

**FACTORS INFLUENCING THE PERFORMANCE OF BUILDING
CONTRACTORS IN INFRASTRUCTURAL DEVELOPMENT IN NAKURU
COUNTY, KENYA**

BY

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

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DECLARATION

This research project report is my original work and has not been presented for a degree in any University.

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This research project report has been submitted for examination with my approval as the University Supervisor

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DEDICATION

This research project report is dedicated to all the Kibaara family members for their encouragement and moral support throughout my studies. May God bless you all. To my wife Catherine for the encouragement, patience and inspiration that you accorded me during the period of study. To my parents, Festus Kibaara and Cecilia Kibaara for their continuous encouragement, support, prayers and their desire to see me excel in life.

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ABBREVIATIONS AND ACRONYMS

BEC	Benchmark Centre for the Danish Construction Sector
BIS	Bank for International Settlements
FIDIC	International Federation of Consulting Engineers
GDP	Gross Domestic Product
GNP	Gross National Product
GOK	Government of Kenya
GST	General System Theory
ISO	International Organization for Standardization
KAA	Kenya Airports Authority
KCAA	Kenya Civil Aviation Authority
KDF	Kenya Defence Forces
KNBS	Kenya National Bureau of Statistics
M&E	Monitoring and evaluation
MDG	Millennium Development Goals
MLH&UD	Ministry of Lands, Housing and Urban Development
MOW	Ministry of Works
NCA	National Construction Authority
NCLR	National Council for Law Reporting
PM&E	Participatory Monitoring and evaluation
TQM	Total Quality Management
UK	United Kingdom
UN	United Nations
USA	United States of America

ABSTRACT

The Construction industry has been the bedrock of social and economic development in our country for the past 15 years. Construction has spurred as well as facilitated economic growth through the development of infrastructure projects countrywide (The NCA Quarterly, 2017). According to the Kenya National Bureau of Statistics, the construction sector expanding by 8.4% in the first quarter of January to April 2017 and by 10.2% in 2016 during the same period. The Kenya 2017/2018 National Budget Statement announced that the government would invest KSh 640.8 billion in infrastructure development, up from KSh415.7 billion in the 2016/2017 fiscal year. According to National Construction Authority, the Construction Industry is one of the main engines of performance in any economy and Building contractor's performance in infrastructural projects is one of the important economic activities that contribute towards the economic growth of the nation. The main objective of the study was to establish factors that influence the performance of building contractors in infrastructural development. The study tries to establish how access to credit and loan facilities influence on the performance of building contractors in infrastructural development in Nakuru County; how the level of education and training influence in performance of building contractors in infrastructural development; how timely payments by clients and input from technical team members influence on performance of building contractors in infrastructural development; and how community participation influence in performance of building contractors in infrastructural development. A sample of 219 participants was selected from a population of 511 registered building contractors in Nakuru County. From the 219 questionnaires administered to building contractors, 157 were properly filled and returned. This represented a 71.7% response rate, which is considered satisfactory to make conclusions for the study. Additional data from the project technical management team was collected from the Director Public works, County Architect, County Quantity Surveyor, County Structural Engineer, County Electrical Engineer, County Mechanical Engineer, County Civil Engineer and from the 11 sub county works officers from public works. The sample of 219 building contractors was selected using a stratified random sampling method in order to be representative of the whole population of building contractors. A questionnaire was used to collect data. Data was analyzed by using the Statistical Package for Social Sciences (SPSS). From the study, it was concluded that building contractors, face a lot of challenges in accessing finances for their business both as running capital and for expansion of the businesses. This is because of many factors which make their businesses less attractive and risky in terms of lending. It is expected that improved access to loan and credit facilities to building contractors can lead to higher performance in infrastructural development. The study recommended that there should be regular training so as to provide building contractors with technical and analytical skills to improve their ability to manage building projects and also manage their building construction companies. It was concluded that higher performance in infrastructural development can be achieved through increased training programs. The study also established that input from client and technical team affect building contractors' performance in infrastructural development. Delayed payments from clients on construction projects are considered to be a factor of significant concern which can cause financial problems to building contractors. It is expected that improved relationship between building contractors and client plus the technical team will lead to higher performance of building contractors in infrastructural development. From the study, it was concluded that community participation at all stages of project is important in achieving the development priorities in the context of local objectives since local people are aware of challenges that affect them. This should include all efforts to involve the local population in defining their own problems, diagnosing the situations that give rise to such problems, setting priorities for their resolution, and identifying and formulating project interventions that may help solve some of those problems. The study recommended for increased level of community participation so as to achieve higher performance of building contractors in infrastructural development.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The Construction industry has been the bedrock of social and economic development in our country for the past 15 years. Construction has spurred as well as facilitated economic growth through the development of infrastructure projects countrywide (The NCA Quarterly, 2017). According to the Kenya National Bureau of Statistics, the construction sector expanding by 8.4% in the first quarter of January to April 2017 and by 10.2% in 2016 during the same period. The Kenya 2017/2018 National Budget Statement announced that the government would invest KSh 640.8 billion in infrastructure development, up from KSh 415.7 billion in the 2016/2017 fiscal year. According to National Construction Authority, the Construction Industry is one of the main engines of performance in any economy. Project performance is a critical issue for the good governance of many nations globally. Project deliverables such as timely completion, management and public satisfaction are often used as yardsticks to determine success. In Kenya performance of building contractors in infrastructural development is one of the important economic activities that contribute towards the economic growth of the nation. According to reports from the Kenya National Bureau of Statistics (KNBS), the value of approved buildings between January and May was KSh126.3 billion in 2016 and KSh 105.7 billion in 2017. Residential building approvals was valued at KSh74.2 billion in 2016 and valued at KSh58.1 billion in 2017 with commercial office building approvals valued at 52 billion in 2016 and KSh47.6 billion in 2017.

Nakuru is a rapidly growing centre with a diverse economic base of agricultural processing, regional services and tourism. (United Nations Habitat, 2013). Nakuru is the fourth largest city in Kenya after Nairobi, Mombasa and Kisumu. It is the headquarters of Nakuru County and former headquarters of the Rift Valley Province. According to Euromonitor International report on economies in top 10 African Cities for Growth (2017), Nakuru was ranked among the fastest growing cities in East Africa. Last September, the Cabinet approved elevation of Nakuru to city status, bringing the number of Kenyan cities to five. Through amendment of the Urban Areas and Cities Act of 2011 by parliament, Nakuru and Eldoret will acquire city status. In 2013, the United Nations Habitat listed Nakuru as one of the fastest growing towns in East and Central Africa. Economic experts say this growth has been brought about by many factors, which include diverse economic base of agricultural processing, regional services and tourism. But it is Nakuru's location next to the Northern Corridor and the Kenya-Uganda Railway that is its aorta, pumping in people and goods. And with the second phase of the Standard Gauge Railway (SGR) already underway and the construction of the dry port in Naivasha, Nakuru is bound to expand further. County Government of Nakuru reported that major infrastructural facelift had started as the county waits

for its headquarters to attain the elusive city status. The Lanet airstrip is being upgraded into an international airport with the help of the Kenya Airports Authority (KAA), Kenya Civil Aviation Authority (KCAA), Kenya Defence Forces (KDF), the National government and the County government. The airstrip will be upgraded to accommodate large commercial planes. Under this arrangement, the military facility will also accommodate public utility and will be available for use by civilian aircraft. Once Kenya's cleanest town, Nakuru is keen to regain its lost glory. County Trade, Cooperatives and Tourism Executive Committee member reported that the county government will work hard to attract new investors and create thousands of employment opportunities. According to the Urban Areas and Cities Act 2011, for an urban area to be classified as a city, it must have a population of at least 250,000 residents based on the last population census data. Nakuru's population stands at 800,000, according to the 2009 census. The town must have an integrated urban area or city development plan and should demonstrate the capacity to generate sufficient revenue to sustain its entire operation. In the 2015/16 financial year, Nairobi collected Sh11.7 billion, followed by Mombasa (Sh2.9 billion), Kiambu (Sh2.5 billion) and Nakuru at Sh2.3 billion. The governor has roped in the county assembly to help prepare the town for its new status by participating in approval of the county Geo-spatial plan (County Government of Nakuru Report, 2018).

According to National Construction Authority, the Construction Industry is one of the main engines of performance in any economy. In Kenya building contractor's performance in infrastructural projects is one of the important economic activities that contribute towards the economic growth of the nation. According to office of controller of budget report, pending bills grew from 37.8 billion in 2014/2015 financial year to 37.3 billion in 2015/2016 and to 96.5 billion June 2017. Building contractors are experiencing cash flow challenges because of failure by counties to pay debts. According to National Construction Authority Audit report (2017), many banks are not willing to give Local Purchase Order financing to county government contracts because they feel county contracts are a risky security. According to an internal audit report by County government of Nakuru, more than Sh300 million in pending bills in Nakuru are due for payment by the end of the 2016/2017 financial year. Many building contractors and suppliers reported of delayed payments from government projects which affects their performance due to lack of working capital to finish the ongoing projects.

Lack of access to finance and credit facilities is one of the major challenges facing building contractors in Kenya. This is because of many factors which make construction works less attractive and risky in terms of lending, lack of sufficient collateral or guarantees to secure loans or lines of credit, fluctuations and price escalations, delayed payments from clients and the absence of a substantive credit history. Delayed payments from clients on construction projects causes major

cash-flow challenges to building contractors which can have a devastating effect down the contractual payment chain. Efficient and timely payment in construction projects is a major factor and a good practice that can contribute to the success of a project. Employers' poor financial management, conflict among parties involved in the contract, and delay in certification are some of the potential causes of delayed payment. Withholding or delaying payment creates financial hardship for the construction companies and its impacts are sometimes so harsh that some companies have to close down. Our local contractors struggle when it comes to working capital due to delayed payment by clients. In an ideal setting, contractors should be able to run projects by paying for goods and services for which they will be paid in scheduled installments. The demand for cash on delivery by suppliers and unpredictable cash flow makes it very difficult for building contractors to manage construction projects.

Most building contractors lack proper technical and project management skills. There is need for training programs to be offered to building contractors in order to achieve higher performance in construction industry. National Construction Authority has started small training programs to building contractors and workers in construction industry. The course content should cover management units, such as setting up a construction company and participating in the procurement process. The trainings should also cover technical units, such as quality control, plant and equipment, drawing and specifications and quality assurance. More training to building contractors should be done so as improve the quality of workmanship, and safety standards at construction sites. Community Participation in identification of development projects is very important in achieving the development priorities in the context of local objectives since local people are aware of challenges that affect them. Project idea and possible solution should originate from initiatives by local people (Baum, 1978). According to World Vision (2002), one of the most important design practices is that local communities must play a key role in the identification and implementation of development in programmes and projects. These include all efforts to involve the local population in defining their own problems, diagnosing the situations that give rise to such problems, setting priorities for their resolution, and identifying and formulating project interventions that may help solve some of those problems.

According to International Federation of Consulting Engineers (FIDIC, 2004), failure to achieve the desired level of quality in construction industry is a global challenge. There is widespread concern that the industry as a whole is underachieving. Many countries in the developed world have initiated programmes to improve the performance of their construction industries. These include Australia's Building for Growth, Building and Construction Industries Actions Agenda of 1999, Finland's Reengineering the Construction Process Using Information Technology from 1997 – 2002, Japan's Future Directions of the Construction Industry programme

of 1998 and Singapore's Construction 21. Others examples include south Africa's Creating an Enabling Environment for Reconstruction, Growth and Development in the Construction Industry campaign of 1997, the National Construction Goals in the United States of America (USA) and in Northern Ireland, Building our future together of 1997 and Achieving Excellence in Construction 1999 (FIDIC, 2004).

According to National Construction Authority (2017), the role of construction firms in Kenya is mainly to provide suitable accommodation by erecting new buildings, refurbishment/rehabilitation and maintenance of buildings and other related infrastructure using building materials as raw materials. The Construction industry has been the bedrock of social and economic development in our country for the past 15 years. Construction has spurred as well as facilitated economic growth through the development of infrastructure projects countrywide. Government of Kenya through National Construction Authority streamlines registration and upgrading of building works contractors. A regular review is continually carried out to maintain technically competent firms. The primary purpose of registration of contractors is to ensure that government contracts work only to legal, competent and professional firms. The other purpose is to regulate the activities and conduct of contractors. The main types of contractors under building sector are classified as Building works contractors, Specialist contractors, and Roads and civil engineering contractors. Building Works includes; General building contractor, Carpentry / joinery, Painting, Masonry, Reinforced masonry works and specialized building works. Roads and civil Engineering works includes: Road works, Structural works, Boreholes, Site investigation works and Sewers. Specialist works includes, Electrical engineering works and Mechanical Engineering works.

Registration of contractors in Kenya is done by the National Construction Authority which is a State Corporation under the Ministry of Lands, Housing and Urban Development. It was established under the National Construction Authority Act No. 41 of 2011. The general Mandate of the Authority is to oversee the construction industry and coordinate its development with its main work being to regulate, streamline and build capacity in the construction industry for sustainable socio-economic development with a vision of achieving well-coordinated and developed construction industry. Section 5(2) (k) of The National Construction Authority empowers the Authority to Accredite and register contractors and regulate their professional undertakings. The Authority publishes a Register of Contractors that contains the particulars of the construction firm, including the Class of Works and Category for which the firm is registered.

According to National Construction Authority, the Construction Industry is one of the main engines of performance in any economy. In Kenya, building contractor's performance in infrastructural projects is one of the important economic activities that contribute towards the economic growth of the nation. According to Kenya Bureau of statistics, the construction sector

grew by 8.4% in the first quarter of January to April in year 2017 and by 10.2% over the same period in 2016. The ministry of Planning through the Kenya 2017/2018 national budget statement reported that the government would invest ksh 640.8 billion in infrastructure development, up from ksh415.7 billion in the 2016/2017 fiscal year. In Kenya building contractor's performance in infrastructural projects is one of the major economic activities that contribute towards the economic growth of the nation. National Construction Authority (2017) states that the construction industry in Kenya is expected to grow and have capability and capacity to efficiently execute the large scale projects anticipated within the Vision 2030 national development plan and other projects within the regional economic blocks like construction of completed Thika road super highway, the standard gauge railway project, ongoing expansion of airports and ports at Lamu. The construction industry in Kenya has a crucial role to play in realization of Vision 2030, the development blueprint for the period 2008 – 2030, which envisages an efficient infrastructure base to drive all the other sectors for sustainable development. Nakuru is a rapidly growing centre with a diverse economic base of agricultural processing, regional services and tourism. (United Nations Habitat, 2013). Nakuru is the fourth largest city in Kenya after Nairobi, Mombasa and Kisumu. It is the headquarters of Nakuru County and former headquarters of the Rift Valley Province. According to Euromonitor International report on economies in top 10 African Cities for Growth (2017), Nakuru was ranked among the fastest growing cities in East Africa. Last September, the Cabinet approved elevation of Nakuru to city status, bringing the number of Kenyan cities to five. Through amendment of the Urban Areas and Cities Act of 2011 by parliament, Nakuru and Eldoret will acquire city status. In 2013, the United Nations Habitat listed Nakuru as one of the fast developing towns in East and Central Africa. Economic experts say this growth has been brought about by many factors, which include diverse economic base of agricultural processing, regional services and tourism.

1.2 Statement of the Problem

According to National Construction Authority, the Construction Industry is one of the main engines of performance in any economy. In Kenya, building contractor's performance in infrastructural projects is one of the important economic activities that contribute towards the economic growth of the nation. According to Kenya Bureau of statistics, the construction sector grew by 8.4% in the first quarter of January to April in year 2017 and by 10.2% over the same period in 2016. The ministry of Planning through the Kenya 2017/2018 national budget statement reported that the government would invest ksh 640.8 billion in infrastructure development, up from ksh415.7 billion in the 2016/2017 fiscal year. In Kenya building contractor's performance in infrastructural projects is one of the important economic activities that contribute towards the economic growth of the nation. National Construction Authority (2017) states that the construction

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practice of efficient and timely payment in construction projects is a major factor that can contribute to the success of a project. Employers' poor financial management, conflict among parties involved in the contract, and delay in certification are some of the potential causes of delayed payment. Withholding or delaying payment creates financial hardship for the construction companies and its impacts are sometimes so harsh that some companies have to close down. Our local contractors struggle when it comes to working capital due to delayed payment by clients. In an ideal setting, contractors should be able to run projects by paying for goods and services for which they will be paid in scheduled installments. The demand for cash on delivery by suppliers and unpredictable cash flow makes it very difficult for building contractors to manage construction projects.

Most building contractors lack proper technical and project management skills. There is need for training programs to be offered to building contractors in order to achieve higher performance in construction industry. National Construction Authority has started small training programs to building contractors and workers in construction industry. The course content should cover management units, such as setting up a construction company and participating in the procurement process. The trainings should also cover technical units, such as quality control, plant and equipment, drawing and specifications and quality assurance. More training to building contractors should be done so as improve the quality of workmanship, and safety standards at construction sites. Community Participation in identification of development projects is very important in achieving the development priorities in the context of local objectives since local people are aware of challenges that affect them. Project idea and possible solution should originate from initiatives by local people (Baum, 1978). According to World Vision (2002), one of the important design principles is that local communities must be involved in the identification and implementation of development programmes and projects. These include all efforts to involve the local population in defining their own problems, diagnosing the situations that give rise to such problems, setting priorities for their resolution, and identifying and formulating project interventions that may help solve some of those problems. There is need for a study on factors that influence building contractor's performance in infrastructural development in Nakuru County. The study will provide information to fill the existing knowledge gap.

1.3 Purpose of the Study

The purpose of the study was to establish factors that influence the performance of building contractors in infrastructural development in Nakuru County and give appropriate recommendations.

1.4 Research objectives

The study was guided by the following objectives:

1. To establish how access to credit and loan facilities influence on building contractors' performance in infrastructural development in Nakuru County.
2. To examine how the level of education and training influence on building contractors' performance in infrastructural development in Nakuru County.
3. To assess how timely payments by clients and timely input from project technical team members influence on building contractors' performance in infrastructural development in Nakuru County.
4. To examine the influence of community participation on building contractors' performance in infrastructural development in Nakuru County.

1.5 Research questions

The study sought answers to the following research questions:

1. How does access to credit and loan facilities influence on the building contractors' performance in infrastructural development in Nakuru County?
2. How does level of education and training influence on building contractors' performance in infrastructural development in Nakuru County?
3. How does timely payments by clients and timely input from project technical team influence on building contractors' performance in infrastructural development in Nakuru County?
4. How does community participation influence on building contractors' performance in infrastructural development in Nakuru County?

1.6 Significance of the Study

It was hoped that the findings and recommendations of the study would be useful to all stakeholders in the construction industry. The study would also be useful to County Government of Nakuru in establishing how level of education and training influences building contractors' performance in infrastructural development. The government can use the knowledge to create more training opportunities for stakeholders in the building industry which is a major economic pillar for Vision 2030. The study also aimed to examine how access to credit and loan facilities influence on building contractors' performance in infrastructural development. The County government of Nakuru can create policies that can encourage easy access to credit facilities for building contractors. The study also aimed to establish how input from client and technical team influence on building contractors' performance in infrastructural development. The study also aimed to provide additional literature on influence of community participation on building contractors' performance in infrastructural development. To academicians, the findings lays a foundation for

understanding factors that influence building contractors' performance in infrastructural development in construction industry and they can also identify gaps for further research.

1.7 Limitations of the Study

Building contractors were reluctant to give some information for fear that it could be used against them during competitive tendering process for construction projects. The researcher administered questionnaires that were collected after sometime and the respondents were not required to indicate their names on the questionnaires. The researcher presented a letter from the University of Nairobi to prove that he was a student collecting data for research and that the responses given would be treated with utmost confidentiality. Another challenge was having building contractors fill the questionnaires due to their busy schedule. This was addressed by making the questionnaire not bulky with simple clear questions which addressed all the objectives.

1.8 Delimitations of the Study

The research project was on factors that influence performance of building contractors in infrastructural development in Nakuru County. The main types of contractors under building sector are classified as Building works contractors, Specialist contractors, and Roads and civil engineering contractors. The study was limited to the building contractors registered with National Construction Authority rather than all categories of contractors. A sample of 219 building contractors from a population of 511 registered building contractors in Nakuru County was selected.

1.9 Basic Assumptions of the Study

The study assumed that the stated objectives would be achieved and Building contractors in Nakuru are representative of other contractors in Kenya. The study also assumed that the sample population would be a representative of the whole population of contractors in Nakuru. Finally it was assumed that the research tools would be adequate in collecting valid data for the desired objectives of the research and that respondents would be truthful and honest in their responses. Untruthfulness was resolved by explaining the purpose of the study to the respondents.

1.10 Definitions of Significant terms

In this section some explanations and discussions in reference to some of the technical terms and concepts used in this research are presented. It is hoped that these definitions will facilitate better understanding of the terms, particularly in the context in which they have been used in the research report.

Access to credit- Possibility of the contractors to access credit and loan facilities services at affordable rate.

Access to market- Possibility of the contractors to access market opportunities services.

Building Contractor A person, company or a firm that is awarded a contract for the construction

and completion of a building through tendering, negotiation etc. and is paid for the services rendered by the client

Building Project- The project which offers accommodation in the form of office, commercial industry or residential space.

Client - Employer or the promoter of a building project. He is the employer of the contractor and the members of the design team.

Contractors Entrepreneurship training-Teaching the contractors skills and knowledge on business management, record keeping, investment, sale and marketing, purchases, stock control and cost and benefit analysis.

FIDIC- International Federation of Consulting Engineers.

Project- the scope of work contracted to a contractor by a developer with a defined scope, contract sum and period.

Sub-contractor- Means a contractor whose contract works form part of a Main contractor's works.

1.11 Organization of the Study

This research project is organized in five chapters. Chapter one deals with the background of the study, the statement of the problem, purpose of the study, objectives of the study, research questions, significance of the study, limitation of the study, delimitations of the study, basic assumption of the study, definition of significant terms and the organization of the study. Chapter two reviews literature along the study objectives. This covers the related literature about the area of study, clearly giving evidence on the past studies done on the subject matter, the theory on which the study is based and conceptual framework which explains the relationships between variables. It also presents the theoretical framework of the study. Chapter three outlines the research methodology that was used by this study. It also discuss the research design, the target population of the study, the sample size and sampling techniques, research instruments, data collection procedure, data analysis techniques and ethical considerations. Chapter four presents the findings from the research, the interpretation of the data in tables and detailed discussions. The data was interpreted according to research objectives and research questions. Appropriate data analysis and presentation techniques were used. Chapter five contains a summary of findings, discussion of the results and conclusions drawn from the study as well as the recommendations based on the study findings. The chapter also presents suggestions for further study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews related literature under different sub-topics relevant to the study objectives. Comparative studies on influences of building contractors' performance on infrastructural development have been analysed from a global perspective, African perspective and Kenyan perspective. Literature on influence of access to credit facilities, influence of education and training of building contractors, influence of client and technical team, influence of community participation have been reviewed. Conceptual and theoretical framework of the study has been analyzed. In addition Knowledge gap and summary of literature reviewed has been done.

2.2 Influence of building contractors' performance in infrastructural development globally

According to International Federation of Consulting Engineers (FIDIC, 2004), low quality works in the construction industry is becoming a global challenge. Many countries in the developed world have created strategies to improve the performance on building projects. These include Australia's Building for Growth, Building and Construction Industries Actions Agenda of 1999; Finland's Reengineering the Construction Process Using Information Technology from 1997 – 2002; Japan's Future Directions of the Construction Industry programme of 1998 and Singapore's Construction 21. Others examples include South Africa's Creating an Enabling Environment for Reconstruction, Growth and Development in the Construction Industry campaign of 1997; the National Construction Goals in the United States of America (USA) and in Northern Ireland, Building our future together of 1997 and Achieving Excellence in Construction 1999 (FIDIC, 2004). According to Office for National Statistics Annual Business Survey data (2011), the building sector is one of the main drivers of the United Kingdom economy. The sector has created more than 280,000 businesses that have employed over 10% of UK population in 2.93 million jobs. The sector contributes over £90 billion to the UK economy or 6.7% in value added. The construction industry also supports manufacturing sector and metal structures and parts contributed over £4 billion in value added in the same year. The building construction industry is important for social economic growth of United Kingdom. It facilitates built structures that accommodates spaces for business operations, creates factories for manufacturing, schools, hospitals, hotels and residential homes for social services. The construction industry in United Kingdom is faced with numerous challenges and the government has created new policies so as to achieve a competitive and efficient building sector that will enhance the growth of UK's economy. The construction sector is turbulent and easily affected by the external business environment. It decreased to 6.7% of the UK's economy in 2011 from 8.9% in 2007 due to the effects of economic recession of 2008.

According to Bank for International Settlements report (2012), building contractor in United Kingdom face challenges of management, earning good profits, growth, research and development. However, the stakeholders in building sector in United Kingdom have some advantages compared to those operating in developing countries. The building contractors have easy access to finances, and property development loans and clients are supported with mortgages for buying houses. According to Bank for International Settlements report (2012), the support from banks has led to the growth and development of the construction industry.

The construction industry in Denmark faces challenges of low quality workmanship which is not commensurate with the high specifications that are usually quoted during tendering, delayed progress of work with some projects running behind works programme and not adhering to appropriate health and safety measures which sometimes leads to site injuries and accidents. (Danish Ministry of Housing and Urban Affairs and the Danish Agency for Trade and Industry, 2001). The Benchmark Centre for the Danish Construction Sector (BEC) was established by stakeholders in building sector to deal with the numerous challenges affecting the sector. These stakeholders include the professionals in the technical teams, building contractors, clients, developers, building materials suppliers and manufacturers, and the government.

Denmark's Statutory Order No. 1135 of 2003 made benchmarking of Danish State construction projects in excess of 5 million Danish Kroner mandatory. All building contractors are judged through Key Performance Indicators from former building projects. The Key Performance Indicators are based on satisfaction of the user, level of defects in the works, completion within contract period and health and safety of the place of work. In 2007 and 2008, the requirements were extended to developers of social housing and technical team of architect, quantity surveyors and engineers. In January 2010 benchmarking system was revised to also include state and social housing clients in grading the Key Performance Indicators on satisfaction of the user, level of defects in the works, completion within contract period and health and safety of the place of work. According to the Benchmark Centre for the Danish Construction Sector (2010), building contractors in Denmark bidding for projects are expected to provide a Grade Book which is generated using a set of contractor Key Performance Indicators checked and regulated by the Benchmark Centre for the Danish Construction Sector (BEC) through a grading system. The contractor's Grade in each Key Performance Indicators shows a mean score grade in performance of the building contractor over a three-year maximum period. The performance indicators shows the time adjustments in the revised contract period as compared to original contract period, the list of defects at the period of practical completion which is compared with any defects noted at the end of defects liability period. Quality of workmanship and level of user client's satisfaction with the

facility. It also includes the level of health and safety measures observed during the construction process.

2.3 Influence of African Building contractors' performance in infrastructural development

According to Deloitte, Africa construction trends report 2017, Africa's construction industry will continue to grow at a high rate past 2030. The report noted that Africa has a capacity to grow and have a big impact in the global market due to availability of natural resources, availability of affordable skilled and unskilled labour and availability of active economic blocks. Despite the fact that there are many challenges facing the expansion of Africa's building industry it is an important driver for social development, accounting for a major percentage of most countries' Gross Domestic and Gross National Product. Construction industry has a big influence on growth of the economy of Africa countries with infrastructural development projects accounting for about 80% of the total capital asset, 10% of their Gross domestic product and over half of the wealth invested in fixed assets. Most building projects in both developed and developing nations are complex and operate in a turbulent and ever changing environment. However, building projects in developing countries are faced with uncertainty, and operate in a very unstable, unpredictable and poorly financed environment (Deloitte, Africa construction trends report, 2017). Failure of projects to achieve the desired results in developing countries has been attributed to insufficient funds, low institutional and human capacity, poor support infrastructures, inefficiency from the implementing institutions, lack of skilled professionals and finances, lack of detailed documentation, low level of technology, inappropriate contract conditions and lengthy and bureaucratic process in decision making process which are common in developing countries, (Deloitte, Africa construction trends report, 2017).

According to Ghana Statistical Survey annual report (2014), the construction sector is one key pillar for the country's economic growth by way of providing socio-economic infrastructures like residential homes, hospitals, school among others and also creating job opportunities to the Ghanaian citizenry. The Ghanaian construction industry is vibrant and a key contributor to the national economy. Ghana is experiencing fast growth in Population, urbanization, and economic growth which is putting increased pressure on the construction industry to provide both residential houses and commercial buildings (Ametepey, Aigbavboa, & Ansah, 2015). Some cause of delayed payment in Ghana are employers' poor financial management, conflict among parties involved in the contract, and delay in certification. Some building companies have faced financial challenges due to clients withholding or delaying payment. According to Ametepey, Aigbavboa, & Ansah (2015), the Ministry of Works, Water Resource and Housing is in charge of infrastructural development in housing has created policies that encourage the participation of private sector in real estate development, construction of Hospital, School, factories among others. The partnership

of government and private sector in infrastructure development has spurred economic growth of Ghana. According to Asiamah, Difie, and Kofi (2013) the Government has a huge influence in creating legislations and policies within the building and infrastructural sector in developing countries like Ghana. According to Ghana Statistical Service, (2014) the construction industry recorded the highest growth of 9.1% in 2015. The emergence of the oil and gas industry in Ghana since 2011 has enhanced demand for modern buildings and infrastructure leading to entry of foreign construction companies as results of developmental projects going on nationwide. The effects of globalization in business has subjected the local contractors to compete with international construction companies which are well equipped with advance technologies and have competitive advantage over the indigenous construction firms.

According to Ametepey, Aigbavboa, & Ansah (2015), Local companies in Ghana need to invest in technology and embrace best practices in project management and research programs so as to compete with foreign competitors. This will enhance growth in their businesses and increase job opportunities in the construction industry.

According to Asiamah, Difie, and Kofi (2013), challenges facing building contractors in Ghana include: Lack of proper detailed drawings and detailed bills of quantities from technical team. This cause work variations during construction phases which reduce profit margin of the construction company and slows down progress of the works since several supervision meetings have to be held. Ghana lacks enough qualified technical professions to supervise construction works. Most of artisans and tradesmen who supervise the works don't have enough technical knowledge in project management and need training in modern construction practices. Political influence in most developing countries in African like Ghana plays a big impact with the well-connected contractors getting most of the government projects. Construction projects are capital intensive and the major challenge facing most contractors is cash flow. Delayed payments especially from government projects affects credit worthiness of contractors with financing institutions. Building contractors are charged high interest by banks and other lending institutions because the banks consider construction projects as high risk. Building contractors Project funding affects the relationship of the building contractor with his employees and most contractors are unable to maintain the well trained and skilled staff. They are also unable to embrace new equipment and technologies in their operations. Building contractors in Ghana face complex payment procedures due to a very complicated bureaucratic process. The first step involves an approval from the government technical team. The second steps involve the legislature which must recheck and approve the payment which goes to the Ministry of Finance before a payment is made to the building contractor. This lengthy bureaucratic process affects contractor's cash flow since it can take a long time before a payment is made.

The construction industry in Tanzania is a sector of the economy that facilitates social economic infrastructure which is important for socioeconomic development (Construction industry policy in Tanzania, 2003). The construction industry in Tanzania is one of the key sectors of the economy which contributes more than 50% of the capital formation and creates a lot of employment (National Bureau of Statistics Tanzania, 2017). The industry comprises of organizations, building companies, firms and technical team consultants, main contractors and sub-contractors, material and component producers, plant and equipment suppliers, builders and entrepreneurs. The government plays a key role as a developer, employer, financier and regulator. Building contractors in Tanzania are at developing stage with low level of mechanization and most activities on site being done manual labour. The majority of contracting enterprises in construction industry in Tanzania are small contractors which take up 80% of the registered local building contractors. According to Contractors Registration Board, small and medium building contractors are important for economic development. They fill the gap by doing small projects especially in rural areas which the more established companies are unable to undertake. These small projects like construction of classrooms and health facilities are important in facilitating the basic needs of the community. According to Contractors Registration Board, the building contractor is expected to complete building projects within the stipulated contract period and also as per the contract sum and specifications in the contract. A subcontractor is involved where there are specialized services like mechanical and electrical installation works. The Contractors Registration Board of Tanzania was established by section 3 of the Contractors Registration Act No.17 of 1997. It has a mandate to register, regulate and develop building contractors who can competitively maintain a sustainable construction sector. According to Contractors Registration Board of Tanzania, most building projects are rarely completed within the stipulated contract period and within the initial contract sum. Quality of workmanship is sometimes not satisfactory and most clients complain of lack of proper interpretation of clients brief during project documentation process. Other challenges noted were lack delays in approving contractor's payment which leads to cash flow problems which result to reduced progress of works. The expectations of a client in a construction project is achieve a complete project that well thought out and designed according to the needs of the users. The project should be properly supervised by the technical team and completed within the contract period with limited variations which can be accommodated within the contract sum.

2.4 Influence of building contractors' performance in infrastructural development in Kenya

According to Kenya Bureau of statistics, the construction sector is a key driver of economic growth in Kenya. It contributes at least 7% of GDP. Compared to other GDP economic contributors, it is important to note that the construction sector recorded the biggest increase in

contribution to GDP, gaining 0.4% of the share. According to Kenya Bureau of statistics, the construction sector grew by 8.4% in year 2017 and by 10.2% over the same period in 2016. The ministry of Planning through the Kenya 2017/2018 national budget statement reported that the government would invest ksh 640.8 billion in infrastructure development, up from ksh415.7 billion in the 2016/2017 fiscal year. The Construction industry has been the bedrock of social and economic development in our country. Construction has spurred as well as facilitated economic growth through the development of infrastructure projects countrywide. According to National Construction Authority, the construction of housing and commercial space has increased in all the major towns to accommodate a population of 47million where more than 60% are less than 25 years of age and 25% live in urban areas. The rapid growth has brought some challenges of lack of proper planning and associated zoning laws coherent with the needs of the growing population, cases of collapsed buildings countrywide with loss of lives. In some residential communities lack of planning has resulted to buildings that lack some basic facilities such as reliable piped water and sewer systems. Other challenges include lack of skilled labor, and high cost of materials.

Our local building contractors struggle when it comes to working capital due to delayed payment by clients. In an ideal setting, contractors should be able to run projects by paying for goods and services for which they will be paid in scheduled installments. The demand for cash on delivery by suppliers and unpredictable cash flow, which is typical of our business culture, makes it very difficult for building contractors. National Construction Authority has been providing training to contractors and workers, in addition to its primary role of registration and accreditation so as to improve the quality of workmanship, and safety standards at construction sites. The requirement to be certified forces the contractors to be very conscious of quality and performance in their service provision. There are notable areas where contractor performance and workmanship can be improved such as contractors redirecting resources to other projects, use of non-conforming materials to cut costs, or hiring of unqualified cheap labour that lead to poor workmanship. The consequences of shoddy construction can be dire. To curb such practices and significantly improve the public's safety value for money, National Construction Authority has an internet portal where information on a contractor's or registered worker's track record with regards to any citations and any verified complaints leveled against them is put. The collapse and damage of building structures at construction sites is attributed in most cases to poor construction methods. As buildings get larger, the qualification of contractors to perform a specific project becomes critical. Contractors are increasingly taking up construction projects that stretch their capabilities. The role of inspection by the engineers during construction and diligence in the approvals by the regulatory bodies is magnified. It is imperative that site inspections include independent verification of construction conformance with design drawings and specifications. Drawings, specifications and approvals

should be posted at job sites for easy verification. It would be very beneficial for National Construction Authority and the County Governments to liaise on ways to assure strict adherence to construction drawings and specifications during construction.

2.4.1 Influence of level of education and training on building contractors' performance in infrastructural development.

One of major functions of the National Construction Authority is to offer training of contractors. Since 2014, the Authority has managed to train 20,000 contractors and construction workers in various key areas touching on the industry. Building contractors are trained on basic project management on how to properly set up and run a building company. They are also trained on how to participate in the procurement process and on the emerging trends, rules and regulations in the construction industry. The trainings also cover technical units, such as quality control, plant and equipment, drawing and specifications and quality assurance. The Authority also holds the Annual Construction Research Exhibition and Conference every year which is a meeting of the minds that brings together on one platform leading industry experts towards business development in the region.

Training and project management skills has widely been understood as how people acquire knowledge and enact new behaviors in the process of recognizing and acting on opportunities and of organizing and managing projects. Research results have consistently found that training of organizations result into better company performance, even under different cultural settings (Leintz and Rea, 2012). It is expected that training programs offered to building contractors will lead to higher firm performance in construction industry for national economic development. Today's business environment can be characterized as turbulent and ever changing. The accelerated pace of advances in technology, increasing global competition, widespread and growing scarcity of jobs, and limited resource supplies have affected the way business is carried out. This complex and unstable environment is a way of life, which will continue far into the future (Leintz and Rea, 2012). Training should be designed to meet the goals of the organization while simultaneously meeting the goals of individual employees (saleemi, 2009).

The Kenya Vision 2030 identifies human resource development, labour and employment as integral foundations for national transformation. The three pillars (Economic, Social and Political) of Vision 2030 require a globally competitive and adaptive human resource base in which every Kenyan has decent and gainful employment that augments the Vision of a prosperous and middle income country. In addition, Kenya's global competitiveness will depend on the ability to create a human resource base that is constantly subjected to re-training and access to technology. Further, with rapid economic and technological changes, there is an urgent need to give a new thrust to human capital formation.

2.4.2 Influence of Access to Credit Facilities on building contractors' performance in infrastructural development.

Chigunta (2002) retained that lack of access to finance is one of the major challenges facing small businesses worldwide. Building contractors, face a lot of challenges in accessing finances for their construction projects both as running capital and for growth of the building companies. Most small and medium sized businesses have low credit worthiness. They lack adequate resources to sustain the business, they also lack a good credit history, and most of them lack sufficient collateral or guarantees to secure loans or lines of credit (Schoof, 2006). In addition, the institutions that offer targeted finances for small and medium sized enterprises are also very few (Chigunta, 2002).

According to Tucker and Lean (2003), small businesses are not in a position to prove the quality of investments to the financier. Larger organizations have a competitive advantage over smaller businesses because of availability of resources and access credit. Small businesses are also disadvantaged by the lengthy procedures and information requested by many commercial lenders of credit. They also lack information and knowledge on the different sources of finance. According to Chigunta (2002), sensitization programs to create awareness on different sources of financing to meet the needs of small entrepreneurs should be enhanced.

2.4.3 Influence of input from client and technical project team members on building contractors' performance in infrastructural development.

Period of honouring certificate is in all standard forms of a building contract and the employer is expected to pay for the total value of work done plus unfixed materials and goods to the building contractor with the period of honouring certificate. According to Articles of Agreement and Condition of Contract for Building Works (1988), the employer should pay the building contractor within this period or else will be deemed to have breached the contract. Delayed payments from clients on construction projects in the construction industry are common phenomena which lead to cash flow challenges to building contractors and poor credit worthiness rating from the suppliers of building materials. Most building contractors end up suspending construction works due to lack of working capital caused by failure of client to pay within the stipulated time. The main causes of delayed payment are from clients' poor financial management, conflict among parties involved in the contract, and delay in certification of work done by the building contractor. Efficient and timely payment in construction projects should be upheld as one of the best practices that influence the success of a building project. According to Latham (1994), the payment chain cascades from the client to the building contractor to the specialized subcontractors down to the suppliers. Challenges of working capital from one party will cause

cashflow problems down the payment chain. Delayed payments to contractors are a common cause of disputes in the construction industry.

According to Ansah K. (2011), delayed payments have a major effect on building contractors that some companies close down. Most building contractors finance their construction projects by borrowing loans from banks with the expectations of servicing the loans from regular interim payments from the client. Banks charge high interest when a building contractor does not receive interim payments on time according to the agreed terms of repayment. Delayed payment also affects the contractor's performance and he may lose his skilled workers leading to delay of the construction process. A delayed payment by one party may affect the entire supply chain of payment of a construction project which in turn can affect the progress of the works and profitability (Latham, 1994). According to Ansah K. (2011), delayed payment can cause a delay in completion of projects and it can also lead to bankruptcy or liquidation, it can also lead to abandonment of projects, and it can also create negative social impacts. More often, clients are blamed by building contractors for delayed payment; however, building contractors are partly to blame. This is common when contractor's application for payment has errors, lacks enough supporting documents and others are submitted without using the right procedures. This causes delay because the contractors have to revise and repeat the whole process of application for payments. According to Artidi and Chotibongs (2005), failure by client and building contractor to agree with the valuation of work can lead to disputes which need to be solved through dispute resolution mechanisms which normally take a lot of time to be concluded. Some clients have poor financial management strategies while others divert funds meant for a particular project to other uses leading to lack of sufficient funds to pay the building contractor. The project supervision team consisting of Architects, quantity surveyors and engineers should facilitate detailed drawings at the time of signing the contract so as to avoid delays during construction period. Site inspections and meetings should be regularly held so as to give necessary guidance and avoid repetition of works. Low quality workmanship, defective works, failure to follow specifications and variations in the contract can cause conflicts in a construction project which if not resolved on time can cause delayed payment.

2.4.4 Community participation on building contractors' performance in infrastructural development.

Community Participation in identification of development projects is very important in achieving the development objectives of the community since local people are aware of challenges that affect them. Project idea and possible solution should originate from initiatives by local people (Baum, 1988). According to World Vision (2015), one of the main rules and regulations in its

programmes and projects is that local people should be involved in the identification of development activities. These include all efforts to involve the local community in identifying their own problems, setting priorities on projects and programmes that will solve the problems and coming up with project interventions that may help solve some of the challenges. Completion of a building project within the stipulated contract period is a major indicator of success. Community Participation involves identifying community's needs and organizing the needs in the order of priority. It also involves developing projects to address those priority areas and identifying teams and their roles to spearhead the projects. Community Participation should also involve designing work plans and their performance standards and comparing what is happening with what was planned, with a view to determining whether the project is on schedule as planned. The local community should be included in monitoring and evaluating the quality of the projects. According to Torbett R. and Salter A. (2003), obeying time schedule and completing a project within the timelines is one of the techniques for assessing project performance in projects. Delayed projects leads to losses through escalation of building materials and the client is denied the opportunity to utilize the facility within the anticipated time. Moreover, according to Latham Report (1994), timely delivery of projects is one of the crucial requirements and expectations of clients and stakeholders of the building industry. Community participation can significantly reduce the time spent in executing project activities. When a project is accepted by the community, project activities run smoothly and according to schedule. The implementation stage involves putting the project designs into a built form. Project resources are coordinated and directed by the project technical team in a bid to achieve the expectations and objectives of the project plan. As the project progresses, the project technical team have an obligation to direct and manage each stage and activity and manage any unforeseen challenge that might emerge. Project implementation stage is where the project team actualizes the project by putting input and resources so as to achieve outputs as desired deliverables. During this period, resources are mobilized, activities determined and control mechanism established so that the project inputs can produce project outputs in order to achieve the project purpose. Hence local people's participation at this stage is conducive to the successful operation of projects (Baum, 1988).

A proper participatory process enables representation of all stakeholders, their opinions are listened to in a discussion, their claims and challenges are heard, and they are finally allowed to decide or influence the outcomes. All the above processes enhance trust in the decision making process (Baum, 1988). Project Monitoring and evaluation is the final stage in the project cycle, which is enhanced by follow-up action. Evaluation may be done by different people such as stakeholders, financiers and donors of the project to assess the performance of the project to see whether its stated objectives are achieved or not and to what extent (Baum, 1978). According to Youker

(1989), Project Monitoring & Evaluation involves participation of local people, development agencies, and policy makers on how progress should be measured, and results acted upon. Community participation creates a sense of local ownership and local responsibility is more desirable as it ensures relevance to the local context and sustainability. By involving community participation in identifying and analyzing change, a clearer view of the actual situation in the grassroots can be attained. It allows the community to celebrate achievements, and learn from drawbacks. It's also learning and empowering experience to the local community, since it puts them in charge, helps develop skills, and shows that their views count.

2.5 Government policies and regulations

Policies about building contractors are very few and have not been widely tried and tested. The business registration processes in most developing countries are still lengthy and difficult to new entrants (World Bank, 2005). According to this report, procedures and costs of registration of a construction company can be a major challenge for building contractors. The risk of losing one's property right is one of the second most important financial risks for building contractors. According to World Bank (2005) poor enforcement of contractual rules and regulations can greatly disadvantage building contractors who may not sufficiently familiar current rules and regulations. Some building contractors may not sufficiently protect their companies and they may get caught up in litigation. The county government of Nakuru and other stakeholders in building industry should create proper policies that address the needs of building contractors and promote growth of their construction companies.

2.6 Theoretical Framework

This section cites out theories and concepts that are found to be relevant to the study. The intention is to come up with a theoretical framework with relevant variables for analysing factors influencing performance of building contractors in infrastructural development in Nakuru County, Kenya. Total quality management theory is found to be relevant for this study and its one of the main theories in the study. Systems theory had also been analysed as an additional theory in the literature review.

2.6.1 Total Quality Management Theory

Total quality management involves managing the entire organization so that it succeeds on all dimensions of programmes, products, projects and deliver services that satisfy and delight the customer. According to Morgan & Murgatroyd (1997), total quality management is an organization approach for achieving customer requirements and expectations that involves all levels of

management and production by embracing strategic and innovative quantitative methods to continuously improve the quality of products, projects and services. Total quality management deals with the use of quality management principles in all aspects of a business and project so as to transform the quality of products, projects and services. Application of total quality management in projects reduces waste of resources and helps in cutting costs. An organization undergoing a total quality process should apply the principles of quality management in every process and every level and demonstrate the following characteristics: consistency of purpose that provides a steady and consistent vision on where the organization is going. The organization should show commitment to quality that drives productive change in all products, projects and services. It should also demonstrate a customer focus and customer involvement that ensures your improvement efforts are driven by meaningful purposes. The organization should have a process orientation that addresses the means of work accomplishment and not just outcomes. It should also strive to have continuous improvements that ensure dynamic and adaptive processes over time. The organization should have a system centered management that ensures improvement of the whole and not just the parts. It should also invest in knowledge that leverages the effectiveness of improvement process. The organization should have teamwork that leverages the knowledge and provides essential synergy. It should also promote the conservation of human resource which is the most valuable asset. The organization should have total involvement that brings the entire intellectual power to bear on improvement. It should also have perpetual commitment that precludes giving up. According to Dale & Bunney (1999), Total quality management is an approach that focuses on goals, processes and people with the intention of having the right things done right within the first attempt. It's the mutual cooperation of everyone in an organization so as to produce products, projects and services which fulfill and aims to exceed and delight the expectations of the customers. It is an enabling philosophy supported by a series of systems, tools, and processes that are put into use with the intention of achieving the principles of Total Quality Management.

The theory has been recognized as a best practice and applied during the last few years by various institutions globally to develop a focus on quality and enhance organizational performance and productivity. Total Quality Management theory is applicable to the study in that proper project management practices enhance efficiency and effectiveness (Crosby, 1979). Some existing literature has looked into the application of Total Quality Management principles in building industry. According to Jaafari (1996), Total Quality Management is mainly applied in building projects so as to satisfy the client's needs of quality by giving satisfactory works. It also enables growth through continuous improvement. Jaafari (1996) also states that proper application of Total Quality Management principles in building projects will reduce costs, and enhance efficiencies and effectiveness in building projects.

Quality management principles are derived from the collective experiences of the International Organization for Standardization committee members referred to as ISO/TC176. This committee drawn from private and public institutions has established eight principles to guide quality management of projects. The principles are defined both in the ISO 10006:2003 and ISO 9004:2000. These documents describes the concepts of quality management system and defines the fundamental terms used in the ISO 9000 series family of standards as well as the guidance for continual improvement for the performance of a project organization. The principles enable an organization to determine the right things to do and understand why they are doing them.

2.6.2 The Systems Theory

Von Bertalanffy (1968) stated that a system is a complex of interacting elements. He also defined a system as a set of distinct parts that constitute a complex whole. Systems theory is one of the dominant organizational theories in management today. According to biologist Ludwig von Bertalanffy, who is credited for proposing the systems theory, real systems are open to, and interact with the many forces in their operating environment and that they can acquire qualitatively new properties through emergence, resulting in continual growth and evolution. The fundamental notion of general systems theory is its focus on interactions. According to Walker (1996), a system is a well-integrated conglomeration of unconnected and interdependent parts and every system is identified by its spatial and temporal limitations, encompassed and impacted by its environment, expressed by its structure and use or nature and represented in its functioning. This theory essentially gives a perspective about interconnected processes so that, the correlation of different parts and their impact on the effectiveness and efficiency of the whole process can be comprehended, examined and made better. In terms of its effects, a well-managed system can create synergy and produce greater quantity than the sum of its parts and can give useful sustainable growth and development depending upon how well it is managed. Walker (1996) described a system as an entity, which is composed of interconnected elements. Every element in a system is interrelated to other parts, directly or indirectly, and no subdivision of element is unrelated to any other sub-division. According to Walker (1996), the suitability of systems theory as a relevant guide in a conceptual framework for the management of the building projects is underpinned in the fundamental premise that, a system is an unified interconnected or complex whole: an organized arrangement or amalgamation of things or elements forming a network, complex or unitary whole, which is greater than the simple addition of the parts. The systems approach underpins the importance of the interrelationships of the elements of the system and the system's adoption to its environment in achieving its objectives. The success of the building project depends on team work from project team members who are the financier, client, contractors,

technical team comprising architects, engineers, quantity surveyors and the community who are the users of the facility. All stakeholders in a building project should have shared objective and realize that contribution from every member is important because it enhances synergy and successful completion of the project. The building process is made up of different activities which often require different skills, materials and facilities. Proper coordination of various activities, resources and the different participants involved in building projects is necessary for successful realization of any project. The concept of collective actions and interrelationship of the components of the system makes systems theory relevant to the study on factors influencing the performance of Building Contractors in infrastructural development in Nakuru County, Kenya.

2.7 Conceptual framework

The conceptual framework shows relationships between independent and dependent variables. It also shows moderating variables which affect the interaction between the two main variables under the study. The framework shows the influence of building contractors' level of education and training on performance in infrastructural development of Nakuru County. Another variable is the influence of building contractors' credit accessibility and the study tries to establish how it affects performance in infrastructural development of Nakuru County. Another variable is the relationship between input from both client and technical team on building contractors' performance in infrastructural development of Nakuru County. The study also tries to establish how the influence of community participation affects building contractors' performance in infrastructural development of Nakuru County. Moderating variable includes Government policies and regulations.

Independent variables

- Access to credit and loan facilities
- Ease of access to credit and loan facilities
 - Interest rate levels
 - Credit from suppliers of building materials
 - Hiring of plant and equipment

- Level of education and training
- Competency of contractors
 - Ability to make technical decisions
 - Staff level of education and training
 - Regular training and development
 - Quality of workmanship

- Client and Technical input
- Timely payment by client
 - Timely input by technical team
 - Regular project supervision
 - Site meetings
 - Timely completion of project

- Community participation
- Project stakeholders input
 - Consultation
 - Communication

Dependent variable

- Performance of Building contractors in Infrastructural Development in Nakuru County
- Increased Built Structures in Nakuru County
 - Better service delivery due to good accommodation
 - Infrastructural development
 - Economic growth

- Government policies and regulations

Moderating variable

Figure 2.1: Conceptual framework

Source Author (2018)

The independent variables demonstrate the influencing factors on building contractors that have a bearing on performance in infrastructural development (dependent variable). Research results have consistently found that training of organizations result into better company performance, even under different cultural settings (Leintz and Rea, 2012). The level of education provides building contractors with technical and analytical skills which improves the ability to manage building projects and also better running of their building construction companies. It is expected that training programs offered to building contractors will lead to higher performance in infrastructural development in Nakuru County. Chigunta (2002) retained that lack of access to finance is one of the major challenges facing small businesses worldwide. Building contractors, face a lot of challenges in accessing finances for their business both as running capital and for expansion of the businesses. This is because of many factors which make their businesses less attractive and risky in terms of lending, like lack of self-sustaining resources, the absence of a substantive credit history, sufficient collateral or guarantees to secure loans or lines of credit (Schoof, 2006). In addition, the institutions that offer targeted finances are very few (Chigunta, 2002). It is expected that improved access to loan and credit facilities to building contractors can lead to higher performance in infrastructural development in Nakuru County.

Another variable is the relationship between input from both client and technical team on building contractors' performance in infrastructural development of Nakuru County. Delayed payments from clients on building projects in the construction sector are regarded to be a factor of significant concern. Delayed payments can cause lack of running capital and serious cash-flow challenges to building contractors and this can lead to a cascading effect down the contractual payment chain. Efficient and prompt payment in building projects is an important factor that can influence on successful completion of a building project. Employers' poor financial management, conflict among parties involved in the contract, and delay in certification are some of the potential causes of delayed payment. Withholding or delaying payment creates financial hardship for the construction companies and its impacts are sometimes so harsh that some companies have to close down. It is expected that improved relationship between building contractors and client plus the technical team will lead to higher performance of building contractors in infrastructural development in Nakuru County. The study also tries to establish how the influence of community participation affects building contractors' performance in infrastructural development of Nakuru County. Community Participation in identification of development projects is very important in achieving the development priorities in the context of local objectives since local people are aware of challenges that affect them. Project idea and possible solution should originate from initiatives by local people (Baum, 1988). According to World Vision (2015), one of the important design principles in its programmes and projects is all stakeholders and local community must be involved

in the identification of development programmes and projects. These include all efforts to involve the local population in defining their own problems, diagnosing the situations that give rise to such problems, setting priorities for their resolution, and identifying and formulating project interventions that may help solve some of those problems. It is expected that increased level of community participation will lead to higher performance of building contractors in infrastructural development in Nakuru County.

2.8 Knowledge gap

Most of the literature reviewed is mostly from different countries whose context and business environment in the construction sector is different from that of Kenya. Further, few studies have been done on construction industry and especially on building contractors. The studies done in Kenya have also not looked on the influence of building contractors performance in infrastructural development. There is need for a study on the influence of building contractors performance in infrastructural development in Nakuru County, Kenya. This study seeks to focus on building contractors and generate information to fill the existing knowledge gap. The study is an investigation on the influence of building contractor performance in infrastructural development in Nakuru County.

2.9 Summary of the literature Review

The literature review looked at the influence of building contractor performance in infrastructural development. It also discusses the variables that influence performance of building contractors in infrastructural development which include: Influence of level of education and training, Influence of access to credit facilities, Influence of input from client and technical team, Influence of community participation. The literature review also discussed the theoretical framework and finally the conceptual framework which gives a grasp picture of the research project proposal.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the procedure that was used in conducting the research. It gives details of the research design, target population, the sample and sampling technique, data analysis and presentation. The main aim of the study was to establish the factors that influence performance of building contractors in infrastructural development in Nakuru County, Kenya.

3.2 Research Design

Descriptive survey design was used as it allowed the collection of quantitative and qualitative data that can be used for establishing causes of specific events or happenings. According to Mugenda and Mugenda (2003) a descriptive research establishes and describes the way things are and attempts to describe things as possible behavior, attitudes, values and characteristics. Kothari (2003) also recommends descriptive research design as it enables the person doing research to give a detailed account, record, analyse and present conditions that exist or existed. Descriptive studies are structured with clearly stated investigative questions.

The method was appropriate for the study because it seeks to establish the characteristics of factors involved in a given situation, examine the level in which they exist and discover the relationships that exist between them.

3.3 Target Population

A population which is also referred to as universe describes all the individuals or objects in the field of inquiry. The target population is that population to which the person conducting research wants to generalize the outcome of the study (Mugenda and Mugenda, 2003). According to Stillwell and Clarke (2011), a population is referred to as the whole collection of entities about which we wish to make a conclusion based on evidence and reasoning. According to Engelhardt, Kohler, and Prskawetz (2009), a population element is the field area of study such as a person, an organization, consumer database, or the size of quantitative data on which the measurement is being done. According to National Construction Authority, there are 511 registered building contractors in Nakuru County. This formed the target population and the study targeted the owners of the building construction enterprises because they are the ones involved in top management and decision making.

Table 3.1: Classification of Nakuru County’s Building Contractors according to capabilities and their Numbers

Category	Capability (kshs)	Numbers (Quantity)	Percentage (%)
NCA 1	Unlimited	2	0.39
NCA 2	Up to 500,000.00	10	1.90
NCA 3	Up to 300,000.00	4	0.78
NCA 4	Up to 200,000.00	30	5.80
NCA 5	Up to 100,000.00	47	9.19
NCA 6	Up to 50,000.00	83	16.2
NCA 7	Up to 20,000.00	122	23.8
NCA 8	Up to 10,000.00	213	41.6
Total		511	100

Source: National Construction Authority (2018)

3.4 Sample Size and Sample Selection

Sampling is selecting or choosing a percentage of the aggregate or sum total on the basis of which a considered decision or inference is made about the aggregate or totality. According to Kothari (2011), sampling is the process or a series of steps taken in order to obtain information about an entire population by examining only a part of it. Ary, *et al.* (2002), stated that all things being constant or equal, the bigger the sample size, the better representation of the universe or population. Representativeness of the population is the most significant characteristics of a sample and not its size. Some small variations will be noted between the sample and universe, however if the sample is randomly taken and of adequate quantity, the variations are expected to be proportionately insignificant and incidental (Fraenkel and Wallen, 2006).

According to Krejcie & Morgan, (1970), and idea sample size can be established based on the Krejcie and Morgan's sample size calculation. The sample size determination table is derived from the sample size computation which is shown as equation below (Krejcie and Morgan, 1970). The Krejcie and Morgan's sample size calculation will be based on $p = 0.05$ where the probability of committing type I error is less than 5 % or $p < 0.05$.

$$s = \frac{X^2 NP (1-P)}{d^2 (N-1) + X^2 P (1-P)}$$

where,

s = required sample size.

X^2 = the table value of chi-square for 1 degree of freedom at the desired confidence

level ($0.05 = 3.841$).

N = the population size.

P = the population proportion (assumed to be 0.50 since this would provide the maximum sample size).

d = the degree of accuracy expressed as proportion (0.05).

Based on this formula the preferred sample size for the study was 219, given a confidence interval of 99% and margin error of 1.0%

In the second stage, stratified random sampling was used. The percentage of each category was multiplied by sample size of 219 so as to get a sample of building contractors per each category as shown in the table below. Building contractor companies' name was put in pieces of paper for each category and then randomly picked.

Table 3.2: Sample size for each category of Nakuru County's Building Contractors

Category	Numbers (Quantity)	Percentage of population (%)	% multiplied by sample size	Sample size for each category
NCA 1	2	0.39	0.39 x 219	1
NCA 2	10	1.9	1.9 x 219	4
NCA 3	4	0.78	0.78 x 219	2
NCA 4	30	5.8	5.8 x 219	13
NCA 5	47	9.19	9.19 x 219	20
NCA 6	83	16.2	16.2 x 219	36
NCA 7	122	23.8	23.8 x 219	52
NCA 8	213	41.6	41.6 x 219	91
Total	511			219

Source; Author (2018)

Additional data from the project technical management team was collected from the Director Public works, County Architect, County Quantity Surveyor, County Structural Engineer, County Electrical Engineer, County Mechanical Engineer and from the 11 sub county works officers from the department of public works.

3.5 Research Instruments

In this study, questionnaires were used as research instruments. A set of questionnaires was issued to respondents in order to collect primary data for the study. The questionnaire provided the respondents with an opportunity for making a short response or checking an item from the list of

suggested responses. The collected instruments was checked for proper scoring and then edited to facilitate better analysis.

3.5.1 Piloting of the study

A pilot study was a preliminary test done before the final study to ensure that research instruments are working properly, identify flaws and ambiguities and make improvement to the research instruments. According to Mugenda & Mugenda (2005), the main aim of pre-testing the instrument is to ensure that every question in the questionnaire is clearly put without ambiguities and have the same meaning and interpretations to all participants. The respondents on which the questionnaire or the instrument was pre-tested were not part of the selected sample. It was during the pre-testing of the instrument that the researcher was able to assess the clarity of the instrument, ease of use and assess the time taken to administer the instrument. Information obtained during the pretesting was used to revise the instrument for precision. According to Mugenda & Mugenda, (2007) a relatively small sample of 10 to 20 respondents can be chosen from the population during piloting which is not included in the sample chosen for the main study. Piloting of the study was carried out on 15 Contractors randomly sampled from other categories who do not form part of population of the study. The researcher piloted 15 Contractors randomly sampled from Roads Contractors.

3.5.2 Validity of research instruments

According to Kothari (2004), validity indicates the degree to which an instrument measures what it is supposed to measure in terms of the accuracy, soundness and effectiveness with which an instrument measures what it was intended to measure. Mugenda & Mugenda (2007) stated that validity is the degree to which results obtained from the analysis of the data actually represent the phenomena under study. The validity of the questionnaire was established by the help of the supervisor and the panelists from the Department of Project Planning and Management at University of Nairobi.

3.5.3 Reliability of research instruments

This refers to the accuracy and precision of a measurement procedure. An instrument is reliable to the degree that it produces consistent results. It measures the stability of the research instruments across two or more attempts. Mugenda and Mugenda (2003) define reliability as a measure of the degree to which research instruments yield consistent results or data after repeated trials. To enhance reliability of the instruments a pilot study was conducted. The respondents were given three weeks before the same test were administered again to the same respondents.

Correlations were done on the scores from both testing periods to determine the coefficient of reliability and a high coefficient of 0.7 was achieved, this implied that the instrument gave data with high test re-test reliability. This was done to ensure that the results were consistent hence reliability of the instrument (Kathuri & Pals, 1993). Cross checking of the research instruments was also done with the guidance of the research supervisor. This helped to enhance the reliability of the research instrument.

3.6 Data collection procedure

According to Kothari (2005), data collection procedure comprises of the steps and actions necessary for conducting research effectively and the desired sequencing of these steps. The researcher embarked on the process of collecting data from the field upon approval of research proposal by the supervisor and also by a panel of assessors from the University of Nairobi. Consequently, the researcher presented a copy of the proposal to the National Council for Science and Technology, applying for a research permit. The researcher also presented the permit to all relevant authorities.

3.7 Data analysis Techniques

Data was analyzed through the use of qualitative and quantitative analysis. Statistical Package for Social Science (SPSS) version 22 was used for analysis of data. Descriptive and Inferential analysis was used to analyze data to find the relationship between variables. Frequency distributions, percentages and measures of central tendency were used in the analysis and presentation of data. Data was presented in tables and analyzed by the researcher to give meanings to the findings.

3.8 Operationalization of variables

An operational definition describes how the variables are measured and defined within the study. It is a description of a variable, term or object in terms of the specific processor set of validation tests used to determine its presence and quantity. It is generally designed to model a conceptual definition. Table 3.3 is a summary of the operational definition of variables in the proposed study showing the indicators, measure of indicators, measurement scale, tools and type of analysis.

Table 3.3: Operationalization of variables

Objective	Variables	Indicators	Scale	Data collection method	Data analysis	Data analysis
To establish how access to credit and loan facilities influence on contractors' performance in infrastructural development in Nakuru County	Dependent Contractors' performance in infrastructural development in Nakuru County Independent Access to credit and loan facilities	Access to credit. Access to loan facilities	Amount of credit obtained Amount of loan given	Ordinal	Survey using questionnaire	Descriptive statistics
To examine how the level of education and training influence on contractors' performance in infrastructural development in Nakuru County	Dependent Contractors' performance in infrastructural development in Nakuru County Independent Level of education and training	Level of education Number of training sessions attended	Highest Level of education. Highest Number of training sessions	Ordinal	Survey using questionnaire	Descriptive statistics
To assess how timely payments by clients and timely technical input from project team members influence on contractors' performance in infrastructural development in Nakuru County	Dependent Contractors' performance in infrastructural development in Nakuru County Independent Input from clients and technical project team members	Payments by clients. Input from technical team	Timely payments Timely input from technical team	Ordinal	Survey using questionnaire	Descriptive statistics
To determine the influence of community participation on contractors' performance in infrastructural development in Nakuru County	Dependent Contractors' performance in infrastructural development in Nakuru County Independent Community participation	Community participation	Level of Community participation	Ordinal	Survey using questionnaire	Descriptive statistics

3.9 Ethical considerations

According to Mugenda and Mugenda (2003) a researcher must confirm to the principle of voluntary consent where the respondents willingly participate in research. Informed consent should be based on the information regarding: the purpose of the research study, identification of the researcher, any benefits that may be received. Mugenda (2008) notes that participation in research is voluntary and subjects are at liberty to withdraw from the study at any time without any consequences. The researcher made sure that the names of the respondents did not appear on the research instruments and respondents consent was sought before administering the questionnaires or conducting interviews. The purpose of the study was also explained to the respondents before administering the questionnaires. No respondent was forced to take part in the study and the researcher assured the respondents of the confidentiality of the information collected and that the information was to be used for academic purposes only.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter presents the findings from the research, the interpretation of the data in tables, charts and detailed discussions. The data was interpreted according to research objectives and research questions. Appropriate data analysis and presentation techniques were used. The primary objective of the study was to examine the factors that influence the performance of building contractors in infrastructural development in Nakuru County.

4.2 Response return rate

From the 219 questionnaires administered to building contractors, 157 were properly filled and returned. This represented a 71.7% response rate, which is considered satisfactory to make conclusions for the study. According to Mugenda and Mugenda (2007) a response rate of 50% is considered adequate, a response rate of 60% good and a response rate of above 70% very good. This therefore implies that the response rate from building contractors was very good at 71.7%. Additional data from the project technical management team was collected from the Director Public works, County Architect, County Quantity Surveyor, County Structural Engineer, County Electrical Engineer, County Mechanical Engineer, County Civil Engineer, and from the 11 sub county works officers from the department of Public works.

4.3 Background characteristics of the Building contractors

Background characteristics of the respondents included distribution by the following categories; gender, age, level of education, period of time that the company has been operational and type of business ownership.

4.3.1 Gender of Building Contractors

The study sought information on distribution of respondents by gender and the results are presented in Table 4.1. The findings established 136 (86.6%) out of 157 building contractors who participated in the study are male while 21 (13.4%) were female. The high percentage of male building contractors can be attributed to the technical nature of the work which attracts more men than women.

Table 4.1 Gender of Contractors

	Frequency	Percent
Male	136	86.6
Female	21	13.4
Total	157	100.0

Source: Research data (2018)

4.3.2 Age of Building Contractors

The study examined the distribution of respondents by age and the results are as shown in Table 4.2. From the findings, majority of building contractors are over 40 years old with 62 (39.5%) being between the age of 40-49 years and 42 (26.8%) being above 50 years old. Young contractors below the age of 29 years are 19 (12.1%). Majority of building contractors are over 40 years in age and this can be explained by the need for experience and capital to run a building company.

Table 4.2 Age of Building Contractors

	Frequency	Percent
29 Years and Below	19	12.1
30 -39 Years	34	21.7
40 - 49 Years	62	39.5
Over 50 Years	42	26.8
Total	157	100.0

Source: Research data (2018)

4.3.3 Education Level of Building Contractors

The Level of education of the respondents was examined and results were presented in Table 4.3. From the findings, 91 (58%) of building contractors have college education while those with university education are 37 (23.6%). Building contractors with high school education are 25 (15.9%). This suggests that the building industry employs many people with average level of education with college certificates and high school certificates being the majority.

Table 4.3 Education Level of Contractors

	Frequency	Percent
Secondary	25	15.9
College	91	58.0
University	37	23.6
Any Other	4	2.5
Total	157	100.0

Source: Research data (2018)

4.3.4 When was the Building Company started

The study was interested in finding out for how long the building company had been in operation. From the findings, majority of building contractors companies have been in operation for over 5 years with only 36 (22.9%) being in operation for less than 5 years. This suggests that the building industry does not attract a lot of new entrants because it requires a lot of capital to start and it also requires experience in the technical works. The government should create policies that would enable easy access to credit and loan facilities to building contractors. From the reviewed literature building contractors in United Kingdom have easy access to finances, and property

development loans and clients are supported with mortgages for buying houses. According to Bank for International Settlements report (2012), the support from banks has led to the growth and development of the construction industry in United Kingdom.

Table 4.4 When was the Building Company started

	Frequency	Percent
Less than 5 years Ago	36	22.9
5-9 Years	32	20.4
10 -14 Years	37	23.6
15 - 19 years	23	14.6
Over 20 Years	29	18.5
Total	157	100.0

Source: Research data (2018)

4.3.5 Type of business Registration

The study sought information from the respondents on the type of business ownership of their building entities and the findings are as shown in Table 4.5.

Table 4.5 Type of business Registration

	Frequency	Percent
Limited Company	107	68.2
Partnership	29	18.5
Sole Proprietorship	21	13.4
Total	157	100.0

Source: Research data (2018)

From the findings, 107 (68.2%) of building contractors companies are registered as limited companies. The data indicated that 21 (13.4%) are registered as sole proprietorship. This suggests that majority of building contractors operate as private companies whose owners are legally responsible for debts only to the extent of the amount of capital they invested. Building contractors prefer a limited company because it is a legally distinct body as compared to sole proprietorship where there is no legal distinction between the owner and the business.

4.4 Access to Credit and Loan Facilities

The study sought to know how access to credit and loan facilities influence performance of building contractors in infrastructural development. Chigunta (2002) retained that lack of access to finance is one of the major challenges facing small businesses worldwide. Building contractors, face a lot of challenges in accessing finances for their construction projects both as running capital and for growth of the building companies. Most small and medium sized businesses have low credit worthiness. They lack adequate resources to sustain the business, they also lack a good credit history, and most of them lack sufficient collateral or guarantees to secure loans or lines of credit

(Schoof, 2006). In addition, the institutions that offer targeted finances for small and medium sized enterprises are also very few (Chigunta, 2002).

4.4.1 Intervals of Payment

The study sought to determine the intervals at which building contractors apply for payment and the findings were as shown in Table 4.6.

Table 4.6 Intervals of Payment

	Frequency	Percent
Monthly	26	16.6
Depending on progressive performance	127	80.9
Any other	4	2.5
Total	157	100.0

Source: Research data (2018)

From the findings, 127 (80.9%) of building contractors reported that they apply for payments depending on progressive performance while 26 (16.6%) reported that they apply for payments on monthly basis.

4.4.2 Source of Capital for Running Projects

The study sought information on building contractors' source of capital for running projects and the findings are as shown in Table 4.7. From the findings building contractors reported that their main source of capital for running projects was credit from suppliers of building materials with a mean rating of 3.88 which was followed by hiring and leasing of construction equipment with a mean rating of 3.84. The other main source of capital for running projects is loan from banks which was rated at a mean of 3.73. Personal savings and sale of assets had a mean of 3.13 and 2.41 respectively. This agrees with reviewed literature on influence of access to credit facilities on building contractors performance in infrastructural development where according to Schoof (2006), most small businesses rely on credit facilities. Most small and medium sized businesses have low credit worthiness. They lack adequate resources to sustain the business, they also lack a good credit history, and most of them lack sufficient collateral or guarantees to secure loans or lines of credit (Schoof, 2006). In addition, the institutions that offer targeted finances for small and medium sized enterprises are also very few (Chigunta, 2002). According to Tucker and Lean (2003), small businesses are not in a position to prove the quality of investments to the financier. Larger organizations have a competitive advantage over smaller businesses because of availability of resources and access to credit. Small businesses are also disadvantaged by the lengthy procedures and information requested by many commercial lenders of credit. They also lack information and knowledge on the different sources of finance. According to Chigunta (2002), sensitization

programs to create awareness on different sources of financing to meet the needs of small entrepreneurs should be enhanced.

Table 4.7 Source of Capital for Running Projects

	To a very great extent	To a great extent	Moderate	To a little extent	Not at all	Me an	SD
Loan from bank	51 (32.5%)	53 (33.8%)	25 (15.9%)	16 (10.2%)	12 (7.6%)	3.73	1.23
Personal saving	21 (13.4%)	45 (28.7%)	38 (24.2%)	40 (25.5%)	13 (8.3%)	3.13	1.18 2
Credit from building materials suppliers	67 (42.7%)	38 (24.2%)	29 (18.5%)	13 (8.3%)	10 (6.4%)	3.88	1.23
Hiring and leasing of equipment	61 (38.9%)	39 (24.8%)	34 (21.7%)	17 (10.8%)	6 (3.8%)	3.84	1.17
Sale of assets	7 (4.5%)	19 (12.1%)	40 (25.5%)	57 (36.3%)	34 (21.7%)	2.41	1.09

Source: Research data (2018)

4.4.3 Factors that contribute to cash flow problems

The study sought to establish the factors that contribute to cash flow problems from the respondents as shown in Table 4.8. The table shows a summary of respondents' ratings on factors that contribute to cash flow problems on a 5-level likert scale. From the findings building contractors reported that challenges of cash flow are mainly caused by delay in payments by the client and also by high interest rates from banks which were both rated at a mean of 4.18. Other causes of cash flow problems are credit arrangements with suppliers and also hiring of plant and equipment which were rated at mean of 3.15 and 3.06 respectively. This agrees with reviewed literature on influence of input from client and technical project team members on performance of building contractor in infrastructural development. According to Articles of Agreement and Condition of Contract for Building Works (1988), the employer should pay the building contractor within the specified period or else will be deemed to have breached the contract. Delayed payments from clients on construction projects in the construction industry are common phenomena which lead to cash flow challenges to building contractors and poor credit worthiness rating from the

suppliers of building materials. Most building contractors end up suspending construction works due to lack of working capital caused by failure of client to pay within the stipulated time.

Table 4.8 Factors that contribute to cash flow problems

	To a very great extent	To a great extent	Moderate	To a little extent	Not at all	Mean	SD
High interest rates from banks	83 (59.2%)	46 (29.3%)	11 (7.0%)	8 (5.1%)	9 (5.7%)	4.18	1.1 4
Delay in payments by the client	92 (58.6%)	31 (19.7%)	13 (8.3%)	12 (7.6%)	9 (5.7%)	4.18	1.2 1
Credit arrangement with suppliers	18 (11.5%)	28 (17.8%)	75 (47.8%)	32 (20.4%)	4 (2.5%)	3.15	0.9 6
Hiring of plant and equipment	18 (11.5%)	39 (24.8%)	50 (31.8%)	35 (22.3%)	15 (9.6%)	3.06	1.1 5

Source: Research data (2018)

According to Ansah K. (2011), delayed payments have a major effect on building contractors that some companies close down. Most building contractors finance their construction projects by borrowing loans from banks with the expectations of servicing the loans from regular interim payments from the client. Banks charge high interest when a building contractor does not receive interim payments on time according to the agreed terms of repayment. Delayed payment also affects the contractor's performance and he may lose his skilled workers leading to delay of the construction process. A delayed payment by one party may affect the entire supply chain of payment of a construction project which in turn can affect the progress of the works and profitability (Latham, 1994). According to Ansah K. (2011), delayed payment can cause a delay in completion of projects and it can also lead to bankruptcy or liquidation, it can also lead to abandonment of projects, and it can also create negative social impacts.

4.4.4 Causes of delayed payments

The study examined the causes of delayed payment and the findings are as shown in Table 4.9. The table shows a summary of respondents' ratings on factors that contribute to cash flow problems on a 5-level likert scale. From the findings building contractors reported delayed payments are mainly caused by client related factors as reported by mean of 4.05 and they are also

caused by factors related to contractual matters as reported by a mean of 3.71. Building contractors related factors are less likely to cause delayed payments as reported by a mean of 2.5.

Table 4.9 Causes of delayed payments

	To a very great extent	To a great extent	Moderate	To a little extent	Not at all	Mean	SD
Contractor- related factors	13 (8.3%)	18 (11.5%)	35 (22.3%)	59 (37.6%)	32 (20.4%)	2.50	1.1 8
Client-related factors	75 (47.8%)	42 (26.8%)	17 (10.8%)	19 (12.1%)	4 (2.5%)	4.05	1.1 4
Factors related to contractual matters	46 (29.3%)	54 (34.4%)	31 (19.7%)	18 (11.5%)	8 (5.1%)	3.71	1.1 5

Source: Research data (2018)

4.4.5 Client related factors causing delayed payments

The study sought to examine on client related factors that cause delayed payments and the findings are as shown in Table 4.10. The respondents were asked to state what client related factors cause delayed payments on a 5-level likert scale. The major client related factors causing delayed payments are delay in certification by client technical team and also client's technical team disagreeing with the valuation of work done as reported with mean of 3.98 and 3.92 respectively. Client's poor financial management and client's poor financial condition contributed at a mean rating of 3.76 and 3.71 respectively. Client's employees withholding payment was rated the least factor with a mean of 3.41. This concurs with reviewed literature where according to Latham (1994), the payment chain cascades from the client to the building contractor to the specialized subcontractors down to the suppliers. Challenges of working capital from one party will cause cash flow problems down the payment chain. Delayed payments to contractors are a common cause of disputes in the construction industry.

Table 4.10 Client related factors causing delayed payments

		To a very great extent	To a great extent	Moderate	To a little extent	Not at all	Mea n	SD
Clients' financial management	'poor	47 (29.9%)	63 (40.1%)	22 (14.0%)	12 (7.6%)	13 (8.3%)	3.76	1.20
Clients' financial condition	poor	47 (29.9%)	61 (38.9%)	20 (12.7%)	15 (9.6%)	14 (8.9%)	3.71	1.24
Delay in certification from clients technical team	in	84 (53.5%)	22 (14.0%)	26 (16.6%)	14 (8.9%)	11 (7.0%)	3.98	1.30
Clients' technical team disagreeing on the valuation of work done		72 (45.9%)	38 (24.2%)	19 (12.1%)	19 (12.1%)	9 (5.7%)	3.92	1.26
Clients' employees withholding the payment		38 (24.2%)	31 (19.7%)	56 (35.7%)	21 (13.4%)	11 (7.0%)	3.41	1.19

Source: Research data (2018)

4.4.6 Contractor Related Factors Causing Delayed Payments

Contractors' related factors that cause delayed payments were examined and findings reported as shown in Table 4.11. The respondents were also asked to state what contractor related factors cause delayed payments on a 5-level likert scale. Building contractors rating on contractor related factors causing delayed payments was at mean of 2.96 for contractor failure to understand contract agreement and at mean of 2.73 for contractor delaying in submitting claims. Building contractor submitting claims without adequate supporting documents was at mean of 2.70 while Contractor submitting claims with errors was rated at 2.66. Building contractors rating on contractor's failure to agree on the valuation of the work was rated at 2.62 and contractor's failure

to follow procedure in claims was rated at 2.60. Building contractor's failure in submitting corrected claim was rated low at 2.40.

Table 4.11 Contractor Related Factors Causing Delayed Payments

	To a very great extent	To a great extent	Moderate	To a little extent	Not at all	Mean	SD
Contractor's delay in submitting claims	20 (12.7%)	18 (11.5%)	42 (26.8%)	54 (34.4%)	23 (14.6%)	2.73	1.22
Contractor submits claims with errors	15 (9.6%)	14 (8.9%)	47 (29.9%)	65 (41.4%)	16 (10.2%)	2.66	1.09
Contractor submits claims without adequate supporting documents	21 (13.4%)	21 (13.4%)	31 (19.7%)	59 (37.6%)	25 (15.9%)	2.70	1.27
Contractor's failure in submitting a new (corrected) claim	14 (8.9%)	12 (7.6%)	38 (24.2%)	51 (32.5%)	42 (26.8%)	2.40	1.21
Contractors' failure to agree to the valuation of work	12 (7.6%)	23 (14.6%)	37 (23.6%)	64 (40.8%)	21 (13.4%)	2.62	1.12
Contractors' failure to follow the certain procedure / guidelines in claims	13 (8.3%)	27 (17.2%)	32 (20.4%)	55 (35.0%)	30 (19.1%)	2.60	1.21
Contractors' failure to understand the contract agreement	19 (12.1%)	34 (21.7%)	42 (26.8%)	46 (29.3%)	16 (10.2%)	2.96	1.19

Source: Research data (2018)

This agrees with the reviewed literature where more often, clients are blamed by building contractors for delayed payment; however, building contractors are partly to blame. This is common when contractor's application for payment has errors, lacks enough supporting documents and others are submitted without using the right procedures. This causes delay because the contractors have to revise and repeat the whole process of application for payments. According to

Artidi and Chotibongs (2005), failure by client and building contractor to agree with the valuation of work can lead to disputes which need to be solved through dispute resolution mechanisms which normally take a lot of time to be concluded.

4.4.7 Impacts of delayed payments

The study examined the impacts of delayed payments and the findings are as shown in Table 4.12.

Table 4.12 Impacts of delayed payments

	To a very great extent	To a great extent	Moderate	To a little extent	Not at all	Mea n	SD
Delay in project's progress	62 (39.5%)	63 (40.1%)	9 (5.7%)	18 (11.5%)	5 (3.2%)	4.01	1.10
Extension of time for the project	54 (34.4%)	68 (43.3%)	17 (10.8%)	15 (9.6%)	3 (1.9%)	3.99	1.01
Low quality works due to contractor's uncertain financial condition	34 (21.7%)	43 (27.4%)	58 (36.9%)	15 (9.6%)	7 (4.5%)	3.52	1.07
Abandonment of the project	19 (12.1%)	36 (22.9%)	52 (33.1%)	38 (24.2%)	12 (26.8%)	3.08	1.12
Creates negative relationship among parties	20 (12.7%)	42 (26.8%)	53 (33.8%)	36 (22.9%)	6 (3.8%)	3.21	1.06
Creates financial hardship for the company	83 (52.9%)	30 (19.1%)	18 (11.5%)	12 (7.6%)	14 (8.9%)	3.99	1.32
Subcontractors refuse to continue works on the project	60 (38.2%)	39 (24.8%)	26 (16.6%)	15 (9.6%)	17 (10.8%)	3.70	1.35

Source: Research data (2018)

The respondents were asked to state what contractor related factors cause delayed payments on a 5-level likert scale. Building contractors rating on contractor related factors causing delayed

payments was at mean of 2.96 for contractor failure to understand contract agreement and at mean of 2.73 for contractor delaying in submitting claims. Building contractor submitting claims without adequate supporting documents was at mean of 2.70 while Contractor submitting claims with errors was rated at 2.66. Building contractors rating on contractor's failure to agree on the valuation of the work was rated at 2.62 and contractor's failure to follow procedure in claims was rated at 2.60. Building contractor's failure in submitting corrected claim was rated low at 2.40. This concurs with reviewed literature where according to Ansah K. (2011), delayed payment can cause a delay in completion of projects and it can also lead to bankruptcy or liquidation, it can also lead to abandonment of projects, and it can also create negative social impacts.

4.5 Education and Training

The study sought to establish how the level of education and training influence the performance of building contractors in infrastructural development. The findings are as shown in Table 4.13. The respondents were asked to state the impacts of education and training on a 5-level likert scale. From the findings on education and training, having reliable project management knowledge to run their building construction companies and also having received training in project management areas of need to manage their companies was rated at a mean of 3.57 and 3.0 respectively. Building contractors reported that they experience challenges as a result of deficiency in project management knowledge as rated at 2.98. Building contractor having adequate training on construction technology to manage their construction companies was rated at 2.94. Training on procurement methods and also on use of current information communication and technology was rated at 2.55. Training on how to strategically plan and expand their business was rated at 2.52. This agrees with reviewed literature where research results have consistently found that training of organizations result into better company performance, even under different cultural settings (Leintz and Rea, 2012). It is expected that training programs offered to building contractors will lead to higher firm performance in construction industry for national economic development. Today's business environment can be characterized as turbulent and ever changing. The accelerated pace of advances in technology, increasing global competition, widespread and growing scarcity of jobs, and limited resource supplies have affected the way business is carried out. This complex and unstable environment is a way of life, which will continue far into the future (Leintz and Rea, 2012). Training should be designed to meet the goals of the organization while simultaneously meeting the goals of individual employees (saleemi, 2009).

Table 4.13 Education and Training

	To a very great extent	To a great extent	Moderat e	To a little extent	Not at all	Mea n	SD
I have reliable project management knowledge to run my building construction company.	31 (19.7%)	56 (35.7%)	49 (31.2%)	14 (8.9%)	7 (4.5%)	3.57	1.05
I have received training in project management areas of need to manage my building construction company	19 (12.1%)	36 (22.9%)	44 (28.0%)	42 (26.8%)	16 (10.2%)	3.00	1.18
I experience challenges as a result of deficiency in project management knowledge.	14 (8.9%)	40 (25.5%)	48 (30.6%)	39 (24.8%)	16 (10.2%)	2.98	1.12
I have adequate training on construction technology to manage my construction company.	19 (12.1%)	33 (21.0%)	42 (26.8%)	46 (29.3%)	17 (10.8%)	2.94	1.19
I am trained on procurement methods and how to compete for tenders for my building construction company	14 (8.9%)	24 (15.3%)	29 (18.5%)	58 (36.9%)	32 (20.4%)	2.55	1.22
I am trained on how to strategically plan and expand my business.	18 (11.5%)	22 (14.0%)	24 (15.3%)	52 (33.1%)	41 (26.1%)	2.52	1.32

I am trained on use of current information communication and technology in running my building company.	14 (8.9%)	30 (19.1%)	27 (17.2%)	43 (27.4%)	43 (27.4%)	2.55	1.3 1
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Source: Research data (2018)

4.6 Community Participation

The study examined the level of community participation in all stages of project cycle and the findings are shown in Table 4.14.

Table 4.14 Community Participation

	To a very great extent	To a great extent	Moderate	To a little extent	Not at all	Mean	SD
Project planning	14 (8.9%)	24 (15.3%)	45 (28.7%)	48 (30.6%)	26 (16.6%)	2.69	1.1 8
Project implementation	17 (10.8%)	29 (18.5%)	46 (29.3%)	47 (29.9%)	18 (11.5%)	2.87	1.1 7
Project monitoring and evaluation	9 (5.7%)	23 (14.6%)	41 (26.1%)	55 (35.0%)	29 (18.5%)	2.54	1.1 2

Source: Research data (2018)

The respondents were asked to state how community participation is carried out at different stages of the project on a 5-level likert scale. From the findings on participation of the community at various stages of the project, building contractors rated level of community participation at project implementation stage at a mean of 2.87. They rated the level of community participation at project planning stage at a mean of 2.69 and also rated the level of community participation at project monitoring and evaluation at a mean of 2.54. This agrees with reviewed literature where according to Baum (1988), project idea and possible solution should originate from initiatives by local people. According to World Vision (2015), one of the main rules and regulations in its programmes and projects is that local people should be involved in the identification of development activities. These include all efforts to involve the local community in identifying their own problems, setting priorities on projects and programmes that will solve the problems and

coming up with project interventions that may help solve some of the challenges. A participatory process allows participants to attend, contribute to the discussion, challenge and defend each other's claims, and finally decide or influence the outcomes. All these can restore trust in the decision making process (Baum, 1988).

4.7 Building contractor performance

Building contractors were asked to state on the financial performance of their companies and the responses were as shown in Table 4.75.

Table 4.75 Building contractor performance

	To a very great extent	To a great extent	Moderat e	To a little extent	Not at all	Mea n	SD
I am satisfied with the growth rate of my building construction company	32 (20.4%)	56 (35.7%)	44 (28.0%)	18 (11.5%)	7 (4.5%)	3.56	1.08
I consider my building construction company profitable and growing.	27 (17.2%)	54 (34.4%)	52 (33.1%)	16 (10.2%)	8 (5.1%)	3.48	1.05
I consider my building construction company stagnated and not growing.	6 (3.8%)	14 (8.9%)	20 (12.7%)	70 (44.6%)	47 (29.9%)	2.12	1.06
I consider my building construction company collapsing.	7 (4.5%)	12 (7.6%)	6 (3.8%)	31 (19.7%)	101 (64.3%)	1.68	1.13

Source: Research data (2018)

The respondents were asked to state how their building construction companies were performing on a 5-level likert scale. From the findings on general performance of their building construction companies, contractors reported that they were satisfied with the growth rate of their building construction companies by a rating of a mean of 3.56. They also considered their building construction companies profitable and growing as rated with a mean of 3.48. Those who considered their building construction companies stagnated and not growing were rated at 2.12 while those who considered their building construction companies collapsing were rated at 1.68.

4.8 Findings from the Project Technical team members

Another set of questionnaire was administered to the project technical team members. These were public works officers who are involved in day to day running of building projects in Nakuru County. The project technical team comprises Director Public works, County Architect, County Quantity Surveyor, County Structural Engineer, County Electrical Engineer, County Mechanical Engineer and 11 Sub county works officers from the department of public works.

4.8.1 Gender of Project technical Team

The study sought to establish the gender of the project technical team members and the findings are as shown in Table 4.16.

Table 4.16 Gender of Project technical Team

	Frequency	Percent
Male	16	88.9
Female	2	11.1
Total	18	100.0

Source: Research data (2018)

The findings established that 16 (88.9%) out of 18 technical team members who participated in the study are male while 2 (11.1) were female. This can be attributed to the technical nature of the work which attracts more males than females.

4.8.2 Age of Project technical team members

Table 4.17 Age of Project technical team members

	Frequency	Percent
29 Years and Below	0	0.0
30-39 years	5	27.8
40-49 years	13	72.2
Over 50 Years	0	0
Total	18	100.0

Source: Research data (2018)

From the findings, 13 (72.2%) of technical team members are over 40 years old. Technical officers below the age of 39 years are 5 (27.8%). This suggests that there are well experienced technical officers in Nakuru County who could also give reliable information in the questionnaire.

4.8.3 Education level of project technical team members

The study examined the level of education of the respondents and the results are as shown in Table 4.18.

Table 4.18 Education level of project technical team members

	Frequency	Percent
College Education	8	44.4
University Degree	9	50.0
Master Degree	1	5.6
Total	18	100.0

Source: Research data (2018)

From the findings it was established that 8 (44.4%) of technical officers have college education while those with university education are 9 (50.0%). 1 (5.6) team member has Post graduate master education. This suggests that there are well educated technical officers in Nakuru County who could also give reliable information in the questionnaire.

4.8.4 Area of Specialization

The study sought to establish the area of specialization from the project technical team members and the findings are as shown in Table 4.19.

Table 4.19 Area of specialization

	Frequency	Percent
Architectural	1	5.6
Quantity surveying	3	16.7
Civil Engineering	8	44.4
Mechanical Engineering	2	11.1
Electrical engineering	4	22.2
Total	18	100.0

Source: Research data (2018)

From the findings, majority who are 8 (44.4%) of technical team members have studied civil / structural engineering and building technology. The respondents reported that 4 (22.2%) have studied electrical engineering while 3 (16.7%) have studied quantity surveying. Those who have studied Mechanical engineering are 2 (11.1%) while 1(5.6%) have studied architectural. This suggests that there is a need to employ more Architects, Quantity Surveyors and Mechanical engineers in Nakuru County.

4.8.5 Experience in the current position

The study examined the level of experience of the project technical team members and the results are as shown in Table 4.20.

Table 4.20 Experience in the current position

	Frequency	Percent
Less than 5 years	2	11.1
5-9 Years	4	22.2
10-14 years	1	5.6
15 - 19 years	3	16.7
Over 20 years	8	44.4
Total	18	100.0

Source: Research data (2018)

From the findings, majority of technical team members have been working for over 5 years with only 2 (11.1%) having worked for less than 5 years. This suggests that there are well experienced technical officers in Nakuru County who could also give reliable information in the questionnaire.

4.9 Intervals of application for payment by Building contractors

The study sought to determine the intervals at which building contractors apply for payment and the findings are as shown in Table 4.21.

Table 4.21 Intervals of application for payment by Building contractors

	Frequency	Percent
Monthly	1	5.6
Depending on progressive performance	16	88.9
Any other	1	5.6
Total	18	100.0

Source: Research data (2018)

From the findings, majority who are 16 (88.9%) of technical team members reported that most building contractors apply for payments depending on progressive performance.

4.9.1 Causes of delayed payments

The study sought to establish the causes of delayed payments as shown in Table 4.22. From the findings, technical team members rated client related factors as the main cause of delayed payments are shown with the mean of 3.50. Contractor related factors were rated second with a mean of 3.44 while factors related to contractual matters were rated at a mean of 3.17.

Table 4.22 Causes of delayed payments

	To a very great extent	To a great extent	Moderate	To a little extent	Not at all	Mean	SD
Contractor- related factors	3 (16.7%)	7 (38.9%)	4 (22.2%)	3 (16.7%)	1 (5.6%)	3.44	1.15
Client-related factors	5 (27.8%)	4 (22.2%)	4 (22.2%)	5 (27.8%)	0 (0.0%)	3.50	1.20
Factors related to contractual matters	3 (16.7%)	4 (22.2%)	5 (27.8%)	5 (27.8%)	1 (5.6%)	3.17	1.20

Source: Research data (2018)

4.9.2 Client related factors causing delayed payments

The study examined on client related factors that cause delayed payments and the findings were as shown from the Table 4.23.

Table 4.23 Client related factors causing delayed payments

	To a very great extent	To a great extent	Moderate	To a little extent	Not at all	Mean	SD
Clients' 'poor financial management	4 (22.2%)	5 (27.8%)	3 (16.7%)	2 (11.1%)	3 (16.7%)	3.17	1.50
Clients' poor financial sources/condition	2 (11.1%)	7 (38.9%)	4 (22.2%)	2 (11.1%)	3 (16.7%)	3.17	1.29
Clients' technical team delay in certification	1 (5.6%)	6 (33.3%)	2 (11.1%)	6 (33.3%)	3 (16.7%)	2.78	1.26
Clients' technical team disagreeing on the valuation of work done	0 (0.0%)	4 (22.2%)	2 (11.1%)	6 (33.3%)	6 (33.3%)	2.22	1.17
Clients' employees wrongfully withholding the payment	2 (11.1%)	3 (16.7%)	5 (27.8%)	2 (11.1%)	6 (33.3%)	2.61	1.42

Source: Research data (2018)

From the findings, technical team members rated clients' poor financial management and clients' poor financial condition as the main client related factors causing delayed payment at a mean of 3.17. Client's technical team delay in certification of payments and clients employees wrongfully withholding payment were rated at 2.78 and 2.61 respectively. Client's technical team disagreeing on valuation of work done was rated at 2.22.

4.9.3 Contractor related factors causing delayed payments

The study sought to examine on contractor related factors that cause delayed payments and the findings were as shown in Table 4.24.

Table 4.24 Contractor related factors causing delayed payments

	To a very great extent	To a great extent	Moderate	To a little extent	Not at all	Mean	SD
Contractor's delay in submitting claims	3 (16.7%)	7 (38.9%)	2 (11.1%)	5 (27.8%)	1 (5.6%)	3.33	1.24
Contractor submits claims with errors	1 (5.6%)	5 (27.8%)	7 (38.9%)	4 (22.2%)	1 (5.6%)	3.06	1.00
Contractor submits claims without adequate supporting documents	4 (22.2%)	6 (33.3%)	6 (33.3%)	1 (5.6%)	1 (5.6%)	3.61	1.09
Contractor's failure in submitting a new (corrected) claim	2 (11.1%)	6 (33.3%)	7 (38.9%)	2 (11.1%)	1 (5.6%)	3.33	1.03
Contractors' failure to agree to the valuation of work	2 (11.1%)	5 (27.8%)	6 (33.3%)	2 (11.1%)	3 (16.7%)	3.06	1.26
Contractors' failure to follow the certain procedure / guidelines in claims	2 (11.1%)	6 (33.3%)	4 (22.2%)	4 (22.2%)	2 (11.1%)	3.11	1.23
Contractors' failure to understand the contract agreement	2 (11.1%)	3 (16.7%)	9 (50.0%)	2 (11.1%)	2 (11.1%)	3.06	1.11

Source: Research data (2018)

From the findings, on contractor related factors causing delayed payments, technical team members rated contractor submitting claims without adequate supporting documents as the main cause of delayed payments at a mean of 3.61. Contractors delay in submitting claims and contractor's failure to submit corrected claims were both rated at a mean of 3.33. Contractor's failure to follow certain procedure / guidelines in claims was rated at a mean of 3.11. Contractors submitting claims with errors, contractor's failure to agree on the valuation of the work and contractor's failure to understand the contract agreement were all rated at 3.06.

4.9.4 Impacts of delayed payment

The study examined the impacts of delayed payments and the findings are as shown in Table 4.25.

Table 4.25 Impacts of delayed payment

	To a very great extent	To a great extent	Moderate	To a little extent	Not at all	Mean	SD
Delay in project's progress	9 (50.0%)	7 (38.9%)	1 (5.6%)	1 (5.6%)	0 (0.0%)	4.33	0.84
Extension of time for the project	5 (27.8%)	6 (33.3%)	5 (27.8%)	2 (11.1%)	0 (0.0%)	3.78	1.00
Low quality works due to contractor's uncertain financial condition	1 (5.6%)	6 (33.3%)	8 (44.4%)	1 (5.6%)	2 (11.1%)	3.17	1.04
Abandonment of the project	6 (33.3%)	5 (27.8%)	5 (27.8%)	2 (11.1%)	0 (0.0%)	3.83	1.04
Creates negative relationship among parties	5 (27.8%)	8 (44.4%)	1 (5.6%)	3 (16.7%)	1 (5.6%)	3.72	1.23
Creates financial hardship for the company	9 (50.0%)	8 (44.4%)	1 (5.6%)	0 (0.0%)	0 (0.0%)	4.39	0.78
Subcontractors refuse to continue works on the project	8 (44.4%)	6 (33.3%)	4 (22.2%)	0 (0.0%)	0 (0.0%)	4.22	0.81

Source: Research data (2018)

From the findings on impacts of delayed payments, the technical team members reported that it creates financial hardship for the company which was rated at a mean of 4.39. It causes delay in project progress and also subcontractors refuse to continue on the project which was rated at mean of 4.33 and 4.22 respectively. The technical team rated abandonment of the project and extension of time at a mean of 3.83 and 3.78 respectively. They also rated creation of negative relationship among parties and low quality workmanship due to contractor uncertain financial condition at a mean of 3.72 and 3.17 respectively. The technical team members reported that delayed payments creates financial hardship for the company and also led to extension of time which was rated at 3.99. Subcontractor refusing to continue with work was rated at a mean of 3.70 while low quality works due to contractor's uncertain financial condition was rated at 3.52. Other impacts of delayed payments are creating negative relationship among parties and also abandonment of the project which were rated at 3.21 and 3.08 respectively. The rating on impacts of delayed payments concurs to a great extent with the ratings given by the building contractors.

4.10 Education and training

The study sought to establish how the level of education and training influence the performance of building contractors in infrastructural development. The findings are as shown in Table 4.13. From the findings on education and training, the technical team members reported that building contractors experience challenges as a result of deficiency in project management knowledge which was rated at 3.78. They also reported that contractors have reliable project management knowledge to run construction projects which was rated at a mean of 3.11. The technical team members reported that training on procurement methods and also on construction technology to manage construction projects were rated at 3.06 and 2.94 respectively. Training on how to strategically plan and expand their construction companies was rated at a mean of 2.83. The technical team members rated contractors having adequate training in project management and also training on information communication and technology at 2.56. This concurs to a great extent with the response from building contractors who also rated education and training low and thus there is need to do regular training through continuous professional development especially on emerging new trends in the construction industry.

Table 4.26 Education and training

	To a very great extent	To a great extent	Modera te	To a little extent	Not at all	Mean	SD
Building contractors have reliable project management knowledge to run construction projects.	2 (11.1%)	3 (16.7%)	8 (44.4%)	5 (27.8%)	0 (0.0%)	3.11	0.96
Building contractors have adequate training in project management	1 (5.6%)	1 (5.6%)	7 (38.9%)	7 (38.9%)	2 (11.1%)	2.56	0.98
Building contractors experience challenges as a result of deficiency in project management knowledge.	4 (22.2%)	8 (44.4%)	4 (22.2%)	2 (11.1%)	0 (0.0%)	3.78	0.94
Building contractors have adequate training on construction technology to manage construction projects.	1 (5.6%)	4 (22.2%)	7 (38.9%)	5 (27.8%)	1 (5.6%)	2.94	1.00
Building contractors are adequately trained on procurement methods and how to compete for tenders in projects.	1 (5.6%)	4 (22.2%)	8 (44.4%)	5 (27.8%)	0 (0.0%)	3.06	0.87
Building contractors are adequately trained on how to strategically plan and expand their construction companies.	1 (5.6%)	2 (11.1%)	9 (50.0%)	5 (27.8%)	1 (5.6%)	2.83	0.92
Building contractors are adequately trained on use	0 (0.0%)	3 (16.7%)	7 (38.9%)	2 (11.1%)	0 (0.0%)	2.56	0.92

of current information communication and technology in running building projects.

Source: Research data (2018)

4.11 Community Participation

The study examined the level of community participation in all stages of project cycle and the findings are as shown in Table 4.27.

Table 4.27 Community Participation

	To a very great extent	To a great extent	Moderate	To a little extent	Not at all	Mean	SD
Project identification	2 (11.1%)	8 (44.4%)	6 (33.3%)	2 (11.1%)	0 (0.0%)	3.56	0.86
Project planning	1 (5.6%)	1 (5.6%)	4 (22.2%)	9 (50.0%)	3 (16.7%)	2.33	1.03
Project implementation	1 (5.6%)	2 (11.1%)	7 (38.9%)	8 (44.4%)	0 (0.0%)	2.78	0.88
Project monitoring and evaluation	1 (5.6%)	1 (5.6%)	9 (50.0%)	7 (38.9%)	0 (0.0%)	2.78	0.81

Source: Research data (2018)

From the findings on participation of the community at various stages of the project, the technical team members rated level of community participation at project identification stage at a mean of 3.56. Community participation at project implementation stage and also at project monitoring and evaluation was rated at a mean of 2.78. The technical team members rated the level of community participation at project planning stage at a mean of 2.33. From the technical team members' ratings, it can be shown that the level of community participation at all stages of project cycle is low. This also agrees to a great extent with the low rating on level of community participation by the building contractors.

4.12 Inferential Analysis

The section shows the nature of relationships based on inferential analysis of the study variables. This was established by computing both correlation analysis and regression analysis.

4.13 Correlation Analysis

In order to test for the relationship between independent variables, the study performed a co linearity tests between the variables as shown on the results in Table 4.28.

Table 4.28 Correlation Analysis

		Access to credit	Client and technical	Education and training	Community participation	Contractor performance
Access to credit	Pearson Correlation	1	.173*	.235*	.373**	.489**
	Sig. (2-tailed)		.001	.000	.000	.000
	N	157	157	157	157	157
Timely payment by Client and input from technical team	Pearson Correlation		1	.057	-.036	.254**
	Sig. (2-tailed)			.476	.656	.001
	N		157	157	157	157
Education and training	Pearson Correlation			1	.489**	.325**
	Sig. (2-tailed)				.000	.000
	N			157	157	157
Community participation	Pearson Correlation				1	
	Sig. (2-tailed)					.373**
	N				157	.000
Contractor performance	Pearson Correlation					1
	Sig. (2-tailed)					
	N					157

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

The Pearson correlation analysis results in Table 4.28 shows that there was a positive and significant correlation between access to credit and performance of building contractors ($r = 0.489$, $p < 0.05$). Similarly, positive and significant correlation was observed between timely payments by clients and timely input from project technical team members and building contractor's performance in infrastructural development where ($r = 0.254$ $p < 0.05$) and education and training of contractors ($r = 0.325$, $p < 0.05$) and community participation in projects ($r = 0.373$ $p < 0.05$). This shows that all the four factors had positive and significant correlation with building contractor's performance in infrastructural development.

4.14 Regression Analysis

The general purpose of multiple regression is to learn more about the relationship between several independent or predictor variables and a dependent or criterion variable. It is used to make predictions on criterion variable based on changes in the predictor variables. In this study the average scores of the criterion variables (access to credit, timely payment by client and input from technical team, education and training and Community participation) were subjected to multiple regression analysis against the average score on building contractor performance in infrastructural development. The results of regression analysis were presented on Table 4.29 – 4.31.

Table 4.29: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.658 ^a	.433	.412	.61218

a. Predictors: (Constant), Community participation, Timely payment by Client and input from technical team, access to credit, Education and training

The coefficient of determination (R^2) explains the extent to which changes in the dependent variable can be explained by the change in the independent variables or the percentage of variation in the dependent variable that is explained by all independent variables. The regression model summary on in Table 4.29 shows $R^2 = 0.433$ which implied that 43.3% of the variations in the performance of contractors in infrastructural development can be explained by their access to capital, timely payment and technical input, education and training and community participation in projects.

Table 4.30: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2.797	.408		6.848	.000
	Access to credit	.422	.073	.328	4.307	.019
	Timely payment by Client and input from technical team	.385	.087	.342	3.970	.033
	Education and training	.315	.067	.272	3.232	.017
	Community participation	.261	.057	.231	2.461	.039

a. Dependent Variable: Building contractor performance in infrastructural development

The beta coefficients on Table 4.11 shows that holding all other factors constant at zero a unit increment in access to credit by building contractors would result to an increment of 0.422 times in their performance in infrastructural development which is significant at $p < 0.05$. This implies that access to capital is the most significant aspect in enhancing contractor performance in infrastructural development. Furthermore, holding all other factors constant at zero, a unit improvement in Timely payment by Clients and input from technical team would result to 0.397 times improvement in contractor performance in infrastructural development which is significant at $p < 0.05$. The regression results further revealed that holding all other factors constant at zero, a unit improvement in education and training of contractors would lead to 3.232 times improvement in contractor performance in infrastructural development which was also statistically significant at $p < 0.05$. Finally, the study revealed that holding all other factor constant at zero a unit change in the level of community participation in project would enhance contractor performance in infrastructural development by 0.261 times at significance level $p < 0.05$.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter contains a summary of findings, discussion of the results and conclusions drawn from the study as well as the recommendations based on the study findings. The study sought to establish the factors that influence the performance of building contractors in infrastructural development in Nakuru County and give appropriate recommendations. The findings sought to answer the research questions of the study which were to examine how access to credit and loan facilities; level of education and training; timely payments by clients and input from technical team; and how community participation influence on building contractors' performance in infrastructural development in Nakuru County. The chapter also presents suggestions for further study.

5.2 Summary of findings

The findings established that 136 (86.6%) out of 157 building contractors who participated in the study are male while 21 (13.4%) were female. From the findings, majority of building contractors are over 40 years old with 62 (39.5%) being between the age of 40-49 years and 42 (26.8%) being above 50 years old. Young contractors below the age of 29 years are 19 (12.1%). From the findings, 91 (58%) of building contractors have college education while those with university education are 37 (23.6%). Building contractors with high school education are 25 (15.9%). From the findings, majority of building contractors companies have been in operation for over 5 years with only 36 (22.9%) being in operation for less than 5 years. From the findings, 107 (68.2%) of building contractors companies are registered as limited companies. The data indicated that 21 (13.4%) are registered as sole proprietorship. From the findings, 127 (80.9%) of building contractors reported that they apply for payments depending on progressive performance while 26 (16.6%) reported that they apply for payments on monthly basis.

From the findings building contractors reported that their main source of capital for running projects to be from credit from suppliers of building materials with a mean rating of 3.88 which was followed by hiring and leasing of construction equipment with a mean rating of 3.84. The other main source of capital for running projects is loan from banks which was rated at a mean of 3.73. Personal savings and sale of assets had a mean of 3.13 and 2.41 respectively. From the findings building contractors reported that challenges of cash flow are mainly caused by delay in payments by the client and also by high interest rates from banks which were both rated at a mean of 4.18. Other causes of cash flow problems are credit arrangements with suppliers and also hiring of plant and equipment which were rated at mean of 3.15 and 3.06 respectively. From the findings building

contractors reported that delayed payments are mainly caused by client related factors as reported by mean of 4.05 and they are also caused by factors related to contractual matters as reported by a mean of 3.71. Building contractors related factors are less likely to cause delayed payments as reported by a mean of 2.5. The major client related factors causing delayed payments are delay in certification by client technical team and also client's technical team disagreeing with the valuation of work done as reported with mean of 3.98 and 3.92 respectively. Client's poor financial management and client's poor financial condition contributed at a mean rating of 3.76 and 3.71 respectively. Client's employees withholding payment was rated the least factor with a mean of 3.41.

Building contractors rating on contractor related factors causing delayed payments was at mean of 2.96 for contractor failure to understand contract agreement and at mean of 2.73 for contractor delaying in submitting claims. Building contractor submitting claims without adequate supporting documents was at mean of 2.70 while Contractor submitting claims with errors was rated at 2.66. Building contractors rating on contractor's failure to agree on the valuation of the work was rated at 2.62 and contractor's failure to follow procedure in claims was rated at 2.60. Building contractor's failure in submitting corrected claim was rated low at 2.40. From the findings on impacts of delayed payments, building contractors rated delay in project progress at mean of 4.01. They reported that it creates financial hardship for the company and also lead to extension of time which was rated at 3.99. A subcontractor refusing to continue with work was rated at a mean of 3.70 while low quality works due to contractor's uncertain financial condition was rated at 3.52. Other impacts of delayed payments are creating negative relationship among parties and also abandonment of the project which were rated at 3.21 and 3.08 respectively.

From the findings on education and training, having reliable project management knowledge to run their building construction companies and also having received training in project management areas of need to manage their companies was rated at a mean of 3.57 and 3.0 respectively. Building contractors reported that they experience challenges as a result of deficiency in project management knowledge as rated at 2.98. Building contractor having adequate training on construction technology to manage their construction companies was rated at 2.94. Training on procurement methods and also on use of current information communication and technology was rated at 2.55. Training on how to strategically plan and expand their business was rated at 2.52.

From the findings on participation of the community at various stages of the project, building contractors rated level of community participation at project implementation stage at a mean of 2.87. They rated the level of community participation at project planning stage at a mean of 2.69 and also rated the level of community participation at project monitoring and evaluation at a mean of 2.54. From the findings on general performance of their building construction companies,

contractors reported that they were satisfied with the growth rate of their building construction companies by a rating of a mean of 3.56. They also considered their building construction companies profitable and growing as rated with a mean of 3.48. Those who considered their building construction companies stagnated and not growing were rated at 2.12 while those who considered their building construction companies collapsing were rated at 1.68.

The findings established that 16 (88.9%) out of 18 technical team members who participated in the study are male while 2 (11.1) were female. From the findings, 13 (72.2%) of technical team members are over 40 years old. Technical team members below the age of 39 years are 5 (27.8%). From the findings 8 (44.4%) of technical officers have college education while those with university education are 9 (50.0%). The findings show that 1 (5.6) team member has Post graduate master education. From the findings, majority who are 8 (44.4%) of technical team members have studied civil / structural engineering and building technology. From the findings 4 (22.2%) have studied electrical engineering while 3 (16.7%) have studied quantity surveying. Those who have studied Mechanical engineering are 2 (11.1%) while 1(5.6%) have studied architectural. From the findings, majority of technical team members have been working for over 5 years with only 2 (11.1%) having worked for less than 5 years.

From the findings, majority who are 16 (88.9%) of technical team members reported that most building contractors apply for payments depending on progressive performance. From the findings, technical team members rated client related factors as the main cause of delayed payments as shown with the mean of 3.50. Contractor related factors were rated second with a mean of 3.44, while factors related to contractual matters were rated at a mean of 3.17. From the findings, technical team members rated clients' poor financial management and clients' poor financial condition as the main client related factors causing delayed payment at a mean of 3.17. Client's technical team delay in certification of payments and clients employees wrongfully withholding payment were rated at 2.78 and 2.61 respectively. Client's technical team disagreeing on valuation of work done was rated at 2.22.

From the findings, on contractor related factors causing delayed payments, technical team members rated contractor submitting claims without adequate supporting documents as the main cause of delayed payments at a mean of 3.61. Contractors delay in submitting claims and contractor's failure to submit corrected claims were both rated at a mean of 3.33. Contractor's failure to follow certain procedure / guidelines in claims was rated at a mean of 3.11. Contractors submitting claims with errors, contractor's failure to agree on the valuation of the work and contractor's failure to understand the contract agreement were all rated at 3.06. From the findings on impacts of delayed payments, the technical team members reported that it creates financial hardship for the company which was rated at a mean of 4.39. Other impacts of delayed payments

are that it causes delay in project progress and subcontractors refuse to continue on the project which was rated at mean of 4.33 and 4.22 respectively. The technical team rated abandonment of the project and extension of time at a mean of 3.83 and 3.78 respectively. They also rated creation of negative relationship among parties and low quality workmanship due to contractor uncertain financial condition at a mean of 3.72 and 3.17 respectively. The technical team members reported that delayed payments creates financial hardship for the company and also led to extension of time which was rated at 3.99. Subcontractor refusing to continue with work was rated at a mean of 3.70 while low quality works due to contractor's uncertain financial condition was rated at 3.52. Other impacts of delayed payments are creating negative relationship among parties and also abandonment of the project which were rated at 3.21 and 3.08 respectively.

From the findings on education and training, the technical team members reported that contractors experience challenges as a result of deficiency in project management knowledge which was rated at 3.78. They also reported that contractors have reliable project management knowledge to run construction projects which was rated at a mean of 3.11. The technical team members reported that training on procurement methods and on construction technology to manage construction projects were rated at 3.06 and 2.94 respectively. Training on how to strategically plan and expand their construction companies was rated at a mean of 2.83. The technical team members rated contractors having adequate training in project management and training on information communication and technology equally at a mean of 2.56.

From the findings on participation of the community at various stages of the project, the technical team members rated level of community participation at project identification stage at a mean of 3.56. Community participation at project implementation stage and also at project monitoring and evaluation were rated equally at a mean of 2.78. The technical team members rated the level of community participation at project planning stage at a mean of 2.33.

5.3 Conclusions of the study

The study sought to establish the factors that influence the performance of building contractors in infrastructural development in Nakuru County and give appropriate recommendations. In regard to how access to credit and loan facilities influence on building contractors' performance in infrastructural development in Nakuru County, it can be concluded that there is a positive relationship between availability of credit and performance of building projects. Building projects require a lot of capital to operate and most building contractors rely on getting credit from suppliers of building materials and also by getting loans from financing institutions. Majority of building contractors reported that their main source of capital for running building projects is credit from building materials suppliers as rated with a mean of 3.88. The second source of capital for running building projects was from hiring and leasing of construction equipment as

rated with a mean of 3.84. Building contractors reported that the other source of capital for running building projects is loan from the banks as rated with a mean of 3.73. Sale of assets as a source of capital for running building projects was rated low at a mean of 2.41. Building contractors reported that cash flow problems are mainly caused by high interest rates from banks and also by delay in payments from client as rated by mean of 4.18. Building contractors reported that delayed payments are mainly caused by client related factors as rated with a mean of 4.05 while contractor related factors were rated low at 2.50. The main client related factors that cause delayed payments are delay in certification from technical team and also by technical team disagreeing on valuation of work done which were rated at a mean of 3.98 and 3.92 respectively. Other client related factors that cause delayed payments are client's poor financial management and also client's poor financial condition as rated with a mean of 3.76 and 3.71 respectively. Delayed payment leads to delay in projects progress as shown with the mean of 4.01. Other impacts of delayed payments are creating financial hardship for the building contractor and it also leads to extension of construction period as rated with the mean of 3.99. Additional impacts of delayed payments are subcontractors refusing to continue with the project and also having low quality works due to contractor's uncertain financial condition as rated with a mean of 3.70 and 3.52 respectively.

In regard to how the level of education and training influence on building contractors' performance in infrastructural development in Nakuru County it can be concluded that there is a positive relationship between level of education and training and performance of building projects. Building contractors having reliable project management knowledge to run their building construction companies was rated at 3.57 while having received training in project management areas of needs to manage their building construction companies was rated at 3.0. Building contractors reported that they experience challenges as a result of deficiency in project management knowledge as rated with a mean of 2.98. A small number of building contractors reported to have been trained on procurement methods and how to compete for tenders for their building construction companies as rated with a mean of 2.55. Few building contractors reported that they have been trained on use of current information communication and technology in running their building companies as shown with a mean of 2.55. It is just a small number of building contractors who reported to have been trained on how to strategically plan and expand their construction companies as rated with a mean of 2.52.

In regard to how timely payments by clients and timely input from project technical team members influence on building contractors' performance in infrastructural development in Nakuru County, it can be concluded that there is a positive relationship between timely input from both clients and technical project team members and performance of building projects. The main client related factors that cause delayed payments are delay in certification from technical team and also

by technical team disagreeing on valuation of work done which were rated at a mean of 3.98 and 3.92 respectively. Other client related factors that cause delayed payments are client's poor financial management and also client's poor financial condition as rated with a mean of 3.76 and 3.71 respectively. Client's employee withholding payment also causes delayed payment and was rated at a mean of 3.41.

In regard to how community participation influence on building contractors' performance in infrastructural development in Nakuru County, it can be concluded that there is a positive relationship between community participation and performance of building projects. Building contractors reported that community participation should be enhanced. The level of community participation at all stages of project development was low as shown by a mean of 2.87 for project implementation stage, a mean of 2.69 for project planning stage and a mean of 2.54 for project monitoring and evaluation stage.

5.4 Recommendations

The following recommendations can be made from the study:

The government should create policies that support easy access to credit and loan facilities for building contractors.

Regular education and training should be facilitated to the building contractors. This can be done through short courses, seminars and workshop on emerging issues affecting the building contractors.

Client should hasten the processing of payment to building contractors. The technical team should promptly issue necessary documents, drawings and site instructions to building contractors. Regular site inspections and meetings should be carried out so as improve team work between the client technical team and the building contractors.

The level of community participation was noted to be low and should be enhanced at all stages of the project. Community participation was noted to be relatively higher at project implementation stage and low at project planning stage and also at project monitoring and evaluation stage. Community participation has a positive impact on success of a project and all stakeholders including the project users should be involved in site meetings and site inspections.

5.5 Suggestions for further research

This study focused on factors influencing the performance of Building Contractors in infrastructural development in Nakuru County, Kenya. From the study it can be suggested that research be carried out in the following areas:

1. There is need for research to be carried out on other main categories of contractors like Roads and civil works contractors.

2. Addition research on specialized works subcontractors like Electrical subcontractors and Mechanical works subcontractors should be done.
3. Further research should also be carried out in other counties who may be operating at a different business environment.
4. Another study should be conducted on others counties for generalization of findings among all contractors in Kenya.

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APPENDICES

Appendix i: Letter of Transmittal

Dear Sir/Madam

RE: RESEARCH PROJECT

I am a postgraduate student currently undertaking research, for Master in Project Planning and Management, at University of Nairobi. My topic of research is; Factors influencing the performance of Building Contractors in infrastructural development in Nakuru County, Kenya.

I am collecting information to be used for my project which is a partial fulfillment of the requirements for Master in Project Planning and Management, at University of Nairobi. Your participation is essential to this study and will enhance knowledge on Factors influencing the performance of Building Contractors in infrastructural development in Nakuru County and also make a valuable contribution to research. The information will be treated in total confidence and is purely for academic purposes. Your assistance and cooperation is highly appreciated.

Your's faithfully,

ISAAC M. KIBAARA

Tel: 0721660066

Email: imkibaara@yahoo.com

MPPM STUDENT

Appendix ii: Research Questionnaire for Building contractors

Introduction

The purpose of this questionnaire is to enable the researcher obtain information about the factors influencing the performance of building contractors in infrastructural development in Nakuru county, Kenya. You are kindly requested to participate in the study by filling all the questions. Your independent view is required and your co-operation is highly appreciated. The researcher guarantees maximum confidentiality. Do not write your name or the name of your building construction Company anywhere in the questionnaire. The information you'll provide will help improve the performance of the building construction sector in Nakuru County.

Instructions

Indicate the correct option by inserting a tick (√) in the appropriate box provided.

Section A: Background information

1. What is your gender? *(Tick as appropriate)*

Male

Female

2. Which is your age bracket?

29 years and below

30-39 years

40-49 years

Over 50 years

3. What's your highest level of education?

Secondary School

College education

University degree

Any other (please specify)

4. When was your company started?

less than 5 years ago

5-9 years ago

10-14 years ago

15-19 years ago

Over 20 years ago

5) What is the type of business ownership of your organization?

Limited company

Partnership

Sole proprietorship

Any other (specify)

Section B: Access to credit and loan facilities

6 At what intervals do you apply for payments to the client?

Monthly basis

Depending on progressive performance

Any other (please specify)

7) What is your source of capital for running projects? *(Tick as appropriate)*

	To a very great extent	To a great extent	Moderate	To a little extent	Not at all
Loan from bank					
Personal saving					

Credit from building materials suppliers					
Hiring and leasing of equipment					
Sale of assets					
Other (specify)					

8) How do the following factors contribute to cash flow problems? (*Tick as appropriate*)

	To a very great extent	To a great extent	Moderate	To a little extent	Not at all
High interest rates from banks					
Delay in payments by the client					
Credit arrangement with suppliers					
Hiring of plant and equipment					

Section C: Clients and technical input from project team members

9. What causes delayed payment? (*Tick as appropriate*)

	To a very great extent	To a great extent	Moderate	To a little extent	Not at all
Contractor-related factors					
Client-related factors					
Factors related to contractual matters					

10 What Client-related factors cause delayed payments? (*Tick as appropriate*)

	To a very great extent	To a great extent	Moderate	To a little extent	Not at all
Clients 'poor financial management					
Clients' poor financial condition					
Delay in certification from clients technical team					
Clients' technical team disagreeing on the valuation of work done					
Clients' employees withholding the payment					

11. What Contractor-related factors cause delayed payments? *(Tick as appropriate)*

	To a very great extent	To a great extent	Moderate	To a little extent	Not at all
Contractor's delay in submitting claims					
Contractor submits claims with errors					
Contractor submits claims without adequate supporting documents					
Contractor's failure in submitting a new (corrected) claim					
Contractors' failure to agree to the valuation of work					
Contractors' failure to follow the certain procedure / guidelines in claims					
Contractors' failure to understand the contract agreement					

12. What are the impacts of delayed payment? *(Tick as appropriate)*

	To a very great extent	To a great extent	Moderate	To a little extent	Not at all
Delay in project's progress					
Extension of time for the project					
Low quality works due to contractor's uncertain financial condition					
Abandonment of the project					
Creates negative relationship among parties					
Creates financial hardship for the company					
Subcontractors refuse to continue works on the project					

Section D: Education and training

13. Based on your experience in running your building construction company, please indicate your opinion regarding each statement. *(Tick as appropriate)*

	To a very great extent	To a great extent	Moderate	To a little extent	Not at all
I have reliable project management knowledge to run my building construction company.					
I have received training in project management areas of need to manage my building construction company					
I experience challenges as a result of deficiency in project management knowledge.					
I have adequate training on construction technology to manage my construction company.					
I am trained on procurement methods and how to compete for tenders for my building construction company					
I am trained on how to strategically plan and expand my business.					
I am trained on use of current information communication and technology in running my building company.					

Section E: Community participation

14. Based on your experience in construction projects, how is local community involved in the various stages of project development? *(Tick as appropriate)*

	To a very great extent	To a great extent	Moderate	To a little extent	Not at all
Project planning					
Project implementation					
Project monitoring and evaluation					

15. Based on your experience in running your building construction company, what's your opinion regarding each statement. (*Tick as appropriate*)

	To a very great extent	To a great extent	Moderate	To a little extent	Not at all
I am satisfied with the growth rate of my building construction company					
I consider my building construction company profitable and growing.					
I consider my building construction company stagnated and not growing.					
I considers my building construction company collapsing.					

Thank you for responding and your cooperation is highly appreciated.

Appendix iii: Research Questionnaire for Project technical team

Introduction

The purpose of this questionnaire is to enable the researcher obtain information about the factors influencing the performance of building contractors in infrastructural development in Nakuru county, Kenya. You are kindly requested to participate in the study by filling all the questions. Your independent view is required and your co-operation is highly appreciated. The researcher guarantees maximum confidentiality. Do not write your name or the name of where you work anywhere in the questionnaire. The information you'll provide will help improve the performance of the building construction sector in the Nakuru County.

Instructions

Indicate the correct option by inserting a tick (✓) in the appropriate box provided.

Section A: Background information

1. What is your gender? *(Please tick the appropriate option)*

Male

Female

2. Which category represents your age bracket?

29 years and below

30-39 years

40-49 years

Over 50 years

3. What's your highest level of education?

College education

University degree

Master degree

Any other (please specify)

4. Which is your area of specialization?

Architectural

Quantity Surveying

Civil / Structural Engineering

Mechanical Engineering

Electrical Engineering

Any other (please specify)

5. For how long have you worked in your current position?

Less than 5 years

5-9 years ago

10-14 years ago

15-19 years ago

Over 20 years ago

Section B: Access to credit and loan facilities

6. At what intervals do contractors apply for payments? *(Tick as appropriate)*

Monthly basis

Depending on progressive performance

Any other, specify

7. What causes delayed payment? *(Tick as appropriate)*

	To a very great extent	To a great extent	Moderate	To a little extent	Not at all
Contractor-related factors					
Client-related factors					
Factors related to contractual matters					

8. What Client-related factors cause delayed payments? *(Tick as appropriate)*

	To a very great extent	To a great extent	Moderate	To a little extent	Not at all
Clients 'poor financial management					
Clients' poor financial sources / condition					
Clients' technical team delay in certification					
Clients' technical team disagreeing on the valuation of work done					
Clients' employees wrongfully withholding the payment					

9. What Contractor-related factors cause delayed payments? *(Tick as appropriate)*

	To a very great extent	To a great extent	Moderate	To a little extent	Not at all
Contractor's delay in submitting claims					
Contractor submits claims with errors					
Contractor submits claims without adequate supporting documents					
Contractor's failure in submitting a new (corrected) claim					
Contractors' failure to agree to the valuation of work					
Contractors' failure to follow the certain					

procedure / guidelines in claims					
Contractors' failure to understand the contract agreement					

Section C: Clients and technical input from project team members

10. What are the impacts of delayed payment? *(Tick as appropriate)*

	To a very great extent	To a great extent	Moderate	To a little extent	Not at all
Delay in project's progress					
Extension of time for the project					
Low quality works due to contractor's uncertain financial condition					
Abandonment of the project					
Creates negative relationship among parties					
Creates financial hardship for the company					
Subcontractors refuse to continue works on the project					

Section D: Education and training

11. Based on your experience as part of technical team managing building construction projects, please indicate your opinion regarding each statement. *(Tick as appropriate)*

	To a very great extent	To a great extent	Moderate	To a little extent	Not at all
Building contractors have reliable project management knowledge to run construction projects.					
Building contractors have adequate training in project management					
Building contractors experience challenges as a					

result of deficiency in project management knowledge.					
Building contractors have adequate training on construction technology to manage construction projects.					
Building contractors are adequately trained on procurement methods and how to compete for tenders in projects.					
Building contractors are adequately trained on how to strategically plan and expand their construction companies.					
Building contractors are adequately trained on use of current information communication and technology in running building projects.					

Section E: Community participation

12. Based on your experience as part of technical team managing building construction projects, how is local community involved in the various stages of project development? (*Tick as appropriate*)

	To a very great extent	To a great extent	Moderate	To a little extent	Not at all
Project identification					
Project planning					
Project implementation					
Project monitoring and evaluation					

Thank you for responding and your cooperation is highly appreciated.

Appendix iv: University of Nairobi Authorization Letter

UNIVERSITY OF NAIROBI
Open, Distance & e-Learning Campus
SCHOOL OF OPEN AND DISTANCE LEARNING
DEPARTMENT OF OPEN AND DISTANCE LEARNING
NAKURU LEARNING CENTRE

Tel 051 – 2210863

Our Ref: UoN/ODeL/NKRLC/1/12

P. O Box 1120, Nakuru

11th June 2018

To Whom It May Concern:

RE: ISSAC MWANGI KIBAARA - L50/6049/2017

The above named is a student of the University of Nairobi, Nakuru Learning Centre, pursuing a Masters degree in Project Planning and Management.

Part of the course requirement is that students must undertake a research project during their course of study. He has now been released to undertake the same and has identified your institution for the purpose of data collection on **“Factors Influencing the Performance of Building Contractors in Infrastructural Development in Nakuru County, Kenya.”**

Any assistance accorded to him will be highly appreciated.

Yours Faithfully

DR. JOHN OURU NYAEGAH
COORDINATOR NAKURU LEARNING CENTRE



Appendix v: NACOSTI Authorization Letter



NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471,
2241349,3310571,2219420
Fax: +254-20-318245,318249
Email: dg@nacosti.go.ke
Website : www.nacosti.go.ke
When replying please quote

NACOSTI, Upper Kabete
Off Waiyaki Way
P.O. Box 30623-00100
NAIROBI-KENYA

Ref No **NACOSTI/P/18/6273/24064**

Date: **17th July, 2018**

Isaac Mwangi Kibaara
University of Nairobi
P.O. Box 30197-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on "*Factors influencing the performance of building contractors in infrastructural development in Nakuru County, Kenya*" I am pleased to inform you that you have been authorized to undertake research in **Nakuru County** for the period ending **17th July, 2019**.

You are advised to report to **the County Commissioner and the County Director of Education, Nakuru County** before embarking on the research project.

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit a **copy** of the final research report to the Commission within **one year** of completion. The soft copy of the same should be submitted through the Online Research Information System.


GODFREY P. KALERWA MSc., MBA, MKIM
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioner
Nakuru County.

The County Director of Education
Nakuru County.


Appendix vi: NACOSTI Research Permit

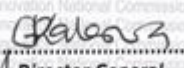
THIS IS TO CERTIFY THAT:
MR. ISAAC MWANGI KIBAARA
of UNIVERSITY OF NAIROBI, 64097-620
NAIROBI, has been permitted to conduct
research in Nakuru County

Permit No : NACOSTI/P/18/6273/24064
Date Of Issue : 17th July,2018
Fee Received :Ksh 1000

on the topic: FACTORS INFLUENCING
THE PERFORMANCE OF BUILDING
CONTRACTORS IN INFRASTRUCTURAL
DEVELOPMENT IN NAKURU COUNTY,
KENYA


for the period ending:
17th July,2019



Applicant's
Signature


Director General
National Commission for Science,
Technology & Innovation

CONDITIONS

1. The License is valid for the proposed research, research site specified period.
2. Both the Licence and any rights thereunder are non-transferable.
3. Upon request of the Commission, the Licensee shall submit a progress report.
4. The Licensee shall report to the County Director of Education and County Governor in the area of research before commencement of the research.
5. Excavation, filming and collection of specimens are subject to further permissions from relevant Government agencies.
6. This Licence does not give authority to transfer research materials.
7. The Licensee shall submit two (2) hard copies and upload a soft copy of their final report.
8. The Commission reserves the right to modify the conditions of this Licence including its cancellation without prior notice.


REPUBLIC OF KENYA

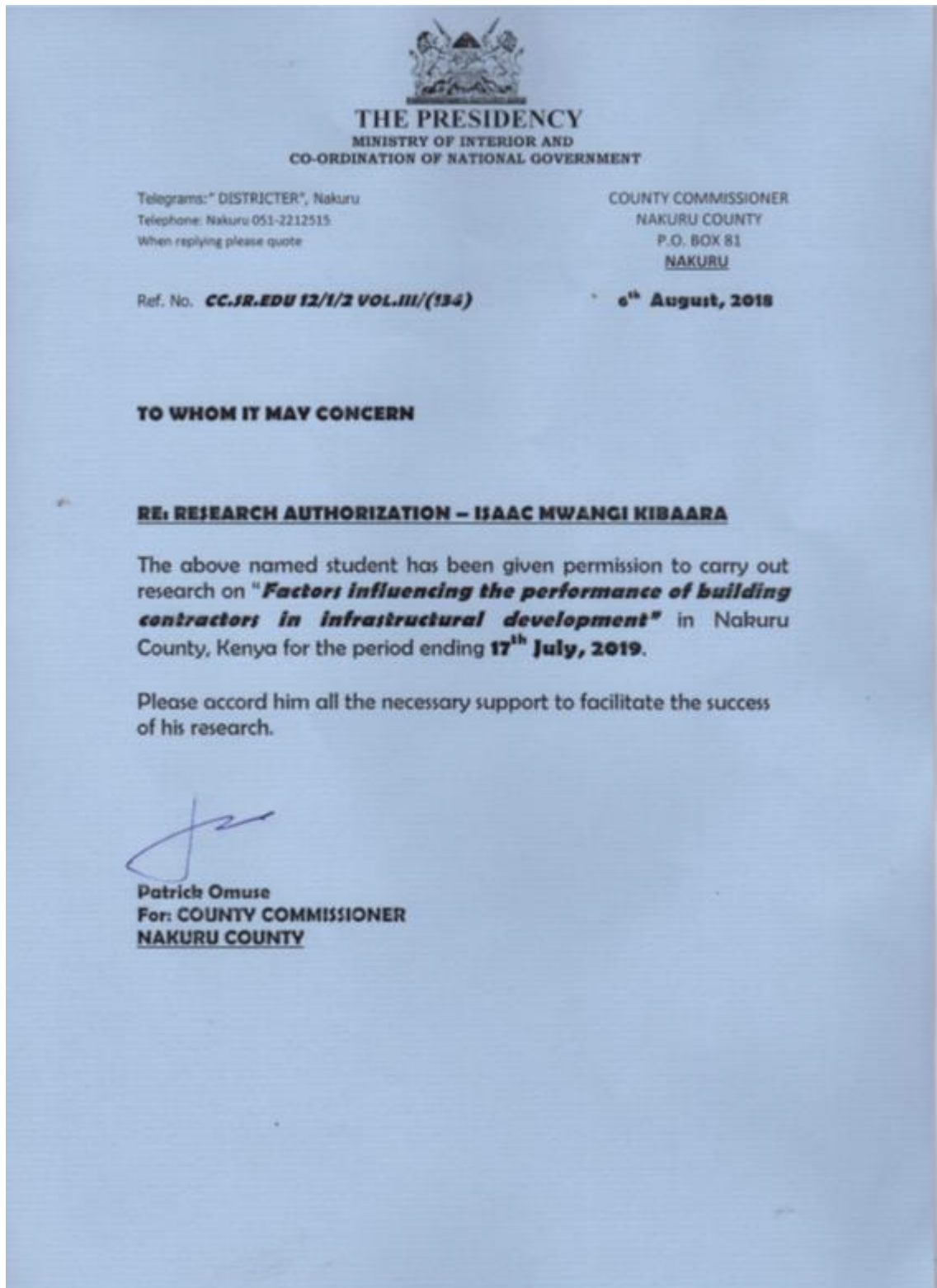

National Commission for Science,
Technology and Innovation

RESEARCH CLEARANCE
PERMIT

Serial No.A 19442

CONDITIONS: see back page


Appendix vii: County Commissioner Research Authorization Letter



Appendix viii: County Director of Education Research Authorization Letter

MINISTRY OF EDUCATION
STATE DEPARTMENT OF EARLY LEARNING OF BASIC EDUCATION

Telegrams: "EDUCATION",
Telephone: 051-2216917
When replying please quote
Email: cdenakurucounty@gmail.com
Ref.CDE/NKU/GEN/4/1/21 VOL.VII/70



COUNTY DIRECTOR OF EDUCATION
NAKURU COUNTY
P. O. BOX 259,
NAKURU.
6th August, 2018

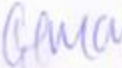
TO WHOM IT MAY CONCERN

RE: RESEARCH AUTHORIZATION -ISAAC MWANGI KIBAARA
PERMIT NO. NACOSTI/P/18/6273/24064

Reference is made to letter NACOSTI/P/18/6273/24064
Dated 17th July, 2018.

Authority is hereby granted to the above named to carry out research on
*"Factors influencing the performance of building contractors in
infrastructural development" in Nakuru County, Kenya* for a period ending
17th July, 2019.

Kindly accord him the necessary assistance.

 Ser COUNTY DIRECTOR OF EDUCATION
NAKURU COUNTY

G.N.KIMANI
FOR: COUNTY DIRECTOR OF EDUCATION
NAKURU

Copy to:

University of Nairobi
P.O Box 30197-00100
NAIROBI

Appendix ix: Turnitin Originality Report

