	0.713
Skilled Labor								
SMP4	The level of skills among local contractors in their respective area is usually very high	7 (8.0)	35 (11.4)	10 (11.4)	26 (29.5)	35 (39.8)	3.82	0.731
SMP5	The skills possessed by local contractors meet job	5 (5.7)	22 (25.0)	11 (12.5)	29 (33.0)	21 (23.9)	3.44	0.655

Code	Statements	SD F (%)	D F (%)	N F (%)	A F (%)	SA F (%)	Mea n	Std Dev
SMP6	requirement for road construction projects Local contractor have right measures of skilled, semi-skilled and unskilled labour	7 (8.0)	22 (25.0)	5 (5.7)	26 (29.5)	28 (31.8)	3.52	0.710
Experienced manpower								
SMP7	Local contractors have worked in the construction sector before	9 (10.2)	6 (6.8)	21 (23.9)	24 (27.3)	28 (31.8)	3.64	0.779
SMP8	Local contractors have employees with requisite experience in road construction	29 (33.0)	29 (33.0)	19 (21.6)	8 (9.1)	3 (3.4)	3.83	0.596
SMP9	Contractors have relevant experience in civil engineering and related courses	4 (4.5)	3 (3.4)	28 (31.8)	25 (28.4)	28 (31.8)	3.80	0.525
Composite mean and Standard Deviation (S.D)							3.57	0.665

Table 4.6 shows the results on skilled manpower. The statement SMP1, level of professional training of the project team, 43 (48.9%) of the respondents strongly agreed, 30(34.1%) agreed, 7 (8.0%) disagreed, 7 (8.0%) strongly disagreed while 1(1.1%) was neutral. The mean score was 4.08 and S.D was 0.743. The mean was above the composite mean of 3.57. This implied that most of the respondents were in agreement that level of professional training of the project team influences performance of road construction projects in Narok County. Further, given that the S.D was above the composite of 0.665, the study thus concluded that the opinions were inconsistent. The outcome of the study were supported by Abiola (2004) who is convinced that the redoing of faulty or undesirable job is mostly due to a low standard of workmanship that typically stems from the involvement of unqualified workers. Qualified manpower also aids to improve productivity, minimize injuries, reduce oversight, and increase the stability of the company.

The statement SMP2, there is frequent on-job training for employees in road construction sector, 32 (36.4%) of the respondents disagreed, 30(34.1%) strongly disagreed, 15(17.0%) were neutral, 10(11.4%) agreed, while 1(1.1%) strongly agreed. The mean score was 2.09 and S.D was 0.535. The mean was below the composite mean of 3.57 implying that on-job training for employees in road construction sector was not frequent. Moreover, S.D was lower than the composite of 0.665 implying that the respondents' opinions converged. The findings

differed from Medugu *et al.* (2011) who found that the impact of skilled manpower in the construction sector is highly evident in its final product where highly competent workers are in work. The reason to this is their direct involvement in timely attainment of construction projects finalization for they deal with the technical stage of such ventures. Onuka *et al.* (2012) suggests that the lack of training and retraining programs in construction companies frequently leads to a lack of expertise, lack of quality and inefficiency. It implies, therefore, that such difficulties will be inevitable without the indulgence of a training strategy offered by contractors.

The statement SMP3, local contractors are knowledgeable about road construction projects, 36(40.9%) of the respondents strongly agreed, 26(29.5%) agreed, 12(13.6%) neutral, 9(10.2%) disagreed, while 5(5.7%) strongly disagreed. The item had a mean of 3.90 and S.D of 0.713. The mean was above the composite mean of 3.57 implying that most of the respondents agreed that local contractors were knowledgeable about road construction projects. Moreover, S.D was more than the composite of 0.665 implying that the respondents' opinions were inconsistent. The findings concur with Wang (2010) who pointed out that skills lack is a challenge posed to many nations in the entire world. The buying power of the end consumer brings about the development of professional labour within the construction industry framework. Therefore, there is a need for extra qualified staff.

The statement SMP4, the level of skills among local contractors in their respective area is usually very high, 35 (39.8%) of the respondents strongly agreed, 26 (29.5%) agreed, 10 (11.4%) were neutral, 10 (11.4%) disagreed, while 7 (8.0%) strongly disagreed. This item had a mean of 3.82 and a S.D of 0.731. The mean was above the composite mean of 3.57. This implied that most of the respondents agreed that the level of skills among local contractors in their respective area is usually very high. Further, given that the S.D was above the composite of 0.665, the study thus concluded that the opinions were inconsistent. These findings are in line with Rafee (2012) who stated that skilled manpower in the construction industry performs a highly crucial role to the sustenance and development of the firm as they are intimately linked to the Road Construction undertaking.

As per statement SMP5, the skills possessed by local contractors meet job requirement for

road construction projects, 29 (33.0%) of the respondents agreed, 21 (23.9%) strongly agreed, 22 (25.0%) disagreed, 11 (12.5%) neutral, while 5 (5.7%) strongly disagreed. The statement recorded a mean of 3.44 and S.D of 0.655. The mean was lower than the composite mean of 3.57. This implied that most of the respondents disagreed that the skills possessed by local contractors meet job requirement for road construction projects. Further, given that the S.D was lower than the composite of 0.665, the study thus concluded that the opinions converged. The results relate to Medugu *et al.* (2011) who noted that there is a severe lack of skilled manpower in Kenya notwithstanding the numerous Road Construction projects the country is performing. The promotion of intermediary colleges to universities has furthered the erosion of creation of skilled manpower hence leaving a major pothole of skilled manpower.

The statement SMP6, local contractors have right measures of skilled, semi-skilled and unskilled labour, 28 (31.8%) of the respondents strongly agreed, 26 (29.5%) agreed, 22 (25.0%) disagreed, 7 (8.0%) strongly disagreed, while 5 (5.7%) were neutral. The statement recorded a mean of 3.52 and SD of 0.710. The mean was lower than the composite mean of 3.57. This implied that most of the respondents disagreed that local contractors have right measures of skilled, semi-skilled and unskilled labour. Further, given that the SD was more than the composite of 0.665, the study thus concluded that the opinions were inconsistent. Trendle (2008) indicated the presence of quite a number of causes of skill shortages; a rise in labor demand resulting from continued expansion of the infrastructure. Sweis *et al.* (2008) also suggested that shortages of workers in construction projects, involving skilled, semi-skilled and unskilled labour, facilitate delays.

On statement SMP7, Local contractors have worked in the construction sector before 28 (31.8%) of the respondents strongly agreed, 24 (27.3%) agreed, 21 (23.9%) were neutral, 9 (10.2%) strongly disagreed, while 6 (6.8%) disagreed. The statement recorded a mean of 3.64 and a S.D of 0.779. The mean was above the composite mean of 3.57. This implied that most of the respondents agreed that local contractors have worked in the construction sector before. Further, given that the S.D was more than the composite of 0.665, the study thus concluded that the opinions were inconsistent. Onuka *et al.* (2012) suggests that the lack of training and retraining programs in construction companies frequently leads to a lack of expertise, lack of

quality and inefficiency. It implies, therefore, that such difficulties will be inevitable without the indulgence of a training strategy offered by contractors.

On statement SMP8, local contractors have employees with requisite experience in road construction, 29 (33.0%) of the respondents strongly agreed, 29 (33.0%) agreed, 19 (21.6%) were neutral, 8 (9.1%) disagreed, while 3 (3.4%) strongly disagreed. The item had a mean of 3.83 and SD of 0.596. The mean was above the composite mean of 3.57. This implied that most of the respondents were in agreement that local contractors have employees with requisite experience in road construction. Further, given that the SD was lower than the composite of 0.665, the study thus concluded that the opinions converged. This coincides with a survey conducted by Alinaitwe et al. (2007) that graded the dual most important issue of poor performance of construction workforce in developing countries as incompetent managers and absence of employee expertise.

Further, on statement SMP9, contractors have relevant experience in civil engineering and related courses 28 (31.8%) of the respondents strongly agreed, 28 (31.8%) were neutral, 25 (28.4%) agreed, 4 (4.5%) strongly disagreed, while 3 (3.4%) disagreed. The statement recorded a mean of 3.80 and SD of 0.525. The mean was above the composite mean of 3.57. This implied that most of the respondents were in agreement that contractors had relevant experience in civil engineering and related courses. Further, given that the S.D was lower than the composite of 0.665, the study thus concluded that the opinions converged. As per Dantong et al. (2011), the shortage of skilled labor is not a lack of employees, but rather a lack of adequately trained, competent and industrious employees eligible for unique kinds of work.

From the interviews, the senior management were asked to give their views on whether local road contractors have the required level of training to do their work. The respondents who indicated that the local contractors needed more training on construction methods, contract management and field exposure to manage contracts but however, most of the diploma holders engage personnel with basic training along the line. The ones that agreed indicated that they had other trained staffs such as engineers, plumbers, technologists and surveyors who help them do the work.

Further, the respondents were asked to indicate how experienced the manpower for the local

contractors for the assigned job was. They indicated that majority had prior experience in the specific job area since it affected the quality of the work, construction period and adherence to the design. One manager indicated that:

“Most local contractors engage personnel with 2 – 5 years of experience resulting to frictions with the Engineer, which in turn delays delivery of the project and a possible compromise on the quality.”

Moreover, the interviewees were asked to indicate how often professional training was conducted on the project team. Majority of the interviewees indicated their firms rarely did professional training but one indicated once every year for directors. They were further required to indicate the way that the skills for the manpower of local contractors influenced the performance of road construction projects in Narok County. They indicated that it saves time, cost and resources as they know the most economical and efficient way to perform the task. One KENHA manager said that:

“With the right skills,contractors produce perfect work and with insufficient skills, poor/shoddy works were realized.”

Another manager from KERRA remarked that:

“Technical skills influence the level of performance in project delivery especially regarding quality control. It also influences the time of implementation of the project and the net benefits of to the contractor.”

4.6 Working Capital and Performance of Road Construction Projects

The research sought to establish how local contractors’ working capital influences the performance of road construction projects in Narok County. To indicate the extent to which respondents agreed with statements on working capital they used the scale of 1 to 5 where 1= strongly disagree, 2=disagree, 3 = neutral, 4 = agree, and, 5 = strongly agree. The results are displayed in Table 4.7.

Table 4.7: Influence of Working Capital on Performance of Road Construction

Code	Statements	SD F (%)	D F (%)	N F (%)	A F (%)	SA F (%)	Mean	Std. Dev.
Access to credit								
WCP1	Local contractors have access to adequate credit to finance road projects	8 (9.1)	32 (36.4)	6 (6.8)	8 (9.1)	34 (38.6)	3.32	0.779
WCP2	Level of access to credit by local contractors from financial institutions is high	36 (40.9)	3 (3.4)	4 (4.5)	8 (9.1)	37 (42.0)	3.08	0.564
WCP3	Financial institutions have flexible lending terms	7 (8.0)	3 (3.4)	11 (12.5)	33 (37.5)	34 (38.6)	3.95	0.567
Operational Resources								
WCP4	Local contractor's road projects have never stalled because of lack of working capital	30 (34.1)	39 (44.3)	10 (11.4)	5 (5.7)	4 (4.5)	2.02	0.550
WCP5	Local contractors' operational resources are adequate to manage our projects	6 (6.8)	32 (36.4)	5 (5.7)	8 (9.1)	37 (42.0)	3.43	0.713
WCP6	Local contractors are able to meet their operating expenses required in their everyday operation	43 (48.9)	8 (9.1)	37 (42.0)	0 (0.0)	0 (0.0)	1.93	0.956
Cash in bank								
WCP7	Local contractors have enough cash in the bank to facilitate road construction projects	6 (6.8)	4 (4.5)	27 (30.7)	28 (31.8)	23 (26.1)	3.66	0.623
WCP8	Local contractors have sufficient cash flow which enables their road project to progress as planned	24 (27.3)	22 (25.0)	30 (34.1)	8 (9.1)	4 (4.5)	2.39	0.619
WCP9	Local contractors have adequate cash to meet their current liabilities	28 (31.8)	5 (5.7)	20 (22.7)	28 (31.8)	7 (8.0)	2.78	0.699
Composite mean and Standard deviation (S.D)							2.95	0.674

As per the results (Table 4.7) on statement WCP1, local contractors have access to adequate credit to finance road projects, 34(38.6%) of the respondents strongly agreed, 32 (36.4%) disagreed, 6 (6.8%) were neutral, 8 (9.1%) agreed, while 8 (9.1%) strongly disagreed. The statement recorded a mean score of 3.32 and S.D of 0.779. The mean was more than the composite mean of 2.95. This implied that most of the respondents were in agreement that local contractors have access to adequate credit to finance projects. Further, given that the S.D was more than the composite of 0.674, the study thus concluded that the opinions were inconsistent. The findings are in accordance with Ugochukwu and Onyekwena (2014) who

stated that the working capital or finance of the contractor is the resource that eases the advancement of implementing on-site construction work. It consists of cash, purchases of credit, overdraft, bank credit, and work-in - progress and invoiced number.

On statement WCP2, level of access to credit by local contractors from financial institutions is high, 36 (40.9%) of the respondents strongly agreed, 37 (42.0%) disagreed, 4 (4.5%) were neutral, 8 (9.1%) agreed, while 3 (3.4%) strongly disagreed. The item had a mean score of 3.08 and S.D of 0.564. The mean was above the composite mean of 2.95. This implied that the level of access to credit by local contractors from financial institutions was high. Further, given that the S.D was lower than the composite of 0.674, the study thus concluded that the opinions converged. In view of Mushori, Rambo and Wafula (2020), road construction projects are capital intensive and the need to assess a road contractor on the same basis is vital.

In regards to statement WCP3, financial institutions have flexible lending terms, 33 (37.5%) of the respondents strongly agreed, 34 (38.6%) agreed, 11 (12.5%) were neutral, 7 (8.0%) disagreed, while 3 (3.4%) strongly disagreed. The item had a mean score of 3.95 and SD of 0.567. The mean was above the composite mean of 2.95. This implied that financial institutions have flexible lending terms. Further, given that the S.D was lower than the composite of 0.674, the study thus concluded that the opinions converged. In line with the results, Akali and Sakaja (2018) conducted a study on the contractors' financial capability on performance of road construction in Kakamega County. The study showed that working capital is important for the success of the road construction projects.

Statement WCP4, local contractor's road projects have never stalled because of lack of working capital 30(34.1%) of the respondents strongly disagreed, 39(44.3%) disagreed, 10(11.4%) were neutral, 5(5.7%) agreed, while 4(4.5%) strongly agreed. The item had a mean score of 2.02 and S.D of 0.550. The mean was less than the composite mean of 2.95. This implied that most of the respondents were in disagreement that the local contractor's road projects had never stalled because of lack of working capital. Further, given that the S.D was lower than the composite of 0.674, the study thus concluded that the opinions converged. The results concur with Mushori, Rambo and Wafula (2020) who showed that strong financial

base was a prerequisite to be processed by contractors for effective completion of projects which can lead to excellent performance.

On statement WCP5, local contractors' operational resources were adequate to manage the projects, 37 (42.0%) of the respondents strongly agreed, 32 (36.4%) disagreed, 5 (5.7%) were neutral, 8 (9.1%) agreed, while 6 (6.8%) strongly disagreed. The statement recorded a mean score of 3.43 and S.D of 0.713. The mean was above the composite mean of 2.95. This implied that most of the respondents were in agreement that local contractors' operational resources were adequate to manage the projects. Further, given that the SD was more than the composite of 0.674, the study thus concluded that the opinions were inconsistent. Nwude (2010) noted that the contractor needs a focused positive effort as mismanagement will undermine efficiency and level of benefit. Working capital management is very important. In order to guarantee that the working capital level is preserved and that there is ample availability of funds to support current assets to enable project completion in a cost-effective and time-conservative manner, it is important to assess the appropriate level of the project's working capital needs

The statement WCP6, local contractors were able to meet their operating expenses required in their everyday operation, 43(48.9%) of the respondents strongly disagreed, 8(9.1%) disagreed, while 37(42.0%) were neutral. The statement recorded a mean score of 1.93 and SD of 0.956. The mean was lower than the composite mean of 2.95. This implied that most of the respondents were in disagreement that local contractors were able to meet their operating expenses required in their everyday operation. Further, given that the S.D was more than the composite of 0.674, the study thus concluded that the opinions were inconsistent. Mushori, Rambo and Wafula (2020) infer that there is need to establish strong financial base by the contractors for effective completion of projects which can lead to excellent performance.

The statement WCP7, 23 (26.1%) of the respondents strongly agreed, 28 (31.8%) agreed, 27 (30.7%) were neutral, 4 (4.5%) disagreed while 6 (6.8%) strongly disagreed. The item had a mean score of 3.66 and SD of 0.623. The mean was more than the composite mean of 2.95. This implied that local contractors had enough cash in the bank to facilitate road construction projects. Further, given that the S.D was lower than the composite of 0.674, the study thus

concluded that the opinions converged. In line with the outcome, Kenyatta *et al.* (2015) conducted a publication on the impact of payment default on contractors in the Kenyan construction industry and discovered that late payment of singular or more certificates, sporadic underpayment or payment and failure to pay led to contractors having cash flow difficulties.

The statement WCP8, local contractors had sufficient cash flow which enabled their road project to progress as planned, 24 (27.3%) of the respondents strongly disagreed, 22 (25.0%) disagreed, 30 (34.1%) were neutral, 8 (9.1%) agreed, while 4 (4.5%) strongly agreed. The item had a mean score of 2.39 and S.D of 0.619. The mean was lower than the composite mean of 2.95. This implied that most of the respondents were in disagreement that local contractors had sufficient cash flow which enabled their road project to progress as planned. Further, given that the S.D was lower than the composite of 0.674, the study thus concluded that the opinions converged. Rahman (2013) noted that contractors' financial capacity and adequate funds flow are critical to sustaining progress in construction as expected.

The Statement WCP9, local contractors had adequate cash to meet their current liabilities, 28 (31.8%) of the respondents strongly disagreed, 28 (31.8%) agreed, 20 (22.7%) were neutral, 5 (5.7%) disagreed, while 7 (8.0%) strongly agreed. The statement recorded a mean score of 2.78 and SD of 0.699. The mean was lower than the composite mean of 2.95. This implied that most of the respondents were in disagreement that local contractors had adequate cash to meet their current liabilities. Further, given that the S.D was more than the composite of 0.674, the study thus concluded that the opinions were inconsistent. Ameh and Osegbo(2011) indicated that financial constraints lead to schedule overruns and appropriate financing ensures fair cash flow.

The researcher also sought weather local contractors had enough capital to run their assigned projects. One manager indicated that:

“The local road contractors do not have enough capital to run their assigned projects”.

The researcher went further to ask about the challenges that local contractors face in acquiring resources for their projects.

Another manager from KURA indicated that

“Inadequate capital, inadequate personnel in areas of materials, materials not being available locally, government bureaucracy (finances), attempts to broaden the profit margins (thus going for low quality materials), little knowledge for locations to acquire specified resources (materials), lending entities such as banks not willing to give credit, and high interest loans are some of the challenges the local contractors face”

Moreover, the interviewees were asked to indicate the requirements for local contractors to get access credit to finance projects.

A manager from KERRA indicated that,

“In order to access credit to finance their projects, local contractor companies require financial statements, equipment logbooks, clean credit history, evidence of award and possession of the project (security), meeting the governmental requirements, and relevant financing institution’s requirements.”

Additionally, the researcher also sought to know how local contractors’ working capital influenced performance of road construction projects in Narok County.

KURA manager indicated that, “Lack of sufficient capital slows down construction works, slows down material supply, lowers employee motivation, and affects the quality of work done by the contractor”

4.7 Organization Structure and Performance of Road Construction Projects

The research sought to determine how local contractors’ organizational structure influences performance of road construction projects in Narok County. The respondents were asked to rate their firm’s organization structure in terms of the indicators using the scale of 1 to 5

where 1= strongly disagree, 2=disagree, 3 = neutral, 4 = agree, and, 5 = strongly agree. Table 4.8 presents the findings.

Table 4.8: Influence of Organization Structure on Performance of Road Construction

Code	Statements	SD F (%)	D F (%)	N F (%)	A F (%)	SA F (%)	Mean	Std. Dev.
Decision making process								
OSP 1	There is Co-ordination among parties involved in the project	4 (4.5)	6 (6.8)	12 (13.6)	38 (43.2)	28 (31.8)	3.91	0.674
OSP2	Decisions made during meetings are acted upon in a timely manner	9 (10.2)	9 (10.2)	6 (6.8)	29 (33.0)	35 (39.8)	3.82	0.798
OSP3	The decision-making structure is clearly defined among the local contractors in the road sector	8 (9.1)	8 (9.1)	20 (22.7)	7 (8.0)	45 (51.1)	3.43	0.676
Defined work plans								
OSP4	Local contractors have a clear definition of work plans and task management	33 (37.5)		29 (33.0)	11 (12.5)	8 (9.1)	7 (8.0)	2.17 0.752
OSP5	Allocation of duties and roles is done effectively in local contractors	6 (6.8)		5 (5.7)	6 (6.8)	36 (40.9)	35 (39.8)	4.01 0.650
OSP6	Local contractors adopt work plan framework that enhance the performance of road projects	7 (8.0)		4 (4.5)	24 (27.3)	24 (27.3)	29 (33.0)	3.73 0.595
Communication								

Code	Statements	SD F (%)	D F (%)	N F (%)	A F (%)	SA F (%)	Mean	Std. Dev.
OSP7	There is clear communication between subproject teams, clients and suppliers and other stakeholders	23 (26.1)		10 (11.4)	24 (27.3)	6 (6.8)	25 (28.4)	3.34 0.768
OSP8	There effective communication between Individuals members and project teams' arrangements	6 (6.8)		9 (10.2)	24 (27.3)	23 (26.1)	26 (29.5)	3.61 0.766
OSP9	Communication within the organization's employees is enhanced and leads to better contractors' results	6 (6.8)		7 (8.0)	15 (17.0)	25 (28.4)	35 (39.8)	3.86 0.604
Composite mean and Standard deviation (S.D)							3.54	0.698

The results (Table 4.8) on the statement OSP1, Co-ordination among parties involved in the project, 38 (43.2%) of the respondents agreed, 28 (31.8%) strongly agreed, 12 (13.6%) were neutral, 6 (6.8%) disagreed, while 4 (4.5%) strongly disagreed. The statement recorded a mean score of 3.91 and SD of 0.674. The mean was above the composite mean of 3.54. This implied that most came to agreement that co-ordination among parties influences performance of road construction projects in Narok County. Further, given that the S.D was lower than the composite of 0.698, the study thus concluded that the opinions converged. In the study on the effect of organizational structure on project success that was confined to the construction site, Yinghui and Cheng (2004) found that poor performance in road construction contracts has been linked to the shortage of effective integration among workers.

The statement OSP2, decisions made during meetings are acted upon in a timely manner, 35 (39.8%) of the respondents strongly agreed, 29 (33.0%) agreed, 9 (10.2%) strongly disagreed, 9 (10.2%) disagreed, while 6 (6.8%) were neutral. The statement recorded a mean score of 3.82 and SD of 0.798. The mean was above the composite mean of 3.54. This implied that

most of the respondents were in agreement that when decisions made during meetings are acted upon in a timely manner influences performance of road construction projects in Narok County. Further, given that the S.D was more than the composite of 0.698, the study thus concluded that the opinions were inconsistent. Winfred (2011) mentions that by increasing efficiency, an effective managerial framework could assist management teams in achieving improved decision making.

The statement OSP3, decision-making structure is clearly defined among the local contractors in the road sector, 45 (51.1%) of the respondents agreed, 20 (22.7%) were neutral, 8 (9.1%) strongly disagreed, 8 (9.1%) strongly agreed, while 7 (8.0%) disagreed. The statement recorded a mean score of 3.43 and S.D of 0.676. The mean was lower than the composite mean of 3.54. This implied that most of the respondents were in disagreement that decision-making structure is clearly defined among the local contractors in the road sector. Further, given that the S.D was more than the composite of 0.698, the study thus concluded that the opinions were inconsistent. Mostafa (2018) mentioned that weak organizational structure of too many construction companies in developing nations has led to low job efficiency and the lack of performance of road construction projects in general. To mitigate these operational problems, companies should be well designed for both consumers and contractors. Individual members and teams are given responsibility for tasks and decision-making, and arrangements are made to prepare, steer, coordinate and manage them.

The statement OSP4, local contractors have a clear definition of work plans and task management, 33 (37.5%) of the respondents strongly disagreed that local contractors had a clear definition of work plans and task management, 29 (33.0%) disagreed, 11 (12.5%) were neutral, 8 (9.1%) agreed, while 7 (8.0%) strongly agreed. The statement recorded a mean score of 2.17 and SD of 0.752. The mean was lower than the composite mean of 3.54. This implied that most of the respondents disagreed that local contractors had a clear definition of work plans and task management. Further, given that the S.D was more than the composite of 0.698, the study thus concluded that the opinions were inconsistent. On the contrary, Ganesh (2013) stated that the manager sets up the schedule of tasks in an organisation to accomplish the task, plans position description, organizes workers into units and assigns them to supervisors. Routines are to be pinned and developed for performance expectations.

Established work plans assist organization in obtaining optimum efficiency in the value of the target of the business, thus building industry performance.

The statement coded OSP5, allocation of duties and roles was done effective in local contractors, 36 (40.9%) of the respondents agreed, 35 (39.8%) strongly agreed, 6 (6.8%) were neutral, 6 (6.8%) strongly disagreed, while 5 (5.7%) disagreed. The statement recorded a mean score of 4.01 and S.D of 0.650. The mean was above the composite mean of 3.54. This implied that most of the respondents were in agreement that allocation of duties and roles was done effective in local contractors. Further, given that the S.D was lower than the composite of 0.698, the study thus concluded that the opinions converged. In line with this, Ofori et al. (2012) describe the structure of the organization to be the sum of the overall wherein his work is split into various tasks and thereafter his collaboration is accomplished between these tasks. So as to boost contractor efficiency, work allocation must be carried out effectively.

The statement OSP6, local contractors adopted work plan framework that enhanced the performance of road projects, 29 (33.0%) of the respondents strongly agreed, 24 (27.3%) agreed, 24 (27.3%) were neutral, 7 (8.0%) strongly disagreed, while 4 (4.5%) disagreed. The statement recorded a mean score of 3.73 and S.D of 0.595. The mean was more than the composite mean of 3.54. This implied that most of the respondents were in agreement that local contractors adopted work plan framework that enhanced the performance of road projects. Further, given that the S.D was lower than the composite of 0.698, the study thus concluded that the opinions converged. This is in concurrence with Wolf (2002) who noted that a successful organizational framework has a positive influence on a company's implementation culture, directing the competitiveness of the company, including the process of success.

The statement OSP7, there is clear communication between subproject teams, clients and suppliers and other stakeholders, 25 (28.4%) of the respondents strongly agreed, 24 (27.3%) were neutral, 23 (26.1%) strongly disagreed, 6 (6.8%) agreed, while 10 (11.4%) disagreed. The statement recorded a mean score of 3.34 and SD of 0.768. The mean was lower than the composite mean of 3.54. This implied that most of the respondents were in disagreement that clear communication between subproject teams, clients and suppliers and other stakeholders.

Further, given that the SD was more than the composite of 0.698, the study thus concluded that the opinions were inconsistent. In line with the outcome, Clemmer (2013) was of the view that communication within the organization's employees is enhanced and leads to better contractors' results.

The statement OSP8, there was effective communication between individuals members and project teams' arrangements, 26 (29.5%) of the respondents strongly agreed, 24 (27.3%) were neutral, 23 (26.1%) agreed, 9 (10.2%) disagreed, while 6 (6.8%) strongly disagreed. The statement recorded a mean score of 3.61 and S.D of 0.766. The mean was above the composite mean of 3.54. This implied that most of the respondents were in agreement that there was effective communication between individuals' members and project teams' arrangements. Further, given that the SD was more than the composite of 0.698, the study thus concluded that the opinions were inconsistent. Armstrong and Stephens (2008) stated that individual members and teams are given responsibility for tasks and decision-making, and arrangements are made to prepare, steer, coordinate and manage them. Such organizational frameworks need to provide the context in which organizational processes obtain the opportunity to realize desired outcome in the interest of the target of the business, thus building industry performance.

The statement OSP9, communication within the organization's employees was enhanced and lead to better contractors' results, 35 (39.8%) of the respondents strongly agreed, 25 (28.4%) agreed, 15 (17.0%) were neutral, 7 (8.0%) disagreed, while 6 (6.8%) strongly disagreed. The statement recorded a mean score of 3.86 and S.D of 0.604. The mean was more than the composite mean of 3.54. This implied that most of the respondents were in agreement that communication within the organization's employees was enhanced and lead to better contractors' results. Further, given that the S.D was less than the composite of 0.698, the study thus concluded that the opinions converged. As per Tran and Tian (2013) concerning the intent of the start of the organization, cooperation between heads of departments in a construction company improves company productivity They can be represented as faring well (financially beneficial) or hardly a success (non - profit making) one. To achieve these objectives, organizations create internal order and relationships between organizational components that can be identified as the structure of the organization.

The interviewees (senior managers) were required to indicate whether the local contractors adopted formal work plan frameworks for their work. Those who differed indicated that the contractors did not adopt formal work plan frameworks for their work because it distorts planning of the site activities, and results to poor co-ordination of activities. Those who affirmed indicated that it helped to achieve the set goals and in favorable circumstances complete the project within the timeframe.

The researcher also sought whether there was a clear communication between subproject teams, clients and suppliers and other stakeholders and the channels used. They indicated that they used physical meetings during site meetings, emails, and phone calls. On this, a KURA manager indicated that:

“No clear communication lines are established on site. The communication channel used is direct phone calls from contractor.”

Another manager from KENHA said that:

“Communication is clear, unless jeopardized by one or some parties. Channel of communication: Resident Engineer (The Engineer’s representative) communicates all round, S/he gives instructions to the Contractor through the Site Agent whom in turn reaches out to the Sub-Contractor (if any). The Contractor communicates independently to his suppliers. The RE also communicates to the stakeholders and the Employer (through The Engineer).”

The interviewees were also asked to give their opinions on how local contractors’ organizational structure influenced performance of road construction projects in Narok County. They indicated that it cuts the linkage between contractor and the client, poor planning, helps in specialization and division of work, and helps in the efficiency of the project. One of the NCA officials indicated that:

“Poor organizational structure leads to poor co-ordination of different departments resulting to poor delivery, on the other end; good structure gives better if not the best results.”

The interviewees were also asked to indicate whether the local road contractors involved all the stakeholders in the projects and the ways that they did. They indicated that through community awareness and informing local administration through baraza, during commencement of the project, site meetings. One KURA manager however indicated that:

“No. Mostly bodies like NEMA and WARMA are not involved. This brings conflict in project execution.”

4.8 Client Support and Performance of Road Construction Projects

The study sought to examine how local contractors’ client support influence performance of road construction projects in Narok County. The respondents were required to rate the firm organization structure in term of the indicators using the scale of 1 to 5 where 1= strongly disagree, 2=disagree, 3 = neutral, 4 = agree, and, 5 = strongly agree. The results were as shown on Table 4.9.

Table 4.9: Influence of Client Support on Performance of Road Construction

Code	Statements	SD F (%)	D F (%)	N F (%)	A F (%)	SA F (%)	Mean	Std. Dev.
Budget allocations								
CSP1	Local contractors is adequately allocated enough funds for road construction	37 (42.0)	32 (36.4)	7 (8.0)	3 (3.4)	9 (10.2)	2.03	0.754
CSP2	Local contractors’ invoices are promptly approved and paid on good time to facilitate their planned work	5 (5.7)	11 (12.5)	37 (42.0)	28 (31.8)	7 (8.0)	3.24	0.673
CSP3	Approval of our work plans by our clients is done in structured manager and timely	32 (36.4)	36 (40.9)	10 (11.4)	7 (8.0)	3 (3.4)	2.01	0.556
Level of involvement of stakeholders								
CSP4	Local contractors’ clients provide all the necessary support in terms permits and documentation	6	9	7	33	33	3.89	0.617

Code	Statements	SD F (%)	D F (%)	N F (%)	A F (%)	SA F (%)	Mean	Std. Dev.
		(6.8)	(10.2)	(8.0)	(37.5)	(37.5)		
CSP5	Called meetings are fully attended by our clients	27 (30.7)	36 (40.9)	11 (12.5)	7 (8.0)	7 (8.0)	2.22	0.698
CSP6	Stakeholder reports are prepared frequently to update the stakeholder on the progress of the project	7 (8.0)	19 (21.6)	26 (29.5)	28 (31.8)	8 (9.1)	3.13	0.684
Payment Frequency								
CSP 7	Local contractors are paid promptly and as agreed on by their clients	26 (29.5)	21 (23.9)	27 (30.7)	5 (5.7)	9 (10.2)	2.43	0.758
CSP8	Mode of payment by clients to local contractors is done in the manner that support their financial obligation	4 (4.5)	7 (8.0)	20 (22.7)	27 (30.7)	30 (34.1)	3.82	0.677
CSP9	Clients timely reimburses interim progress payments for local contractors	18 (20.5)	6 (6.8)	28 (31.8)	5 (5.7)	31 (35.2)	3.28	0.591
Composite mean and Standard deviation (S.D)							2.89	0.668

The results (Table 4.9) on the statement CSP1, local contractors is adequately allocated enough funds for road construction, 37 (42.0%) of the respondents strongly disagreed, 32 (36.4%) disagreed, 7 (8.0%) were neutral, 3 (3.4%) agreed, while 9 (10.2%) strongly agreed. The statement recorded a mean score of 2.03 and S.D of 0.754. The mean was lower than the composite mean of 2.89. This implied that most of the respondents were in disagreement that local contractors were adequately allocated enough funds for road construction. Further, given that the S.D was more than the composite of 0.668, the study thus concluded that the opinions were inconsistent. According to Dissanayaka and Kumaran (1999), governments or owners of projects should provide extra adequate funds to the project in order to achieve its implementation, as it cannot continue with inadequate finance, and would influence contractor performance to achieve set objectives.

The statement CSP2, local contractors' invoices are promptly approved and paid on good time to facilitate their planned work, 37 (42.0%) of the respondents were neutral, 28 (31.8%) agreed, 11 (12.5%) disagreed, 7 (8.0%) strongly agreed, while 5 (5.7%) strongly disagreed.

The statement recorded a mean score of 3.24 and S.D of 0.673. The mean was above the composite mean of 2.89. This implied that most of the respondents were in agreement that local contractors were adequately allocated enough funds for road construction. Further, given that the S.D was more than the composite of 0.668, the study thus concluded that the opinions were inconsistent. Matu, Gatotoh and Mushori (2021) opined that performance of contractors in road construction is enhanced with proper client support services. Timely approvals and payments is crucial as it saves time and helps in bolstering project completion whereas lack of support leads to challenges of cost overrun in litigation, disputes, arbitration and increases the possibility of project to be abandoned.

The statement CSP3, approval of work plans by clients was done in a structured manner and time, 36 (40.9%) of the respondents disagreed, 32 (36.4%) strongly disagreed, 10 (11.4%) were neutral, 7 (8.0%) agreed, while 3 (3.4%) strongly agreed. The statement recorded a mean score of 2.01 and SD of 0.556. The mean was lower than the composite mean of 2.89. This implied that most of the respondents were in disagreement that approval of work plans by clients was done in a structured manner and time. Further, given that the SD was lower than the composite of 0.668, the study thus concluded that the opinions converged. According to the Business Round Table (1994), the leadership trait portrayed by clients and contractors' cooperation, is proved to be cost effective. A client's involvement in road construction projects has an impact on contractors' performance; therefore it's important to provide them with the assistance they need to ensure project success.

The statement CSP4, local contractors' clients provide with all the necessary support in terms permits and documentation 33 (37.5%) of the respondents strongly, 33(37.5%) agreed, 7 (8.0%) were neutral, 9 (10.2%) disagreed, while 6 (6.8%) strongly disagreed. The statement recorded a mean score of 3.89 and SD of 0.617. The mean was above the composite mean of 2.89. This implied that most of the respondents were in agreement that local contractors' clients provided with all the necessary support in terms permits and documentation. Further, given that the S.D was lower than the composite of 0.668, the study thus concluded that the opinions converged. The Constitution of Kenya (2010) provides people with the right to engage in affairs that concern their lives, according to Mbaabu (2012). If the involvement of

stakeholders is not treated properly, it might bear a significant effect on the contractor's results.

The statement CSP5, called meetings were fully attended by the clients, 36 (40.9%) of the respondents disagreed, 27 (30.7%) strongly disagreed, 11 (12.5%) were neutral, 7 (8.0%) agreed, while 7 (8.0%) strongly agreed. The statement recorded a mean score of 2.22 and SD of 0.698. The mean was lower than the composite mean of 2.89. This implied that most of the respondents were in disagreement that called meetings were fully attended by the clients. Further, given that the S.D was more than the composite of 0.668, the study thus concluded that the opinions were inconsistent. Mbaabu (2012) noted that the participation of stakeholders is crucial in projects for development. The participation of stakeholders assists in the smooth execution of programs. He argued that stakeholder involvement is necessary as customers are to make decisions about complicated circumstances with far-reaching consequences on the project area.

The statement CSP6, stakeholder reports were prepared frequently to update the stakeholder on the progress of the project, 28 (31.8%) of the respondents agreed, 26 (29.5%) were neutral, 19 (21.6%) disagreed, 8 (9.1%) strongly agreed, while 7 (8.0%) strongly disagreed. The statement recorded a mean score of 3.13 and S.D of 0.684. The mean was more than the composite mean of 2.89. This implied that most of the respondents were in agreement that stakeholder reports were prepared frequently to update the stakeholder on the progress of the project. Further, given that the SD was more than the composite of 0.668, the study thus concluded that the opinions were inconsistent. Rafee (2012) indicated that depending on the complexity of the road construction or the client's capacity, the client have a discretion to performed the process in-house or outsource to private consultants. Overruns in cost and completion time of projects due to poor supervision or project management directly affects the contractor's performance.

The statement CSP7, local contractors are paid promptly and as agreed on by their clients 27 (30.7%) of the respondents were neutral, 26 (29.5%) strongly disagreed, 21 (23.9%) disagreed, 9 (10.2%) strongly agreed, while 5 (5.7%) agreed. The statement recorded a mean score of 2.43 and SD of 0.758. The mean was lower than the composite mean of 2.89. This

implied that most of the respondents were in disagreement that local contractors were paid promptly and as agreed by their clients. Further, given that the S.D was more than the composite of 0.668, the study thus concluded that the opinions were inconsistent. This is in accordance with Kenyatta *et al.* (2015) who confers that cash flow is clearly the basis of the construction sector which bolsters continuity of the projects. In this regard, any obstacle to steady flow of fund might have serious consequences on the project execution. Challenges of non-payment to contractors, underpayment, late certifications, and intermittent payments contributes to insufficient cash flow results to construction conflicts, liquidation, project delay and budget overrun.

The statement CSP8, mode of payment by clients to local contractors was done in the manner that support their financial obligation, 30 (34.1%) of the respondents strongly agreed, 27 (30.7%) agreed, 20 (22.7%) were neutral, 7 (8.0%) disagreed, while 4 (4.5%) strongly disagreed. The statement recorded a mean score of 3.82 and S.D of 0.677. The mean was above the composite mean of 2.89. This implied that most of the respondents were in agreement that mode of payment by clients to local contractors was done in the manner that support their financial obligation. Further, given that the SD was more than the composite of 0.668, the study thus concluded that the opinions were inconsistent. Mwangi (2016) stated that challenges of land question by contractors have been forced the project to delay exceedingly for a longer duration without appropriate activity and usage of equipment that remains idle, forcing them to perform badly on the project.

The statement CSP9, clients timely reimbursed interim progress payments for local contractors, 31 (35.2%) of the respondents agreed, 28 (31.8%) were neutral, 18 (20.5%) strongly disagreed, 6 (6.8%) strongly agreed, while 5 (5.7%) disagreed. The statement recorded a mean score of 3.28 and SD of 0.591. The mean was more than the composite mean of 2.89. This implied that most of the respondents were in agreement that clients timely reimbursed interim progress payments for local contractors. Further, given that the S.D was less than the composite of 0.668, the study thus concluded that the opinions converged. Challenges of non-payment, late payment and intermittent payment has been assessed by Tran and Carmichael (2013) to have an impact on performance of contractors.

As per the interviews, the managers were required to indicate whether there were problems in the payment of the local contractors and how it affected their performance. They indicated that they delayed in processing payment. One KERRA manager indicated that:

“Payments are dependent on the category of the project. An Example is Roads Maintenance Levy Fund (RMLF) and Development projects, RMLF will pay faster (1 week or less) than development projects which contractually goes for 3 months (can sometimes take longer) from the date of RE’s approval of the certificate. Delayed payments (especially developments project) adversely affects performance of the local contractors.”

They were further required to indicate the general payment model for the local contractors and how often the formal model was followed or adhered to. They indicate that payments were made electronically, issuance cheques, bank transfers, and cash for unskilled labour. Further, the interviewees were asked to indicate how local contractors’ client support influence performance of road construction projects in Narok County. They indicated that they influenced delivery of the project based on time and resource utilization, good client support through aspects like CSR brings community together reducing repulsions during construction, and delayed payments by clients to contractors has delayed project delivery.

4.9 Inferential Statistics

In this section, correlations analysis and multiple regression analysis were performed at 95% confidence interval and 5% confidence level 2-tailed to establish the influence of local contractors’ capacity on performance of construction projects in Narok County, Kenya. The results are presented in the following sub-sections.

4.9.1 Pearson Product Moment Coefficient

A correlation is a value ranging from -1 to +1 which examines the level to which two variables relate. A value that is positive for the correlation shows a positive relationship whereas a negative one shows an inverse or negative relationship. The coefficients of correlation are presented in Table 4.10.

Table 4.10: Correlation Matrix

		Performance	Skilled Manpower	Working Capital	Organization Structure	Client Support
Performance	Pearson	1				
	Correlation Sig. (2-tailed)					
Skilled Manpower	Pearson	0.765**	1			
	Correlation Sig. (2-tailed)	0.013				
Working Capital	Pearson	0.821**	0.854**	1		
	Correlation Sig. (2-tailed)	0.009	0.026			
Organization Structure	Pearson	0.874**	0.758**	0.786**	1	
	Correlation Sig. (2-tailed)	0.011	0.004	0.023		
Client Support	Pearson	.815**	.735**	0.769**	0.770**	1
	Correlation Sig. (2-tailed)	0.008	0.029	0.007	0.009	

** . Correlation is significant at the 0.05 level (2-tailed).

Results (Table 4.10), shows a positive and significant correlation between the performance of road construction projects and skilled manpower of local contractors as shown by a coefficient of 0.765. The p-value=0.013 is less than 0.05 implied that the relationship was statistically significant. Further, the study found that there is a positive and significant correlation between performance of road construction projects and working capital as shown by a coefficient of 0.821 and a p-value of $0.009 < 0.05$. The study further showed that there is a positive and significant correlation between performance of road construction projects and organization structure as expressed by a coefficient of 0.874 and a p-value of 0.011. Finally, the study revealed that there is a positive and significant

correlation between performance of road construction projects and client support as shown by a coefficient of 0.815 and a p-value of 0.008. This shows that there is a positive and significant correlation between the performance of road construction projects and all the independent variables.

4.9.2 Multiple Regression Analysis

Multiple regression analysis was conducted as to determine the relationship between skilled manpower, working capital, organizational structure and client support against the dependent variable performance of road construction projects. The model summary is as shown on Table 4.11.

Table 4.11: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.886 ^a	0.785	0.775	3.24479

From the results presented in Table 4.11, the adjusted R² was used to establish the predictive power of the study model and it was found to be 0.775 implying that 77.5% of the variations in performance of road construction projects are explained by changes in skilled manpower, working capital, organizational structure and client support.

Table 4.12: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	3194.198	4	798.550	75.845	0.000 ^b
	Residual	873.881	83	10.529		
	Total	4068.080	87			

The probability value of 0.000 (Table.12) indicates that the regression relationship was highly significant in predicting how the skilled manpower, working capital, organizational structure and client support influence performance of road construction projects in Narok County. The F calculated at 5 per cent significance level was 75.845. Since F calculated is greater than the F-critical (value =2.4816), this shows that the overall model was significant.

Table 4.13: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.099	0.48		2.290	0.023
	Skilled Manpower	0.658	0.218	0.601	3.018	0.003
	Working Capital	0.761	0.232	0.662	3.280	0.001
	Organization Structure	0.801	0.296	0.793	2.706	0.007
	Client Support	0.739	0.293	0.694	2.522	0.012

The regression equation obtained thus was:

$$Y = 1.099 + 0.601X_1 + 0.662X_2 + 0.793X_3 + 0.694X_4$$

From the results presented in Table 4.13, a unit increase in skilled manpower would lead to a 0.601 increase in performance of road construction projects in Narok County. The variable was significant since p-value 0.003 was less than 0.05. Further, it was established that a unit increase in working capital would lead to 0.662 increases in performance of road construction projects in Narok County. The variable was significant since the p-value recorded was 0.001 less than 0.05 alpha or level of significance ($p=0.001 < 0.05$).

It was also found out that for a unit increase in organizational structure performance of road construction projects in Narok County would increase by 0.793. The variable was significant since $p\text{-value}=0.007<0.05$. Finally, the study revealed that for a unit increase in client support performance of road construction projects in Narok County would increase by 0.694. The variable was significant since $p\text{-value}=0.012<0.05$.

Therefore, from the findings, organizational structure has the greatest significant prediction on performance of road construction projects in Narok County, Kenya, followed by client support, then working capital, then while skilled manpower has the least significant prediction on performance of road construction projects in Narok County. All variables were significant because their p-values were less than 0.05.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The findings, summary of findings, conclusion formed from studied results, and recommendations are all included in this chapter. The goal of the study was to see how contractor capacity influenced the performance of road construction projects in Narok County.

5.2 Summary of Findings

The first objective of the study aimed to assess how skilled manpower of local contractors influences performance of road construction projects in Narok County. The study found that the level of professional training of the project team influences performance of road construction projects in Narok County, local contractors were knowledgeable about road construction projects, the level of skills among local contractors in their respective area is usually very high, local contractors have worked in the construction sector before, have employees with requisite experience in road construction, and had relevant experience in performance of road construction projects. The study also found that local contractors did not have right measures of skilled, semi-skilled and unskilled labour, the skills possessed by local contractors did not meet job requirement for road construction projects, and on-job training for employees in road construction sector was not frequent. Moreover, there was a positive and significant relationship between the performance of road construction projects and skilled manpower of local contractors ($r=0.601$, $p\text{-value}=0.003$).

The second objective sought to establish how local contractors' working capital influences the performance of road construction projects in Narok County. The research found that local contractors had access to adequate credit to finance projects, the level of access to credit by local contractors from financial institutions was high, financial institutions had flexible lending terms, local contractors' operational resources were adequate to manage the projects and had enough cash in the bank to facilitate road construction projects. The study also found that local contractors did not have adequate cash to meet their current liabilities, had insufficient cash flow to enable their road project to progress as planned, were not able to

meet their operating expenses required in their everyday operation, and their road projects stalled because of lack of working capital. The study also found that a unit change in working capital would lead to 0.662 unit change in performance of road construction projects in Narok County. The variable was significant since $p\text{-value}=0.001<0.05$.

The third objective of the study sought to determine how local contractors' organizational structure influences performance of road construction projects in Narok County. The research found that co-ordination among parties influences performance of road construction projects in Narok County, decision making process influenced performance of road construction projects in Narok County, allocation of duties and roles was done effective in local contractors, local contractors adopted work plan framework that enhanced the performance of road projects, there was effective communication between individuals' members and project teams' arrangements, and communication within the organization's employees was enhanced and lead to better contractors' results. Moreover, the study found that there was no clear communication between subproject teams, clients and suppliers and other stakeholders, local contractors had no clear definition of work plans and task management, and decision-making structure is not clearly defined among the local contractors in the road sector. The study also found out that a unit change in organizational structure would lead to 0.793unit change in performance of roadconstruction projects in Narok County. The variable was significant since $p\text{-value}=0.007<0.05$.

The fourth objective of the study sought to examine how local contractors' client support influence performance of road construction projects in Narok County. The study found that local contractors were adequately allocated enough funds for road construction, the clients provided with all the necessary support in terms permits and documentation, stakeholder reports were prepared frequently to update the stakeholder on the progress of the project, mode of payment by clients to local contractors was done in the manner that support their financial obligation, and clients timely reimbursed interim progress payments for local contractors. The study also found that local contractors were not paid promptly and as agreed by their clients, called meetings were not fully attended by the clients, approval of work plans by clients was not done in a structured manner and time, and local contractors were not adequately allocated enough funds for road construction .The study also revealed that client

support would lead to 0.694 unit change in performance of road construction projects in Narok County if all other variables are held constant and the variable was significant since $p\text{-value}=0.012<0.05$.

The research also aimed to find out the rated at which the aspects of performance of road construction projects were conducted in the firms. The research found that road constructed by local contractors took long to wear out, local contractors constructed high durable roads, quality of the road construction project by local contractors was of high standard, quality was usually prioritized by local contractors, and there was high level of client's satisfaction with the road project by local contractors. The research also found that delivery of road contraction projects were not usually within budget and schedule, the roads constructed by local contractors did not meet specified standards, and there were usually high maintenance costs of road project constructed by local contractors.

5.3 Conclusion

The study conclusion is that there is a positive and significant association between the performance of road construction projects and skilled manpower of local contractors. The study concluded that employees who were skilled performed tasks better and had potential of increasing client base. Hence, contractors in road construction perform better when they employ skilled and competent workers.

Moreover, the study conclusion is that there is a positive and significant relationship between performance of road construction projects and working capital. The study concluded that construction progress was dependent on the financial stability of contractors and the availability of sufficient working capital. Deficiency in financing cause delays, whereas sufficient funding ensures timely execution of the project. Enough working capital also helps to maintain the project continuity by ensuring a constant flow of activities.

Another conclusion is that there is a positive and significant relationship between performance of road construction projects and organization structure. The study concluded that existence of strong organizational structure makes it easier to design and implement management plans that help to bolster managerial core.

It is deduced that there is a positive and significant relationship between performance of road construction projects and client support. The study concluded that in order to achieve project success, client support is crucial in ensuring that stakeholders and/or project beneficiaries are involved throughout the project cycle. The findings determined that timely payments and approvals are important to completing projects on schedule, and that insufficient support leads to, disagreements, project cost overruns, litigation, arbitration fees, and the project being neglected.

5.4 Recommendations

It was found that there were normally high maintenance expenses of road projects built by local contractors. Henceforth, Road construction projects in Narok County need to have a solid capital base and ought to just be granted contractors dependent on their monetary capacities and specialized assets available to them. Contractors may be able to boost their profits by creating public-private partnerships with agencies who can fund large construction projects. In order to improve their operating capital, construction firms may choose to establish a lending institution that may offer them with loans at reasonable rates for a short period of time. However, liable distribution of assets, on the other hand, remains the responsibility of the government.

Customers ought not to grant construction contracts to contractors without a strong monetary arrangement to guarantee satisfactory spending plans to finish the ventures. This will aid in eliminating operational delays, which result in a sluggish project implementation process and an overabundance of construction costs and time. To conquer the issue of deferred payment the government should concoct an approach that sets timetables for payment because of the contractors and providers of labor and products. This approach ought to likewise recommend punishments for postponed payments and ought to apply on labor and products provided to boths government and private proprietors of tasks. Moreover, the contractors or specialist co-op ought to be qualified for guarantee interest on late records.

As skilled labor has been discovered to be a resource that pays off in the long run, there is a need to promote the growth of labor skills through training and expertise up-grading inside construction organizations. In Narok County, there is also a need to develop a system that

would focus on reducing considerable costs associated with training professionals and specialists. This should be done while keeping in mind the current shortages of skilled personnel. There is need for extra educational institutions, while also ensuring that existing technical schools are maintained and not converted into universities, as has been the case in the past.

Construction companies require a flexible, one-of-a-kind organizational structure. The existence of a robust organization setting frames the core from which the competent execution of road building projects can be predicated, according to the premise of the disclosure. Each contractor should have a fair strategic plan as well as a suitable, adaptable administrative structure that is compatible with the organization's needs. Enlistment should be based on skill and experience, with a clear upgrade cycle and awards based on performance reports.

Perhaps the most important customer service function is ensuring that developers for road projects are given land ownership that is free of impositions, allowing for a quick start. This necessitates the customer securing land and reparation, as well as involving the project affected individuals (PAP) well before the project begins. It is necessary to establish clear stakeholder/customer relationships. This is contingent on confirmation that stakeholders' associations enhanced road construction project execution. To improve the ownership and successful execution of road construction projects, equal effort and collaboration from the government, contractors, and project beneficiaries is required.

If clients want to increase contractors' performance, they could speed up the approval of between-payments, contract variations, contractor appraisal of cases, and speedy resolution of contract disputes, according to the study's recommendations. To avoid unnecessary time intrusions that lead to cost overruns and postponed completion of road building projects, there should be sustainable customer financing of projects to avoid complications with deferred payments. This has an impact on road builders' weak performance.

5.5 Contributions of the Study to Knowledge

This study has established that local contractors' skilled manpower, working capital, organizational structure, and client support have an influence on performance of roadconstruction projects in Narok County.

This study was also new in Narok County and has therefore contributed to knowledge. Moreover, this study has added to the road construction sector knowledge in the country. Further, information on local contractors has not been well studied in the country and therefore this study gives insight on this matter.

5.6 Suggestions for Further Study

A comparative analysis in several aspects of the construction industry, such as building construction, water and sewage, energy and other infrastructure projects, should be completed. A comparable study could be carried out in another Kenyan county. Another study should consider using other factors apart from local contractors' capacity factors, such as stakeholder participation, risk management practices and monitoring and evaluation. Further studies should consider factors influencing the implementation of these construction projects. Being that organizational structure had the greatest influence on performance of road construction projects in Narok County, Kenya; a study on this should be done. Given that this study was conducted during a time when there was limitation of movements due to Covid-19 restrictions, a similar study should be conducted when the respondents can be accessed physically to compare the results.

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APPENDICES

Appendix I: Letter of Introduction


UNIVERSITY OF NAIROBI
OPEN, DISTANCE AND e-LEARNING CAMPUS
SCHOOL OF OPEN AND DISTANCE LEARNING
DEPARTMENT OF OPEN LEARNING
NAIROBI LEARNING CENTRE

Your Ref: _____
Our Ref: _____
Telephone: 318262 Ext. 120
REF: UON/ODeL/NLC/32/370

Main Campus
Gandhi Wing, Ground Floor
P.O. Box 30197
NAIROBI

9th February, 2021


TO WHOM IT MAY CONCERN


RE: MUNGU RADIANCE RABILLO - REG.NO. I 50/23210/2019

The above named is a student at the University of Nairobi, Open Distance and e-Learning Campus, School of Open and Distance Learning, Department of Open Learning pursuing a Masters course in Project Planning and Management.

He is proceeding for research entitled *"Influence of Local Contractors Capacity on Performance of Road Construction Projects: A Case of Narok County, Kenya."*

Any assistance accorded to him will be appreciated.


CAREN AWILLY
CENTRE ORGANIZER
NAIROBI LEARNING CENTRE



Appendix II: Research Questionnaire

Please answer the following questions by ticking in the brackets or filling in the blank spaces provided.

SECTION A: GENERAL INFORMATION

1. Age Bracket

- a) Less than 25 years []
- b) 26-36 years []
- c) 37-47 years []
- d) Above 47 years []

2. Years of Experience in road construction projects

- a) Less than 1 years []
- b) 2-4 Years []
- c) 5-7 years []
- d) Above 7 Years []

3. Level of Education

- a) Graduate []
- b) Diploma []
- c) Certificate []

PART B: SKILLED MANPOWER AND PERFORMANCE OF ROAD CONSTRUCTION

How do you rate your project teams in term of the following indicators?

Use a scale of 1-5 where 1= Strongly Disagree: 2 Disagree: 3= Neutral: 4= Agree and 5= Strongly Agree.

Code	Statements	1	2	3	4	5

Level of Training					
SMP 1	Level of professional training of your project team				
SMP 2	There is frequent on-job training for employees in road construction sector				
SMP 3	Local contractors are Knowledgeable about Road construction projects				
Skilled Labor					
SMP 4	The level of skills among local contractors in their respective area is usually very high				
SMP 5	The skills possessed buy local contractors meet job requirement for road construction projects				
SMP 6	Local contractor have right measures of skilled, semi-skilled and unskilled labour				
Experienced manpower					
SMP 7	Local contractors have worked in the construction sector before				
SMP 8	Local contractors have employees with requisite experience in road construction				
SMP 9	Employees experience is relevant in performance of road construction projects				

PART C: WORKING CAPITAL AND PERFORMANCE OF ROAD CONSTRUCTION

To what extent do you agree with the following statements?

Use a scale of 1-5 where 1= Strongly Disagree; 2 Disagree; 3= Neutral; 4= Agree and 5= Strongly Agree.

Code	Statements	1	2	3	4	5
Access to credit						

WCP 1	Local contractors have access to adequate credit to finance our projects					
WCP 2	Level of access to credit by local contractors from financial institutions is high					
WCP 3	Financial institutions have flexible lending terms					
Operational Resources						
WCP 4	Local contractor's road projects have never stalled because of lack of working capital					
WCP 5	Local contractors' operational resources are adequate to manage our projects					
WCP 6	Local contractors are able to meet their operating expenses required in their everyday operation					
Cash in bank						
WCP 7	Local contractors have enough cash in the bank to facilitate road construction projects					
WCP 8	Local contractors have sufficient cash flow which enables their road project to progress as planned					
WCP 9	Local contractors have adequate cash to meet their current liabilities					

PART D: ORGANISATION STRUCTURE AND PERFORMANCE OF ROAD CONSTRUCTION

How do you rate your firm organisation structure in term of the following indicators?

Use a scale of 1-5 where 1= Strongly Disagree; 2 Disagree; 3= Neutral; 4=

Agree and 5= Strongly Agree.

Code	Statements	1	2	3	4	5
Decision making process						
OSP 1	There is Co-ordination among parties involved in the					

	project					
OSP 2	Decisions made during meetings are acted upon in a timely manner					
OSP 3	The decision-making structure is clearly defined among the local contractors in the road sector					
Defined work plans						
OSP 4	Local contractors have a clear definition of work plans and task management					
OSP 5	Allocation of duties and roles is done effective in local contractors					
OSP 6	Local contractors adopt workplan framework that enhance the performance of road projects					
Communication						
OSP 7	There is clear communication between subproject teams, clients and suppliers and other stakeholders					
OSP 8	There effective communication between Individuals members and project teams' arrangements					
OSP 9	Communication within the organization's employees is enhanced and leads to better contractors' results					

PART E: CLIENT SUPPORT AND PERFORMANCE OF ROAD CONSTRUCTION

How do you rate your firm organisation structure in term of the following indicators?

Use a scale of 1-5 where 1= Strongly Disagree: 2 Disagree: 3= Neutral: 4=

Agree and 5= Strongly Agree.

Code	Statements	1	2	3	4	5
Budget allocations						
CSP 1	Local contractorsis adequately allocated enough funds for road construction					

CSP 2	Local contractors' invoices are promptly approved and pay on good time to facilitate their planned work					
CSP 3	Approval of our work plans by our clients is done in structured manager and timely					
Level of involvement of stakeholders						
CSP 4	Local contractors' clients provide with all the necessary support in terms permits and documentation					
CSP 5	Called meetings are fully attended by our clients					
CSP 6	Stakeholder reports are prepared frequently to update the stakeholder on the progress of the project					
Payment Frequency						
CSP 7	Local contractors are paid promptly and as agreed on by their clients					
CSP 8	Mode of payment by clients to local contractors is done in the manner that support their financial obligation					
CSP 9	Clients timely reimburses interim progress payments for local contractors					

PART F: PERFORMANCE OF ROAD CONSTRUCTION PROJECTS

How do you rate your firm organisation structure in term of the following indicators?

Use a scale of 1-5 where 1= Strongly Disagree: 2 Disagree: 3= Neutral: 4= Agree and 5= Strongly Agree.

Code	Statements	1	2	3	4	5
Durability						
PORC 1	Road constructed by local contractors take long to wear out					
PORC 2	There are usually low constructioncosts of road project constructed by local contractors					
PORC 3	Local contractors construct high durable roads					

Quality of roads					
PORC 4	Quality of the road construction project by local contractors is of high standard				
PORC 5	The roads constructed by local contractors meets specified standards				
PORC 6	Quality is usually prioritized by local contractors				
Level of client's satisfaction					
PORC 7	Delivery of road projects by local contractors are usually within schedule				
PORC 8	Delivery of road contraction projects are usually within budget				
PORC 9	There is high Level of client's satisfaction with the road project by local contractors				

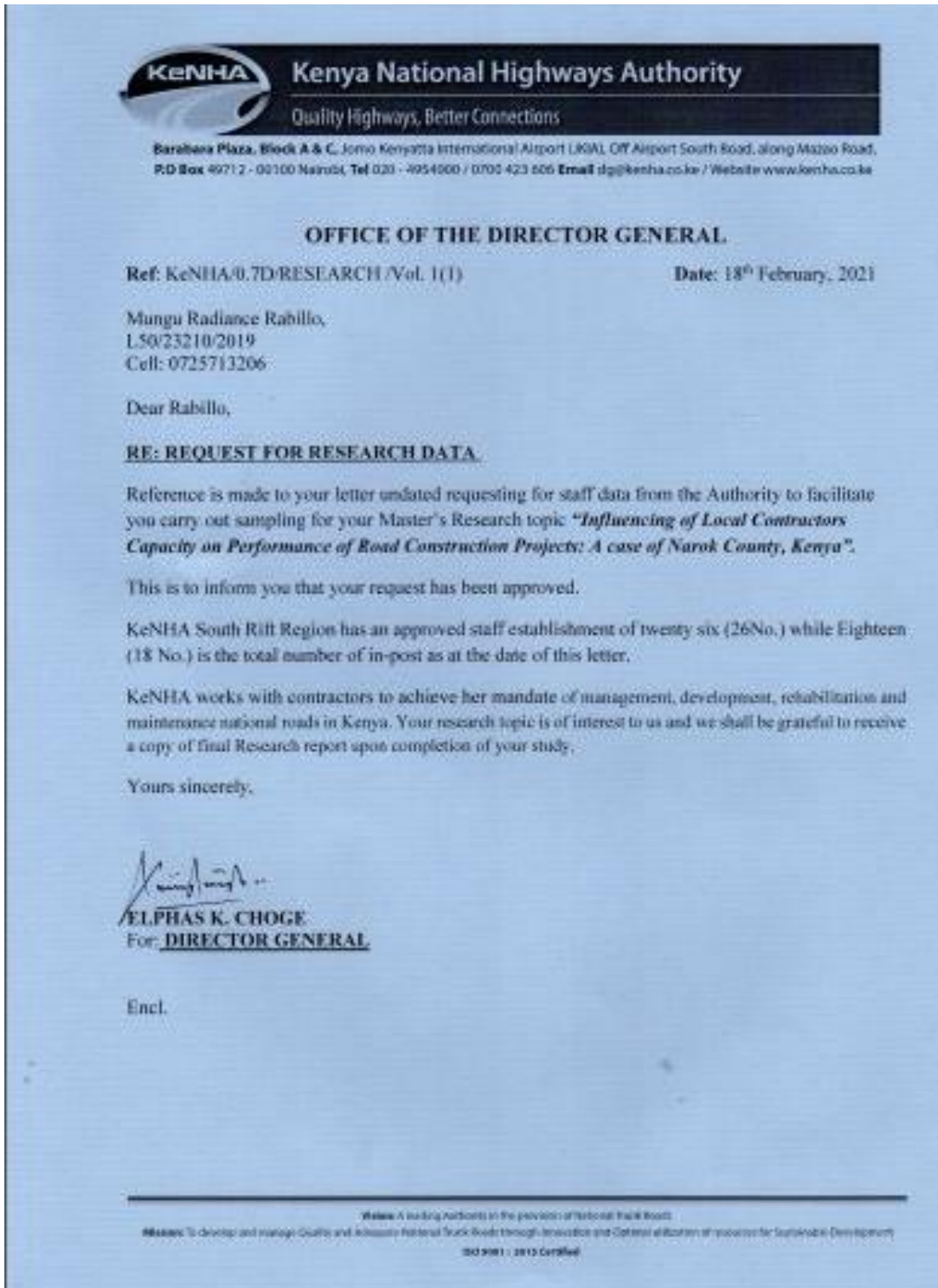
Thanks for Your Participation

Appendix III: Interview Schedule

1. In your view, do local road contractors have the required level of training to do their work? Briefly explain.
2. How experienced are the manpower for the local contractors for the assigned job? How does this affect their productivity?
3. How often is professional training conducted on the project team?
4. In what way do the skills for the manpower of local contractors influence performance of road construction projects in Narok County?
5. Do the local road contractors have enough capital to run their assigned projects? .
6. What are the challenges that local contractors face in acquiring resources for their projects?
7. What are the requirements to get access credit to finance projects? Do the local contractors have these requirements?
8. How does the local contractors' working capital influence performance of road construction projects in Narok County?
9. Do the local contractors adopt formal work plan frameworks for their work? How does this affect their work?
10. Is there clear communication between subproject teams, clients and suppliers and other stakeholders? What are channels used?
11. In your opinion, how does local contractors' organizational structure influence performance of road construction projects in Narok County?
12. Do the local road contractors involve all the stakeholders in the projects? In which ways?
13. Are there problems in the payment of the local contractors? If yes, how does this affect their performance?
14. What is the general payment model for the local contractors? How often is the formal model followed/adhered to?
15. How does local contractors' client support influence performance of road construction projects in Narok County?
16. What would you suggest to improve the performance of road construction projects in Narok County?

Thank you for your time

Appendix IV: KENHA Officials in Narok County



Appendix V: KURA Officials in Narok County



KENYA URBAN ROADS AUTHORITY

Efficient and safe urban roads

Barabara Plaza, Mazaa Road - Off South Airport Road, JKIA

Tel: 254-020-8013844 / 254-717-185233

Email: info@kura.go.ke Web: www.kura.go.ke

P.O. Box 41727-00100, GPO, NAIROBI

KURA/CS/HRM/31 (6)

15th February 2021

Mungu Radiance Rabillo
L50/23210/2019
Cell: 0725713206

Dear Radiance

REQUEST FOR RESEARCH DATA

Reference is made to your undated letter requesting for data to facilitate sampling for your Master's Research topic *"Influence of Local Contractors Capacity on Performance of Road Construction Projects: A Case of Narok County, Kenya"*.

We have reviewed your request and are glad to grant it. KURA South Rift Region has an approved staff establishment of twenty seven (27No.) while eleven (11No.) is the total number of staff in-post as at the date of this letter.

KURA works with Contractors to achieve her mandate of management, development, rehabilitation and maintenance of roads in cities and municipalities. Your research title is therefore of interest to us and we shall be grateful to receive a copy of the final Research report upon completion of the study.

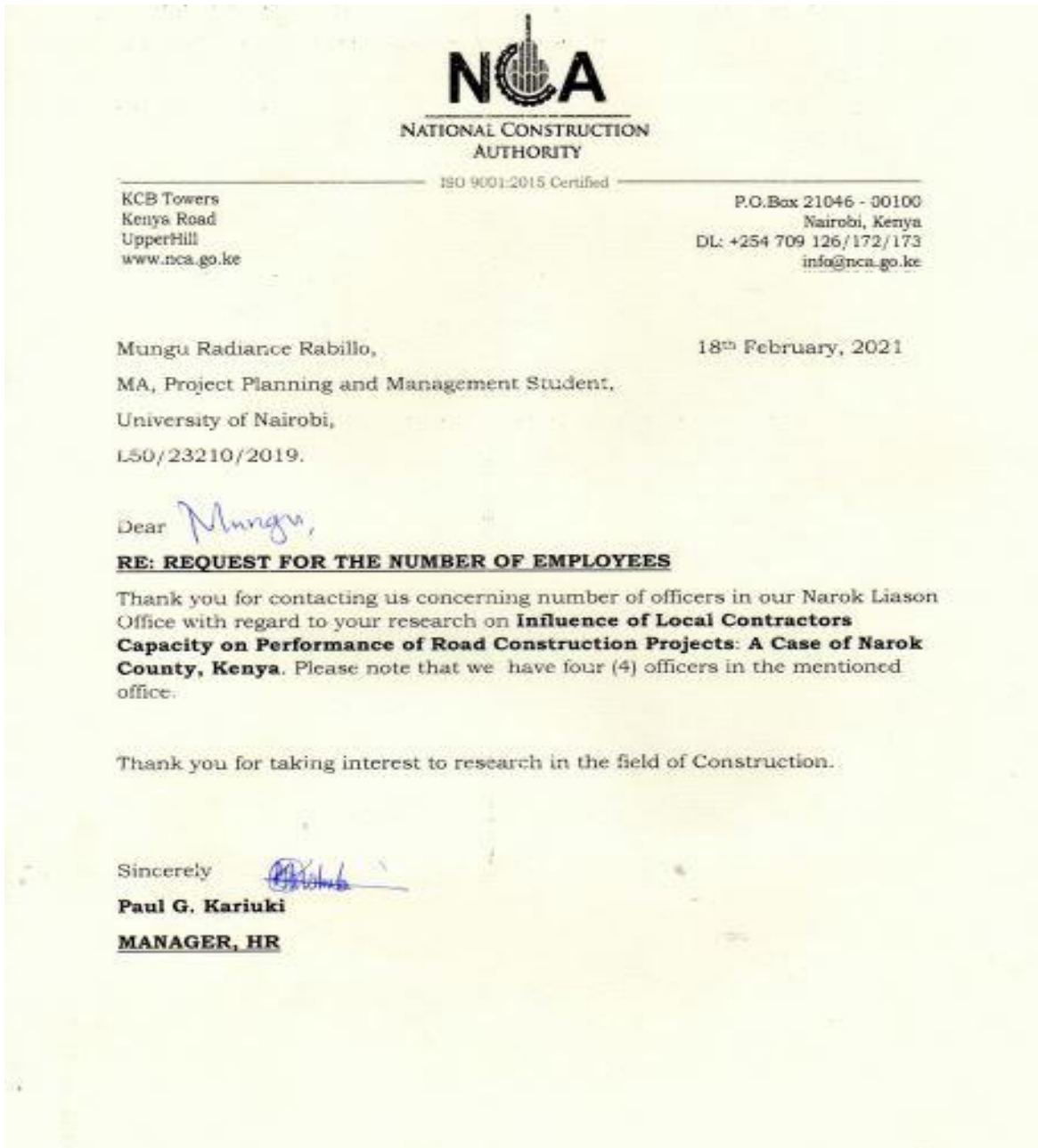
Yours sincerely,

Eng. Silas M. Kinoti, MBS
DIRECTOR GENERAL

Appendix VI: KERRA Officials in Narok County



Appendix VII: NCA Officials in Narok County



Appendix VIII: Road Contractors in Narok County

Reg	Cert No	Contractor name	Address	County	Category	Class
16316/R/0315	166986	Nasundori Holdings Limited	1133-20500	Narok	Road Work	NCA3
19340/R/0815	166984	Uswonin Construction limited	1133-20500	Narok	Road Work	NCA3
45427/R/1118	173018	Aone Civil Engineering Company limited	22098	Narok	Road Work	NCA4
34675/R/1117	165312	Olererut Constructors limited	1140-20500	Narok	Road Work	NCA4
44389/R/0918	168082	Buganiconstruction limited	637	Narok	Road Work	NCA6
43683/R/0918	164134	Empirelink Enterprises limited	15428-00509	Narok	Road Work	NCA6
45269/R/1018	172336	Leaptracks Kenya limited	40051-80100	Narok	Road Work	NCA6
43132/R/0818	160592	Rarinah Company limited	1818-20500	Narok	Road Work	NCA6
43989/R/0918	165624	Vekem Agencies Limited	567-20500	Narok	Road Work	NCA6
44415/R/0918	168214	Cyma limited	318-20500	Narok	Road Work	NCA7
43764/R/0918	164529	Mayian General Enterprises Limited	20500	Narok	Road Work	NCA7
46160/R/1118	175737	Towfiq Talek enterprise limited	871-20500	Narok	Road Work	NCA7
44776/R/1018	170075	Gesmek Contractor and general supplies	55-20504	Narok	Road Work	NCA8
46273/R/1118	176112	Inkidongi enterprise	383	Narok	Road	NCA8

					Work	
42032/R/0718	148656	Jakathuo constructors limited	82- 20117	Narok	Road Work	NCA8
23483/R/1118	175587	Nalopoivistaconstructors	661- 20500	Narok	Road Work	NCA8
46676/R/1218	177691	Nyamarebuilders&constructors	224	Narok	Road Work	NCA8
44586/R/1018	169141	Osiligi works limited	12- 20504	Narok	Road Work	NCA8

Appendix IX: NACOSTI Certificate



REPUBLIC OF KENYA

 National Commission for Science, Technology and Innovation



NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION.

Ref No: 245033

RESEARCH LICENSE



This is to Certify that Mr., Radiance Rabillo Mungu of University of Nairobi, has been licensed to conduct research in Narok on the topic: Influence of Local Contractors' capacity on performance of Road Maintenance Projects: A case of Narok County, Kenya for the period ending : 24/November/2021.

License No: NACOSTI/P/20/7883

Applicant Identification Number: 245033



Director General

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION.

Verification QR Code:



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

Appendix X: Validity Analysis

Component Matrix

	Component												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Level of professional training of your project team	.52 4	.17 9	.20 8	.21 1	.075 5	.31 5	.09 7	.01 6	.18 6	.23 9	.14 2	.18 1	.36 6
There is frequent onjob training for employees in road construction sector	.11 7	.25 4	.72 6	.28 8	.065 5	.07 5	.12 4	.12 7	.05 5	.04 4	.04 9	.08 7	.04 5
Local contractors are knowledgeable about Road construction projects	.22 3	.26 1	.15 2	.09 3	.736	.00 8	.16 9	.06 3	.01 0	.02 3	.05 1	.20 8	.01 8
The level of skills among local contractors in their respective area is usually very high	.64 2	.16 6	.46 3	.04 8	.044	.11 3	.11 6	.08 3	.05 0	.11 8	.01 0	.19 7	.12 9
The skills possessed by local contractors meet job requirement for road construction projects	.21 4	.39 0	.22 9	.20 8	.080	.20 2	.03 6	.27 2	.01 3	.55 4	.10 9	.22 2	.13 3

Local contractors have right measures of skilled, semiskilled and unskilled labour	.427	.075	.112	.152	.026	.338	.541	.086	.056	.086	.225	.045	.144
Local contractors have worked in the construction sector before	.400	.208	.358	.092	.307	.097	.067	.065	.347	.180	.233	.006	.293
Local contractors have employees with requisite experience in road construction	.316	.545	.162	.116	.162	.174	.094	.169	.388	.264	.097	.200	.022
Employee's experience is relevant in performance of road construction projects	.318	.117	.507	.042	.235	.063	.183	.034	.110	.130	.293	.192	.115
Local contractors have access to adequate credit to finance our projects	.664	.066	.195	.215	.101	.074	.022	.104	.070	.210	.267	.306	.030
Level of access to credit by local contractors from financial institutions is high	.517	.592	.119	.149	.049	.206	.117	.082	.093	.125	.021	.029	.181
Financial institutions are willing and able to finance local contractors	.661	.063	.113	.001	.198	.279	.114	.163	.137	.134	.214	.022	.049

in their road projects													
Local contractor's road projects have never stalled because of lack of working capital	.108	.129	.136	.617	.498	.104	.175	.236	.017	.043	.009	.064	.003
Local contractors' operational resources are adequate to manage our projects	.623	.265	.342	.102	.270	.047	.032	.004	.040	.263	.005	.160	.052
Local contractors are able to meet their operating expenses required in their everyday operation	.230	.106	.135	.184	.549	.007	.049	.562	.040	.078	.113	.158	.080
Local contractors have enough cash in the bank to facilitate road construction projects	.443	.249	.439	.136	.120	.018	.076	.064	.444	.073	.070	.077	.247
Local contractors have sufficient cash flow which enables their road project to progress as planned	.481	.064	.020	.047	.323	.036	.213	.021	.035	.193	.295	.240	.362
Local contractors have adequate cash to meet their current liabilities	141	.072	.152	.211	.419	.399	.190	.231	.298	.326	.142	.013	.073

Coordination among parties	.55 4	.38 6	.12 0	.22 7	.006	.08 5	.00 7	.24 0	.24 4	.08 7	.19 5	.05 3	.07 4
Decision making process	.04 2	.24 5	.14 7	.20 9	.202	.14 6	.08 7	.00 7	.02 5	.13 9	.11 3	.11 2	.78 3
The decision-making structure is clearly defined among the local contractors in the road sector	.23 6	.01 7	.14 1	.31 1	.237	.10 1	.69 9	.00 6	.18 4	.10 5	.01 1	.05 1	.08 6
Local contractors have a clear definition of work plans and task management	.73 6	.06 3	.06 4	.17 1	.034	.02 1	.21 7	.25 7	.22 0	.15 3	.11 8	.07 9	.09 4
Allocation of duties and roles is done effective in local contractors	.28 1	.25 0	.21 8	.17 0	.029	.16 4	.33 9	.26 1	.14 9	.44 9	.11 0	.11 3	.21 8
Local contractors adopt work plan framework that enhance the performance of road projects	.15 9	.05 2	.48 8	.31 3	.154	.26 2	.14 1	.13 1	.29 1	.22 2	.08 0	.31 3	.23 2
There is clear communication between subproject teams, clients and suppliers and other stakeholders	.55 6	.12 2	.25 5	.32 1	.079	.04 7	.26 9	.03 0	.14 1	.13 0	.05 8	.31 0	.15 1
There effective communication between	.30 2	.10 7	.26 0	.14 6	.219	.00 8	.51 1	.35 3	.15 2	.26 2	.06 8	.07 9	.20 1

Individual's members and project teams' arrangements													
Communication within the organization's employees is enhanced and leads to better contractors' results	.46 6	.04 6	.02 1	.11 9	.187 9	.37 9	.09 7	.14 5	.34 8	.11 6	.13 5	.03 5	.07 1
Local contractors is adequately allocated enough funds for road construction	.01 8	.03 3	.02 1	.21 3	.365 4	.22 2	.05 8	.13 0	.06 1	.19 0	.33 0	.59 5	.12 7
Local contractors' invoices are promptly approved and pay on good time to facilitate their planned work	.61 6	.23 9	.04 8	.05 1	.159 1	.03 1	.03 5	.00 0	.19 6	.08 2	.07 2	.31 2	.12 5
Approval of our work plans by our clients is done in structured manager and timely	.63 8	.08 2	.28 2	.09 9	.127 3	.07 0	.26 4	.13 1	.10 8	.07 8	.12 8	.15 9	.26 5
Local contractors' clients provide with all the necessary support in terms permits and documentation	.23 8	.13 1	.18 5	.69 9	.007 2	.08 0	.00 4	.05 8	.34 1	.16 2	.01 2	.14 2	.02 5

Called meetings are fully attended by our clients	.15 9	.04 6	.13 2	.07 0	.724	.44 9	.19 3	.00 5	.01 6	.00 5	.10 7	.00 8	.06 1
Stakeholder reports are prepared frequently to update the stakeholder on the progress of the project	.44 8	.33 5	.14 3	.14 8	.188	.35 9	.13 1	.01 3	.08 8	.11 8	.22 9	.07 6	.23 7
Local contractors are paid promptly and as agreed on by their clients	.18 9	.24 5	.23 9	.10 1	.045	.07 9	.03 7	.27 3	.13 5	.08 1	.46 9	.27 2	.04 2
Mode of payment by clients to local contractors is done in the manner that support their financial obligation	.35 4	.16 7	.00 3	.52 3	.065	.09 2	.22 1	.42 6	.00 8	.22 6	.05 7	.11 4	.14 6
Clients timely reimburses interim progress payments for local contractors	.41 8	.43 7	.22 6	.08 5	.226	.13 1	.24 2	.07 8	.01 1	.13 1	.07 2	.03 0	.18 0
Road constructed by local contractors take long to wear out	.63 3	.18 3	.15 9	.18 9	.115	.38 8	.06 2	.16 2	.23 6	.08 1	.06 0	.06 1	.04 7
There are usually low maintenance costs of road project	.16 8	.13 9	.69 1	.05 5	.087	.08 4	.19 4	.23 7	.08 6	.11 9	.09 4	.00 9	.18 4

constructed by local contractors													
Local contractors construct high durable roads	.03 7	.05 3	.21 9	.10 7	.107	.03 1	.11 5	.12 0	.01 3	.13 4	.74 4	.19 7	.04 1
Quality of the road construction project by local contractors is of high standard	.57 7	.40 7	.33 7	.13 8	.006	.06 5	.32 2	.10 3	.02 5	.06 0	.16 6	.02 7	.18 6
The roads constructed by local contractors meets specified standards	.00 6	.37 4	.05 3	.04 3	.096	.01 6	.31 2	.09 0	.67 0	.02 0	.06 8	.17 7	.00 4
Quality is usually prioritized by local contractors	.55 7	.04 7	.20 3	.08 5	.291	.35 7	.02 6	.11 8	.08 3	.13 4	.00 4	.16 2	.00 5
Delivery of road projects by local contractors are usually within schedule	.37 0	.22 9	.20 4	.49 5	.170	.04 8	.14 5	.27 4	.23 0	.04 7	.08 0	.07 7	.02 8
Delivery of road contraction projects are usually within budget	.55 2	.20 2	.06 2	.45 4	.260	.04 8	.12 6	.12 0	.19 7	.09 7	.07 7	.25 7	.08 2
There is high Level of client's satisfaction with the road project by local contractors	.07 4	.11 4	.05 4	.07 2	.569	.03 9	.01 4	.04 3	.22 4	.05 9	.54 2	.05 1	.00 6

Extraction Method: Principal Component Analysis.

a. 13 components extracted.
