UNIVERSITY OF NAIROBI

FACULTY OF BUILT ENVIRONMENT AND DESIGN

DEPARTMENT OF REAL ESTATE, CONSTRUCTION MANAGEMENT AND QUANTITY SURVEYING

CONTRIBUTIONS OF INFLUENCING FACTORS TO COMPLIANCE LEVELS WITH NCA REGULATIONS:

(A case study of small and medium scale building contractors in Nairobi City County)

SUBMITTED BY: -

OWINO WYCLISE OKANG'A

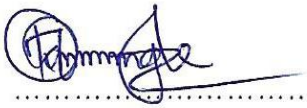
B53/35984/2019

A RESEARCH PROJECT SUBMITTED IN PARTIAL FULLFILLMENT FOR THE AWARD OF THE MASTER OF ARTS DEGREE IN CONSTRUCTION MANAGEMENT

May, 2022

DECLARATION

I hereby declare that this research project is my own original work and that all the sources that I have used or quoted herein have been acknowledged by way of complete references and that this work has not been submitted before for an award of degree in any other university.



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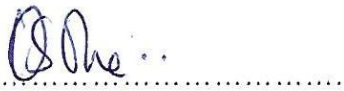
Sign Date

Wyclise Okang'a Owino

Reg.no: B53/35984/2019

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



31/5/2022

Sign Date

Qs. Olivia Sally Otieno

31/5/2022

Sign Date

Dr. Ralwala Anthony Oduor

DEDICATION

I dedicate this work to my lovely wife Beryl and daughter Tazanna, my Dad and Mum Mr. & Mrs. Owino and my Brother Ken for their unwavering support, encouragement, understanding and love during my studies.

ACKNOWLEDGEMENT

I am grateful to the Almighty Father for giving me life, strength and confidence, as well as providing cash for this project.

I wish to pay my tribute to my amazing supervisors Qs. Sally Olivia and Dr. Anthony Ralwala for their in-depth academic guidance and assistance throughout the course of this project. I appreciate the tremendous encouragement and pieces of advice I received from all the academic staff within the RECM&QS Department and particularly Qs. Tom Oketch for his support throughout the period of writing this Research Project. To the University of Nairobi, I am grateful for the scholarship award to pursue this dream.

To my professional mentor and employer Qs. Julius Mwangangi of Costbill Systems Ltd, for your understanding and support during the course of this work, to you, I am grateful too. Finally, to my classmates and workmates, I am grateful for the overwhelming support, sense of unity, and sense of humour that served as a fantastic source of inspiration during this project.

ABSTRACT

Building regulations exist to ensure that building contractors uphold building policies set out in various relevant legislation. Despite the existence of these building [NCA] regulations, building construction works proceed in defiance of the regulations and as documented in past research studies, such defiance is one major cause of structural failures of buildings in Kenya. Identification of compliance factors has not adequately addressed the Small and Medium Scale Building Contractors' (SMBCs) low compliance levels. The goal of this research was to evaluate the factors and their contribution to SMBCs' compliance level with NCA regulations. Ultimately the study sought to propose strategies that would enhance SMBCs compliance levels based on the factors' rating. Literature review produced secondary data, with field survey adopted for primary data. The target population comprised of SMBCs (NCA 8-NCA 5) in Nairobi City County, NCA officials as well as academics/experts in the construction industry. Disproportionate stratified random sampling yielded a sample size of 92 SMBC respondents. Purposive sampling produced 3 NCA officials and 3 respondents in experts/academics category. Data from SMBC respondents was collected through questionnaires whereas interviews were used for experts and NCA officials. The primary data was analyzed through SPSS 21 for quantitative data and NVivo software for qualitative data; to give descriptive statistics in terms of percentages, frequencies, RII, median and Inter-Quartile Range.

The results were presented using tables, pie charts and bar charts. Literature review identified ten SMBCs compliance factors namely; inadequate SMBC capacity; SMBC reluctance to attend CPD training; low sensitization levels; inadequate SMBC training; NCA's inadequate capacity; ineffective NCA strategy; alleged corruption by NCA; overlapping roles of NCA and other regulators; NCA lacking prosecutorial powers and; uncoordinated regulation. Field survey validated the compiled factors and confirmed the study proposition that SMBC compliance-influencing factors have different ratings on their influence on prevalent compliance levels with NCA regulations. The results rated 'overlapping roles of NCA and other regulators' the most influential factor at a Relative Importance Index (RII) of 0.80 implying very high influence. Contrariwise, "alleged corruption in NCA" was rated the least influential with a RII 0.63 implying high influence. All investigated factors yielded high influence on SMBC compliance. The results further proved that SMBCs compliance levels were average. These findings imply that the studied factors must be addressed for enhanced SMBCs' compliance. The study makes recommendations including legislation reviews; thorough scrutiny of SMBCs at registration and NCA's intensification of civic education, among others. The outcomes of the study contribute to the quest for solutions to the non-compliance of building contractors and by extension, the challenge of building collapse in Kenya. It also provides insight for further research on the contribution of developers on contractors' non-compliance with building standards and codes, among other areas.

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LIST OF ABBREVIATIONS AND ACRONYMS

SMBCs - Small and Medium scale Building Contractors

GNP - Gross National Product

ILO - International Labour Organization

NCA - National Construction Authority

GDP - Gross Domestic Product

SDGs - Sustainable Development Goals

CAK - Competition Authority of Kenya

GoK - Government of Kenya

IQSK - Institute of Quantity Surveyors of Kenya

AAK -Architectural Association of Kenya

BORAQS - Board of Registration of Architects and Quantity Surveyors

NEMA - National Environmental Management Authority

EMCA - Environmental Management and Coordination Act

DOSH - Directorate of Occupational Safety and Health

OECD - Organisation for Economic Co-operation and Development

CPD - Continuous Professional Development

CTD - Continuous Technical Development

KABCEC - Kenya Association of Building and Civil Engineering Contractors

RII - Relative Importance Index

IQR - Inter-Quartile Range

NIQS - Nigeria Institute of Quantity Surveyors

CHAPTER ONE

INTRODUCTION

1.1 Background of Study

Construction is a large, complex and multifaceted sector characterized by uncertainties. It is extremely important in generating national income in many economies. Its contribution to the Gross National Product (GNP) is drawn from its mandate to deliver and maintain physical infrastructures such as roads, bridges, ports, buildings among others. Furthermore, the sector is a hub of employment, with construction workers in excess of one hundred and eleven million worldwide (International Labour Organisation (ILO), 2001). This extends its contribution to over 10 percent of the GNP in many economies (Du Plessis, 2001).

The Kenyan construction sector attracts a number of players ranging from contractors, regulatory bodies, professional consultants, project owners or clients, each with a key role for successful delivery of construction products. The huge number of participants has in the past created unhealthy competition, high level of unprofessionalism and substandard products, especially when it was a free-for-all sector with no regulations governing the industry's operations. This led to accidents resulting in loss of lives, damage to property, among other challenges (Nahinja, 2014). This explains the formation of regulatory bodies as well as building regulations.

Gelder (2004) defines building regulations as statutory instruments that aim at ensuring building policies set out in relevant legislations are upheld. It ensures construction projects are registered, building plans are approved, and experienced construction workers, tradesmen, contractors, and site supervisors are accredited. It also secures their registration and establishes construction worker training facilities (Government of Kenya (GoK), 2012). The National Construction Authority (NCA) Regulations (2014), established by Kenya's NCA Act 2011, give the NCA the authority to regulate, encourage quality assurance, and conduct research in the construction industry. Contractors are registered on a point-by-point basis under each category of the Works, based on technical knowledge, financial capacity, available equipment and experience, among others (Competition Authority of Kenya (CAK), 2017). In summary, the regulations outline how to register contractors and joint ventures; identify and report construction works, contractors, or projects by the owner; certify and accredit skilled construction workers and construction site

supervisors; enforce various fees; deregister contractors, and investigate employers (CAK ,2017). Such regulation is aimed at promoting a sustainable socio-economic development in line with the Sustainable Development Goals (SDGs) and Kenya's Vision 2030 (GoK,2007).

Schneider (1991) defines compliance as sufferance to expectations ranging from proposals, orders, suggestions, rules, standards and treaties among others. Construction stakeholders are expected to comply with the various existing regulations. This study focuses on small and medium scale building contractors (SMBCs), and falling between NCA-8 at the lowest capacity ranking and NCA-5 regarded as medium capacity. It is undisputable that SMBCs dominate the construction industry (Kulemeka *et.al.,* 2015) and take up to building projects of value not exceeding Kshs.100,000,000 (GoK , 2011). 80% of Kenyan contractors fall below NCA-4 class (CAK, 2017). Even though there exist literature on the challenges SMBCs battle with in their operations, little information is available on their needs to fully comply with the NCA regulations so that they are not weeded out of the industry.

Given the critical role that SMBCs play in the construction industry, it is important to understand how they can be assisted to comply with NCA regulations. As a result, the goal of this study is to explain how the gap between existing NCA regulations and the prevailing low level of compliance can be mitigated. The study aims to achieve this by exploring and examining the contributing factors to the current compliance levels with the aim of extending the understanding on how to improve these compliance levels for their eventual sustainability and continued infrastructural delivery at both the urban and semi-urban or rural areas of Kenya.

1.2 Problem Statement

Kenya had almost zero instances of collapsing buildings in the 1980's and early 1990's, maybe due to the fact that the defunct City and County Councils did the actual construction of all major residential and commercial buildings in the cities and towns (Building Audit Report, 2015). The rising demand for development in these areas occasioned by increasing rural-urban migration and natural population growth outweighed the regulatory capacity of the Councils, which lacked adequate professional personnel to manage the development deficiency.

Construction of poor-quality structures characterized by both functional and structural failures in Kenya is an occurrence witnessed from the mid 1990's with the entry of private construction

firms and professionals to meet the rising demand for housing development. Some of these structures have failed to the extent of physical collapse in the process of construction or utility. Devastating scenes of buildings crumbling down when earth tremors occur, due to non-standard construction, inadequate inspection and supervision by concerned regulatory agencies are a common headline in newsrooms (Olingo, 2012).

Moreover, exposition of alleged far-reaching corruption among contractors and government agencies are routine. Many developers have had the worst experiences in the hands of "cowboy" contractors that undertake operations in the industry and have generated hefty condemnation of the sector in entirety (Olingo, 2012). These challenges continue to portray the construction industry in a bad light. Today, these problems remain a harsh and troubling reality in the construction industry with the frequency of their occurrence and amplitude of the consequent property damage, life loss and the destroyed reputation of the industry being worthy of a research inquiry.

NCA (2020) presents a report on an assessment of 14,895 buildings across the country between the period 2015 and 2019. According to this report, over 700 buildings in Kenya are death traps, with thousands of unapproved buildings in Nairobi at the risk of collapse. In summary of the statistics from the assessment, 10,791 buildings were found to be life-threatening, calling for either demolition or reinforcement prior to habitation, 1,217 were in a fair state and only 2,194 were certified to be safe. It is becoming common to see the NCA's red "X" mark (Figure 1.0 below) on construction sites today, signaling a construction's non-compliance with the NCA occupational safety regulations or contravention of the building code.

Between 2015 and 2019 alone, the NCA (2020) construction audit report records over 87 cases of collapsed buildings. The statistics in the report end in a two-storey classroom building at the Precious Talents Top School in Nairobi's Dagoretti area which collapsed claiming 8 lives of pupils while leaving scores injured (Figure 1.1 below). Furthermore, the incidences have claimed at least 200 lives, with over 1000 maimed. Consequently, the economy lost over Kenya shillings 2.4 billion in investment, according to the report.

Figure 1.0: NCA Official Marking The Red "X" On A Building, **Source:** *Construction Kenya*

Figure 1.1: Collapsed Classroom at Precious Talents Top School, Nairobi; **Source**: *People Daily Online, 2019*

In further categorization of the statistics from the report, majority of the recorded collapsed buildings were residential at 65 percent, commercial at 25 percent with mixed-use buildings ranked third at 10 percent. Whereas 66 percent of these buildings collapsed after completion, 34 percent came down during construction. Nairobi leads in the cases of collapsed buildings, followed by Kiambu, Nakuru, Mombasa and Kakamega among the regions with high recorded cases. In Nairobi alone, 58 percent of buildings are unfit for human habitation, the report adds.

These statistics are not mere numbers but a worrying trend in Kenya. The report has largely blamed recorded statistics on poor workmanship among the building contractors as the leading cause and accounting for 35 percent of collapsed buildings. Furthermore, non-compliance to building standards and regulations; use of substandard materials; inadequate structural designs and overloading of buildings; inadequate maintenance; and laxity in regulatory and enforcement agencies in the case of building regulations, characterized by minimal conclusive investigations done on buildings flouting these regulations and majority lacking clear records of actions taken, are among the major reasons cited as contributing to the statistics.

During this study, at least four incidences of structural failures in buildings under construction were reported in less than two months across the country. On 30th August, 2021 a 5-storey building in Gachie caved in with workers on site, claiming at least 3 lives with several injured (Figure 1.2). On 3rd September, 2021, another 6-storey building under construction partially sank into the ground and leaned as locals watched (Figure 1.3), forcing the NCA to demolish it as it posed a severe threat (The Star Online, 2021). Less than two weeks later, a 2-storey building under construction collapsed in Kisumu claiming at least 3 lives and leaving over 10 people injured. The incident of a 9-storey building under construction collapsing in Ruiru on 17th October, 2021 became the latest in the chain. These incidences have rekindled and accelerated the discussion on structural integrity of buildings and the effectiveness of building construction regulation in Kenya.

Figure 1.2: Rescue Operations At The Collapsed Gachie Building; **Source:** *The Standard Online, 2021*

Figure 1.3: The Leaning Kinoo Building Before Demolition; **Source:** *The Star Online,2021*

Rogue contractors continue to operate in the industry without following the set construction standards, use unskilled workers and take shortcuts ending up in buildings with weak structures which do not meet the structural integrity and functionality requirements.

The continued flouting of NCA regulations and building standards in general by contractors despite the existence of regulatory agencies in the sector as well as previous studies identifying contributing factors to the low compliance levels, prevents these regulations from achieving their desired purpose. Possibly, the identification of the factors is not enough to address the challenge. Whereas previous studies have established a relationship between the factors; inadequate capacity of contractors to comply; poor sensitization on NCA regulations; lack of an organized NCA contractor training program; centralization of NCA services; inadequate human resource at the NCA to conduct inspections; corruption in registration of contractors and supervision of construction projects; ineffective compliance enforcement approach or framework by NCA among other factors, no literature exists on the validity of these factors and the degree of influence (measured by the weighting and ranking of contribution) each of them has towards building contractors' low compliance levels.

Precisely, this study seeks to assess each of the factors and rate (by weighting and ranking) their contribution towards compliance levels of SMBCs. The weighting and ranking of the factors does not only seek to help propose a framework (through a set of strategies) that would be economically viable and most suitable in enhancing SMBCs' compliance with NCA regulations

in the wake of resource deficiency among the contractors and the relevant regulatory agencies, specifically NCA; but also validate or invalidate the significance of each of the factors mentioned in the previous studies. Consequently, the study seeks to establish the current SMBCs' compliance levels with NCA regulations occasioned by the compliance factors.

1.3 Research Objectives

The problem statement serves as the foundation for the research topic, and it is this study's goal to address it. The study therefore aims at establishing the prevalent compliance levels of SMBCs with NCA regulations and finding out why there is a continued non-compliance and low compliance levels among SMBCs with NCA regulations and developing a framework, by proposing strategies, to enhance compliance with the regulations. So as to realize the study's main objective, the study adopts specific objectives as;

i. To compile factors that have contributed to SMBCs' non-compliance with NCA regulations.
ii. To rate (rank and weight) the factors on their contribution to SMBCs' non-compliance with NCA regulations.
iii. To establish the alleged low SMBCs' compliance level with NCA regulations as opined by previous studies.
iv. To formulate a framework to enhance compliance of SMBCs with NCA regulations.

1.4 Research Questions

i. What factors have contributed to SMBCs' non-compliance with NCA regulations?
ii. How do the factors rate in their contribution to SMBCs' non-compliance with NCA regulations?
iii. Is the current level of SMBCs' compliance with NCA regulations low as opined by previous studies?
iv. Which framework would best enhance compliance with NCA regulations among SMBCs?

1.5 Research Proposition

By only identifying and listing non-compliance factors, the researcher believes that previous studies have apparently failed to adequately address the challenge of non-compliance with NCA regulations among [SMBCs]. The researcher holds the view that any two factors do not carry same magnitude of influence towards SMBCs' compliance level, but have different ratings defined by their weightings and ranking.This view borrows from the findings in Jin *et al.* (2008) and classification of compliance factors as either "hard" or "soft" depending on factor's magnitude of influence. Similarly, some factors may not have significant influence on the low compliance levels of SMBCs. As a result, the study proposes that subjecting the factors to ranking and weighting will not only justify their varying influence on SMBCs' compliance but also inform the development of an effective factor-based compliance framework by proposing strategies, as the ultimate solution to non-compliance among SMBCs.

1.6 Research Justification

The operationalization of the NCA Act 2011, subsequent establishment of the NCA, and further formulation of the NCA Regulations 2014 was aimed at harmonizing and regulating the Kenyan construction industry, towards the promotion of sustainable socio-economic development (GoK, 2011). Seven years since the conception of the NCA regulations, the construction industry continues to witness a myriad of challenges for which the regulations were an intended solution. With health and safety at construction sites remaining a big challenge, reports of collapsed buildings in news headlines and increased number of ongoing constructions marked with the NCA's red "X" as a show of suspension or closure of site due to non-compliance, there is enough evidence to prove the inability of the NCA to fully realize its mandate through its regulations. The situation could be attributed to the authority's inadequate technical capacity, manpower, inadequate funding to run successful operations in the entire country as well as legal limitations such as lack of prosecutorial powers. Suspension and closure of construction sites, as well as collapse of buildings has not only led to loss of sums of money by developers but also damage to the reputation of construction firms involved.

The continuing non-compliance with the NCA regulations despite previous studies identifying contributing factors to such non-compliance shows that by such mere identification, a full solution is not achieved. This situation provides inspiration to recollect these factors and rate

(weight and rank) their contribution towards compliance. In so doing, the study aims to propose recommendations on achieving full compliance, at optimum utilization of the already limited resources.

1.7 Significance of the Study

The realization of Sustainable Development Goals (SDGs) mapped with the long-term Kenya's Vision 2030 objectives require a vibrant and growing economy. Kenya's Vision 2030, which was unveiled in 2008, intends to assist the country become a "newly industrializing, middle-income country delivering a good quality of life to all of its residents in a clean and secure environment by 2030." The success of the Kenya's economy in turn depends in part on the success of the construction industry as a critical contributor to the GDP. It is estimated that the industry contributed up to 7 percent of the GDP in 2015/2016 financial year (Kenya National Bureau of Statistics (KNBS), (2016). The success of the construction industry depends on successful delivery of construction products in accordance with the set construction standards and regulations. In the wake of advancing technology, rising complexity and uncertainties in the built environment, there is need to put more focus on successful delivery of buildings while adhering to building standards and regulations, as challenges become more pronounced in the industry. With the compounding statistics of buildings either collapsing or rendered unfit for human habitation by the NCA, achieving Kenya's Vision 2030 as well as the global SDGs may be a nightmare. These statistics have been in part blamed on non-compliance with NCA regulations. Therefore, the outcome of this study may be insightful in overcoming the non-compliance as a barrier to successful construction of buildings. The study recommendations may be vital for construction regulators, especially the NCA, in the revision of regulations and developing compliance enhancement framework. In addition, this research comes at a time when Kenya's government is struggling to achieve the promise of delivering 500,000 affordable housing units by the year 2022. Therefore, the recommendations of this research project may hopefully, be useful in ensuring the on-going and yet to start projects are done according to the NCA regulations, meeting and superseding the functional and structural integrity thresholds.

1.8 Scope of the study

The coverage of this study in relation to its theoretical extent, geographical span and methodological range is deemed suitable by the researcher for achieving the research goals and focuses on the following;

1.8.1 Theoretical Scope

The study focuses on the compliance levels of Small and Medium Scale Building Contractors with NCA regulations in Kenya. Driven by the problem statement, the study specifically reviews and compiles literature on factors contributing to contractors' non-compliance with NCA regulations and rates (weights and ranks) the factors in relation to their contribution to contractors' non-compliance. The study also conducts a theoretical review of both rationalistic and normative compliance approaches by various authors. Rationalistic approach to compliance is advanced through theory of realism, institutionalism, liberalism, deterrence and behavioral decision whereas normative approach encompasses legitimacy theory, managerialism, transnational legal process and complexity critique. Furthermore, the study looks at construction regulation practices in other developing countries and challenges arising therefrom, for example, South Africa and Nigeria. It also explores construction regulation and compliance best practice in Singapore. The study gaps from this exploration and review inform the direction and methodology for this study. Ultimately the study seeks to develop a framework, by proposing requisite strategies, through which SMBCs' compliance with NCA regulations can be advanced.

1.8.2 Geographical Scope

The study's goal is to find a solution to the non-compliance challenge among building contractors in Kenya. However, the study limitations (as highlighted in Section 1.9 here below) limits this research to SMBCs with physical address of and operating in Nairobi City County of Kenya. The assertion in Adebayo (2012) and the findings of NCA (2020) construction evaluation report (as highlighted in Section 1.9 here below) justify the choice of Nairobi City County as the study's location.

1.8.3 Methodological Scope

The study targets secondary data sources, for instance, past research projects on related topics for compilation of the factors contributing to non-compliance; and literature on regulations and

compliance international best practices obtained from published books, journal articles and research works. Furthermore, primary data sources are critical for this research and which will be reached through field study. These include sampled SMBCs in category NCA 8 to NCA 5 of NCA classification of registration to be reached through questionnaires administered both physically and via google forms. These form the main primary data source. In addition, construction experts and academics in Kenya as well as NCA officials drawn from the three NCA directorates form part of the primary data sources. These experts and academics are sought for informed opinions on the best framework for enhancing compliance with NCA regulations, based on the rating achieved through analysis of field data. These three categories are the only respondents for the study.

1.9 Study Limitations

The study's target demographic was all registered Kenyan building contractors but due to human resource, cost and time constraints, the study narrowed down to SMBCs (NCA 8 to 5) operating within Nairobi City County. The choice for this category is justified by the findings in Kulemeka *et.al* (2015) that [SMBCs] dominate the construction industry and whose findings in this study therefore, would be considered to meet generalization criteria to the entire scope of building contractors in Kenya within the NCA 8 to NCA 5 categories.. This is further supported by the findings in CAK (2017) that 80% of Kenyan contractors fall below NCA-4 class. The choice for Nairobi City County is deemed fit as it is the hub of Kenya's urban and regional development (Adebayo, 2012) and leads in percentage of collapsed and condemned buildings (NCA, 2020).

1.10 Delimitation and Exclusion

It is worth noting that the subject of 'rogue' contractors would attract a wider span of discussion. Non-compliance with NCA regulations is considered as just an element of the 'rogue' contractors challenge in the construction industry. The continued witnessing of substandard construction characterized with collapse of buildings, condemned constructions, increased health and safety loopholes in construction sites, environmental degradation among others, is beyond the scope of non-compliance with NCA regulations alone. These challenges call for action from a number of parties and regulators in the industry including; Professional associations such as Institute of Quantity Surveyors of Kenya (IQSK), Architectural Association of Kenya (AAK) and Institution of Engineers of Kenya (IEK); licensing bodies such as Board of Registration of

Architects and Quantity Surveyors (BORAQS), Engineers Registration Board (ERB); regulators such as National Environmental Management Authority (NEMA), Directorate of Occupational Safety and Health (DOSH), County Government among others. Successful delivery of construction projects would demand compliance with, in addition to NCA regulations, Occupational Safety and Health Act (OSHA 2007) provisions, Environmental Management and Co-ordination Act (EMCA 1999), building by-laws by County Governments, among other provisions. Furthermore, the study notes SMBCs' compliance level indicators as including hiring trained and accredited workers and tradesmen, quality assurance in materials and workmanship, upholding safety and health in construction, achieving functionality of buildings, meeting structural integrity of buildings and good standing status of contractors as per NCA requirements. However, by self-delineation this study excludes these other aspects and the measurement of the above SMBCs' compliance level indicators to focus on non-compliance with NCA regulations only, owing to time, cost and human resource constraints faced by the researcher as highlighted above.

1.11 Definition of Terms as used in this study

- **Construction:** - a process consisting of clearing, dredging, digging, and grading of land, as well as other work linked with buildings, structures, bridges, dams, and roads, among other types of real property (GoK, 2011).
- **Small and medium scale building contractors (SMBCs):** - shall mean building contractors in NCA class 8 to 5 (Competition Authority of Kenya, 2017). According to the NCA, this category takes up building projects of value not exceeding Kshs. 100,000,000.00.
- **NCA:** -stands for National Construction Authority, created by the National Construction Authority Act No.41 of 2011 and tasked with regulating, streamlining and expanding capacity in the construction industry (GoK, 2011).
- **NCA Regulations 2014:-** a set of rules and regulations published by the Cabinet Secretary in the Kenya Gazette on 6th June, 2014 via Legal Notice Number 74 of 2014, with the overall aim of regulating the operations of the construction industry in Kenya (GoK, 2014).
- **SDGs:** - Sustainable Development Goals; a set of 17 interconnected global goals intended to serve as a "roadmap to a better and more sustainable future for everybody" (United Nations, 2016).

- **Building regulations:** - legislative tools aimed at ensuring that building policies outlined in relevant legislation are followed (Gelder, 2004).
- **Compliance:** - sufferance to expectations ranging from proposals, orders, suggestions, rules, standards and treaties among others (Schneider, 1991).
- **Regulatory Framework:** - a model people can use for reforming and enacting regulations in an effective and logical way (McMahon, 2014).

1.12 Organization of the study

The study comprises five chapters. Chapter One introduces the construction industry and the conception of building regulation in the Kenya's construction industry; while explaining the problem that the study aims to solve, the study's objectives, and research questions. This chapter further presents the proposition that guides the study, a justification for undertaking the research, significance of this study, scope, limitations and delimitations and operational definition of key terms.

Chapter Two begins with the study's theoretical underpinning. It then proceeds to a discussion on building regulations, their significance and general effects of non-compliance with them. It further reviews the NCA mandate, the NCA Regulations 2014 as well as the provisions of the Code of Conduct for the Construction Industry touching on the contractors and their regulators. In addition, this chapter reviews selected previous studies related to the study topic both in Kenya and other countries and looks at construction regulation and compliance international best practice. These reviews culminate into a list of study gaps, from which the study subsequently identifies its variables (independent, dependent and moderating or mitigating). The chapter culminates in a Conceptual Framework to further guide the research.

Chapter Three discusses the methodology used in carrying out this research entailing research design, both primary and secondary data sources, target population, sample sizing and sampling procedure. Moreover, it discusses data collection instruments as well as their validity and reliability. Similarly, the chapter discusses the structure of main research instruments (the questionnaire and interview schedules) by looking at the questions and data they intend to collect, unit of analysis and presentation techniques. In addition, this chapter discusses ethical considerations in this research and culminates in an operational definition of research variables.

Chapter Four comprises of analysis, presentation and discussion of the observed results from the field investigation in relation to the study objectives and highlights challenges encountered during the field investigation. Chapter Five presents a summary of the study findings, the study's conclusion on the basis of the study objectives, and provides recommendations as well as an outline of areas for further research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter includes a thorough evaluation of existing compliance theories as well as a systematic identification, analysis, and presentation of documents with information on building construction regulation. It explores the NCA as the main regulator of contractors; the NCA Regulations 2014; the Construction Industry's Code of Conduct as developed by the NCA; the legal and institutional framework of construction industry in Kenya; construction regulation in other developing countries; challenges faced by—in the form of factors influencing compliance levels of—building contractors in compliance with building regulations and effects of non-compliance with building regulations and; construction regulation best practice. It further identifies the knowledge gap and culminates in a conceptual framework to further guide this study in subsequent chapters.

2.2 Theoretical Approaches to Compliance

As one of the objectives of this study to devise a framework, by proposing strategies to enhance the compliance of SMBCs with NCA regulations, the study reviews literature on theoretical approaches to compliance to further help unravel the challenge of non-compliance with NCA regulations as documented in several past research works. Lumbania (2005) states that compliance theories explain why different actors or regulated entities, for instance, governments, firms or individuals comply (or do not) with laws. These theories can be utilized to examine and understand compliance-related behaviour and the reasons for it. Consequently, compliance theories suggest different available approaches that regulatory bodies can apply to influence governments, firms or individuals to comply with laws and regulations designed for sustainable development.

2.2.1 Approaches of Compliance

Compliance theoreticians classify compliance theories into two broad approaches or models namely; the rationalist models and normative models. Whereas Rationalist models emphasize deterrence and enforcement as a means of preventing and punishing noncompliance by altering

the actors' (regulated entities') benefit and cost calculations; cooperation between regulators and regulated companies, as well as compliance support, are advocated by normative models as a way to prevent non-compliance (Lumbania, 2005).

The concept of compliance revolves around behavioral motivations. March & Olsen (1998) classify the basic logic of human behaviour or action into either "logic of appropriateness" or "logic of consequences." The logic of appropriateness views actions as based on identities, obligations and conceptions of appropriate action as held by normative models. On the other hand, logic of consequences sees regulated entities as rationally choosing from alternatives based on their calculated expected consequences for such action or non-action, as is the principle behind rationalist models of compliance (Stokke *et al*, 2005).

2.2.1.1 Rationalist Approaches

Also referred to as deterrence-based approaches and following the logic of consequences, these theories are utilitarian at their core and view regulated entities as unitary, rational and self-interested, and whose choice of action is based on their calculated costs and benefits of alternative actions. As a result, regulators suggest enforcement and deterrence as the main ways to prevent non-compliance among the actors or regulated entities. Rationalist theories encompass realism, institutionalism and liberalism theories on international compliance and deterrence theory, behavioral decision theory on domestic compliance (Chayes & Chayes, 1993; Downs, 2002; Raustiala, 1997).

Realistic theory on international compliance view compliance to be mostly a function of international power relations or a coincidence and disregarding the international law itself as having any effect (Hans, 1978). On the other hand, institutionalism acknowledges the role of international institutions in facilitating cooperation with the laws in order to avoid short-term defections that compromise long-term objectives. As a result, compliance with international law is seen as critical. An example of institutionalism is the enforcement theory that argues that as the incentives for governments to violate agreements grow, stronger penalties to deter non-compliance and keep cooperation going are also required (Downs, 1996). Further, liberalism states that compliance to agreements comes from the favourable effect of international law and legal institutions which mobilize to put pressure on governments to comply, a phenomenon common in liberal governments. This theory captures the role of NGOs, businesses, media,

financial organisations and international organisations in generating compliance (Hathaway, 1953; Raustiala, 1997).

Domestic rationalistic compliance theories on the other hand focus on the response of individuals and firms rather than governments, to laws and commands characterized by coercive enforcement measures (Werksman, 1996). While following the logic of consequences, these theories posit regulated individuals and firms as rational agents acting in their own economic best interests. In addition, they place a strong emphasis on enforcement and deterrence in order to modify how businesses and individuals calculate benefits and costs. Becker (1968) while addressing enforcement of criminal law asserts that potential offenders react to the likelihood of detection as well as the severity of punishment if they are caught and convicted. Therefore, raising the penalty, boosting monitoring activities to raise the likelihood of capturing the offender, or modifying legal standards to increase the likelihood of conviction can all help to increase deterrence.

According to deterrence theory, there must be a credible likelihood of finding violations, the presence of rapid, certain, and suitable consequences when violations are discovered, and a perception among regulated entities that these detection and penalty aspects are present (Rechtschaffen & Markell, 2003). In addition, behavioral decision theory recognizes the role that people's cognitive biases can play in their rational calculations and highlighting the importance of factors such as how a particular choice is framed, for instance, people respond differently when a choice is framed in terms of the number of lives that will be saved instead of the number of lives that will be lost.

2.2.1.2 Normative Approaches

Normative theories, also known as cooperative approaches and based on the logic of appropriateness, are concerned with the normative power of norms, the persuasive power of ideas and legal duties, and the influence of common discourse and knowledge. As a result, these theories point to a more cooperative approach to achieving compliance. , otherwise referred to as "compliance without enforcement" in Young (2018).

Legitimacy theory (Thomas, 1988), Managerialism (Chayes & Chayes, 1995) and Transnational legal process (Harold, 1997) focus on international compliance while Complexity critique put

forth by Spence (2001) focuses on domestic compliance. Legitimacy theory holds that compliance is secured in a community organized around rules, partly as a result of the perception by the group to whom the rule is addressed, of the rule as legitimate. Legitimacy, defined by clarity and fairness of rules, determine governments' compliance with them (Thomas, 1988).

Similarly, Chayes & Chayes (1995) on managerialism argue that instances of non-compliance are often inadvertent, stemming from lack of capacity of resources, ambiguous commitments and provisions as well as time lags between commitment and performance. In addition, Harold (1997) on transnational legal process theory posits that when nations internalize international rules and assimilate them into their own value systems, they follow them. It also acknowledges the importance of non-state actors such as NGOs, scientists, and companies in articulating and internalizing international norms.

Although it is more about bureaucratic and administrative limitations than about norms, complexity critique focuses on the capacity of the regulated firm or individual to comply; noting that regulations are too numerous, too difficult to understand and too dynamic. Proponents of this theory add that most firms and individuals cannot achieve perfect compliance since they do not know what constitutes such perfect compliance. This is especially true for small and medium businesses, which typically lack the capacity to keep up with complex and shifting regulatory requirements (Spence, 2001).

In conclusion, Lumbania (2005) while quoting Ayres & Braithwaite (1992) asserts that both the rationalist and normative models provide useful insights into the behaviour that leads to compliance. He points out that these two approaches are not mutually exclusive, but rather provide alternative perspectives on and understanding of compliance behavior impacts, and that both are important in making compliance decisions. A compliance enforcement system that fosters the norms and incentives that lead to voluntary compliance while keeping the solid base of enforcement and deterrent to change the calculations of those less inclined to willingly comply is a good mix of these two approaches (Rechtschaffen & Markell, 2003) and as echoed by the eminent jurist H.L.A Hart that "what reason demands is voluntary cooperation in a coercive system" (Hart, 1994).

2.2.2 Key notes from Theoretical Review of Compliance Approaches

From the above discussion on theoretical approaches of compliance, the following observations are made and are significant to note for further guidance towards achieving the study objectives;

i. Compliance theoreticians posit that compliance revolves around behavioral motivations of the regulated entities and either follows the logic of appropriateness or logic of consequences (March & Olsen, 1998), which lean towards the normative or rationalistic approaches respectively.

ii. Logic of appropriateness sees regulated entities' actions as based on the conception of taking an appropriate action. On the contrary, logic of consequences view regulated entities rationally choosing from alternatives upon calculation of possible consequences of their actions or non-actions (March & Olsen, 1998).

iii. Proponents of rationalistic approaches concur on adoption of enhanced enforcement and deterrence mechanisms which are achieved by; increasing monitoring activities to elevate likelihood of 'catching' the offender, amending laws to increase probability of conviction, raising penalty upon conviction and ensuring that there are swift, certain and appropriate sanctions upon detection (Lumbania, 2005).

iv. Proponents of normative approaches on the other hand, propose a more cooperative approach to obtain compliance. This is otherwise referred to as "compliance without enforcement." These theoreticians are glued to the belief in normative power of rules, the persuasive power of ideas and the influence of shared discourse and knowledge. It is held here that partly, a community will comply with rules around them if they perceive the rules to be legitimate and such legitimacy being defined by their clarity and fairness. In addition, this school of thought recognizes the significant role played by people internalizing rules and incorporating them in their norms towards enhancing compliance. Furthermore, it is recognized that non-compliance is at times unintentional but rather occurs as a result of compliance resource capacity constraints faced by the regulated entities, especially the small and medium scale enterprises (Lumbania, 2005).

v. It is recognized that both normative and rationalistic approaches are significant in making compliance decisions. A proper balance of these two is posited as a compliance enforcement

system that encourages voluntary compliance while maintaining the bedrock foundation of enforcement and deterrence to alter the behavioral actions of those unwilling or unlikely to voluntarily comply (Hart, 1994).

2.3 Building Regulation

Regulation as defined by Organisation for Economic Co-operation and Development (OECD) (1993) refers to the imposition of rules by an administration or regime, supported by use of retributions that specifically aim at modifying the economic conduct of individuals and firms in the private sector. Furthermore, Selznick (1985) describes regulation as a focused and sustained control exerted by a public body on activities that provide value to the community.

Billington *et al* (2014) define building regulations as statutory requirements seeking to affirm that policies outlined in the relevant building legislations are carried out. Watermeyer & Milford (2004) expand on this description, describing building regulations as legal instruments whose purpose is to ensure that the performance of buildings meets societal acceptable thresholds in terms of safety, health, welfare, and amenities for their occupants. GoK (2012) states that building regulations involve registration of contractors, projects, skilled construction workers, construction site supervisors, training institutions and provisions relating to collection and payment of the construction levy.

In general, construction regulation authorities are established in every country to harmonize construction laws found in statutes that may contradict one another, to curb uncontrolled and unchecked physical planning of buildings and construction, to control and enforce mechanisms on the application of the building code in the construction industry, to prevent easy entry and penetration of unqualified contractors, and to improve bureaucratic requirements and procedures in approval. These regulations have grown to become more comprehensive and sophisticated as a result of the growing number of stakeholders and complexity in the building industry (Abimbola & Cattell, 2013).

2.3.1 Importance of Regulating Building Construction

Buildings substantially contribute to a country's environmental health, human wellbeing and economic stability hence the necessity to formulate rules, standards and regulatory frameworks to establish guidelines for their design, development, and operation while ensuring their

structural integrity, sustainability, heating and fire safety among other considerations, are in place (Watermeyer & Mildford, 2004).

Kenya joins other economies with established legislations aimed at regulating the practice, as well as monitoring the conduct of professionals and other key stakeholders in the building sector. BORAQS oversees the professional activity of Architects and Quantity Surveyors in Kenya. Among other roles to achieve this mandates, the body administers professional exams in the two fields, registers and deregisters Architects and Quantity Surveyors, gives and renews practicing licenses for the registered professionals and firms (GoK, 2010). Engineers Registration Board of Kenya (ERB) is another professional regulatory body mandated to register Engineers and their firms and regulate their conduct.

The NCA exists to generally co-ordinate all engagements of contractors, including registration, training and monitoring of their operations (GoK, 2011). Billington *et al* (2014) opines that regulation of the Kenya's construction industry is essential to the government in ensuring that consumers' (say clients or developers) interests are upheld and protected. Generally, the main aim of governments' establishment of regulatory bodies is to improve sector performance (Jameson & Berg, 2008). Furthermore, authorities in charge of building regulation are working to reduce incidences of corruption in the industry, place a greater emphasis on material quality and contractor performance, and amend the Building Codes to assure their continued relevance (Nahinja, 2014).

2.3.2 Effects of Non-compliance with Building [NCA] Regulations

Sarkheyli *et al* (2011) opine that contravention of building regulations is one of the most fundamental dilemmas urban areas in most developing countries are currently faced with. The neighbourhoods characterized by regulations contravention have a low quality of life and suffer from numerous social, economic and environmental problems.

Failure to comply with building regulations among building contractors negatively affects developers (say clients), the contractors themselves and the society at large (Wahome, 2016). To the developers, demolition of non-compliant construction and suspension of site works presents a great financial loss especially in the capital intensive construction industry. In addition to legal suit expenses, prosecution for violation of the regulations may attract jail terms and wastage of

time otherwise meant for development. On the other hand, contravention or non-compliance by contractors may lead to revocation of their operation licenses, prosecution (GoK, 2011) and damage to reputation, consequently leading to loss of and reduction in source of livelihoods. Moreover, the society is faced with unhealthy environment caused by environmental degradation, inappropriate waste handling; lack of aesthetics and comfort in constructed facilities as well as those that collapse, resulting in the loss of life and property (AAK, 2011). Both the significance of and the obvious effects of non-compliance with these regulations further puts emphasis on the need to explore the reasons for continued non-compliance among SMBCs with NCA regulations. This underscores the study objective to rate the compliance factors and the direction to which each is inclined with regard to the compliance approaches reviewed in Section 2.2 herein above.

2.4 The National Construction Authority (NCA)

Part II of the National Construction Authority Act 2011 establishes the NCA as a body corporate with perpetual succession and a common seal, with the primary goal of overseeing and coordinating the construction industry's development. Section 5 (2) of the Act warrants the NCA to perform functions related to the following (GoK, 2011);

i. Promoting and boosting the construction industry's development, improvement, and expansion.

ii. Advising and providing suggestions to the Cabinet Secretary (formerly Minister) on matters affecting or related to the building sector.

iii. Undertaking or conducting studies into any aspect of the building industry.

iv. Prescribing the credentials or other characteristics that must be met in order to register as a contractor under the Act.

v. Assisting with the export of construction services for the construction industry.

vi. Providing construction industry consulting and advice services.

vii. Promoting and assuring construction industry quality assurance.

viii. Encouraging the standardization and improvement of building processes and materials;

ix. Initiating and sustaining an information system for the construction industry.

x. Providing, promoting, reviewing and co-ordinating training programs for skilled construction workers and construction site managers offered by governmental and private approved training facilities.

xi. Accrediting and registering contractors and regulating their professional activities.

xii. Accrediting and certifying skilled construction workers and construction site supervisors.

xiii. Developing and publishing a code of conduct for the construction industry, and

xiv. Doing anything else that may be necessary for a more effective conduct of its functions subject to the Act's provisions.

These NCA functions all aim at ensuring the NCA achieves its core mandate, overseeing construction industry and promoting its development. Full performance on the NCA's functions would play a vital role in enhancing compliance levels among building contractors (Otido & Omwenga, 2019).

2.4.1 The NCA Regulations 2014

With the powers bestowed upon the Cabinet Secretary for Land, Housing and Urban Development by the NCA Act 2011, the then Cabinet Secretary published a set of rules and regulations dubbed 'The National Construction Authority Regulations 2014' in the Kenya Gazette on 6th June, 2014 via Legal Notice Number 74 of 2014, with the overall aim of regulating the construction industry's operations in Kenya (GoK, 2014). Generally, the rules and regulations revolve around;

i. Registration of contractors; outlining the procedure for application for such registration for both local and foreign contractors, evaluation criteria by the NCA, grounds for rejection of application, renewal of registration and upgrade of NCA class, restrictions upon registration, as well as continuous professional development of contractors.

ii. Registration of joint ventures and the ration of ownership of such ventures.

iii. Ensuring that construction works, contractors, and projects are identified and reported by their owners.

iv. Certification and accreditation of skilled construction workers and site managers in various classes, including details on eligibility.

v. Collection and payment of construction levy by project owners upon notification of such project.

vi. Enforcement of these regulations; including procedure for investigation of complaints, removal from NCA register and the liability bestowed on the employers and contractors.

As a result, both foreign and local contractors must be registered with the NCA under the heading of the construction work they intend to do, which is divided into eight categories; NCA 8 to NCA 1. NCA 8 at the lowest category of registration for Building Works entails contractors allowed to undertake building work contracts valued for Kenya Shillings Ten Million (Kshs. 10,000,000) and below, while NCA 1 at the apex is permitted to undertake construction works of unlimited monetary value. For one to be registered under a particular class, their experience, financial capacity, technical expertise as well as equipment at their disposal take centre stage in the evaluation of application for registration (GoK, 2011).

Table 2.1 NCA Classification of Building Contractors; **Source:** *GoK, 2011*

NCA Class	**Contract Value Limit (Kshs)**
NCA 1	Unlimited Contract Value
NCA 2	Up to 500,000,000.00
NCA 3	Up to 300,000,000.00
NCA 4	Up to 200,000,000.00
NCA5	Up to 100,000,000.00
NCA 6	Up to 50,000,000.00
NCA 7	Up to 20,000,000.00
NCA 8	Up to 10,000,000.00

Consequently, any act or omission that contravenes the provisions of these regulations is unacceptable and punishable. However, contravention of the various regulations has been recorded in several surveys. Such contravention or non-compliance is the bedrock of this research that seeks to rate (weight and rank) the factors identified to be influencing such non-compliance and develop a suitable compliance framework, through strategies, for adoption by both the contractors and the NCA.

2.4.2 The Code of Conduct for The Construction Industry

Kenya's Vision 2030 Development Blueprint acknowledges a well-developed construction industry as a notable driver of the country to global competitiveness by the year 2030 through, among others, influencing the quality of life of inhabitants and providing various choices in construction and related services (GoK, 2008). The NCA Act 2011 through section 5(2)(m) statutorily obligates the NCA to develop a code of conduct for the construction industry referred to as the Code. While recognizing the national values and principles of good corporate governance to be observed by all persons in Kenya, as established in Kenya's Constitution, Article 10, the NCA in 2016, published the first edition of the Code indicating the minimum acceptable standards for the players in the construction sector. The dynamism and progressive development of the construction sector led to the revision of the code, to yield the second edition of the code in 2019 (GoK, 2019).

The code exists to guide and regulate the conduct of parties involved in construction related activities and to establish the standards against which they can be measured and monitored. These parties include regulators, construction consultants, contractors, sub-contractors, employers, procuring entities, employees, skilled construction workers, site supervisors, suppliers and tenderers. In furtherance of the mandate, the code lays down the role of each stakeholder in the industry value chain in ensuring adherence to the minimum acceptable and professional conduct and spells out what generally amounts to unacceptable conduct in the industry. At the same time, the code provides practical and enforceable remedies in the event of breach (GoK, 2019).

Whereas the code of conduct embraces all stakeholders in the construction industry, the study's focus is on the conduct and regulation of the contractors by the NCA as their main regulator. The

code however highlights certain general compliance principles that all construction players need to observe for a healthy industry. These principles require the players to (GoK, 2019);

i. Behave in a fair, honest, and transparent manner.

ii. Assume and fulfill responsibilities in a timely manner.

iii. Avoid conflicts of interest.

iv. Avoid malicious or reckless injury to the reputation of other parties.

v. Understand and and comply with all applicable laws and regulations.

vi. Keep abreast with local and international best practices in the Industry.

vii. Advocate for the principles of quality construction practices.

viii. Assume responsibility for the construction process's economic, social, and environmental consequences.

ix. Respect and support a collaborative, multidisciplinary approach to construction.

x. Satisfy the requirements of the contract.

xi. Accomplish the objectives of this Code and promote its principles among industry participants.

The contractor, on the other hand, is expected to adhere to the following minimum standards in their undertakings, as outlined in section 3.2.3 as to (GoK, 2019);

i. Act professionally as per the requirements of their regulating body.

ii. Satisfy the requirements of the contract and accept written instructions as per the contract without inducements of any sort.

iii. Fully meet all statutory and contractual obligations in a timely manner in relation to employment conditions, occupational health and safety, training, fiscal matters, environmental stewardship among others.

iv. Undertake continuous professional development (CPD) programs organized/accredited by their regulating bodies.

v. Only use subcontractors if you have fair, unbiased, and formal contracts in place.

vi. Engage in fair or ethical practices in dealings with sub-contractors.

Where applicable, make genuine claims for further payment or contract time extensions.

vii. Seek clarification in a timely manner on any matter for which such clarification may be required to avoid unnecessary delays and cost overruns.

viii. Support the development objectives of the employer as per the contract.

ix. Abide by the scope and specifications of the contract.

x. Avoid giving false information for purposes of securing contracts.

xi. Always be in good standing as per the requirements of the accrediting body.

Similarly, the code any action or omission in contravention of this code as unacceptable, and relates to (GoK, 2019);

i. Failure to secure practicing licenses.

ii. Failure to adhere to acceptable labour relation practices.

iii. Failure to comply with the applicable codes.

iv. Failure to remit taxes, duties, levies and fines.

v. Undertaking construction in prohibited areas;

vi. Failure to comply with the applicable occupational, health and safety legislation and regulations.

vii. Abuse of power in contractual relationships.

viii. Falsifying documents and impersonation of officers.

ix. Accepting gifts, favours or other considerations, of anything more than token value from any party to the procurement value chain.

Primarily, the code of conduct seeks to encourage self-regulation by actors within the construction industry by displaying their commitment to the implementation of this code. In addition, the NCA is mandated to enforce the code of conduct by (GoK, 2019);

i. Exercise oversight in it, including taking remedial measures in case of breach.

ii. On its own motion or upon receipt of a complaint, inquire into the allegation of the violation of the Code of Conduct and take appropriate action as provided in section 22 and 23 of the NCA Act.

iii. Establish a complaint management system for reporting and receiving of complaints on alleged violation of this Code.

Specifically, the code of conduct mandates the NCA to conduct the following sanctions as remedies to non-compliance with the code (GoK, 2019);

i. A formal warning or reprimand.

ii. Referral of the breach to the appropriate professional association for action consistent with the relevant association's code of conduct.

iii. Issuance of fine(s) and or penalty.

iv. Disqualification from the particular procurement process.

v. Suspension of practising licence(s).

vi. Suspension of registration.

vii. Publication of the specifics of the breach, as well as the identity of the perpetrator.

viii. Deregistration of the party.

ix. Preclusion of the party from participating in all construction related procurement processes.

x. Subjection to internal disciplinary procedures of respective employers.

xi. Reporting of the matter to the National Police Service.

The NCA Regulations 2014 and the Code of Conduct for the construction industry relate to, through their provisions, the normative and rationalistic compliance approaches. Punitive measures such as suspension of licenses, deregistration, preclusion from participating in public tender, strict registration criteria by NCA as well as prosecution all aim at ensuring compliance is achieved by deterrence. On the other hand, both the Code and NCA regulations 2014 advocate for normative measures such as organizing and attendance of Continuous Professional Development (CPD) programmes and training to impart knowledge and share ideas among construction stakeholders, as a way of achieving assisted compliance. Full compliance with these regulations and maintaining professionalism in conduct of players would seal the compliance gap currently witnessed.

2.5 Legal and Institutional Framework

Legal and institutional framework, largely composed of existing laws, regulations, policies and the constitutionally established enforcement bodies or agencies, are a requisite to a safe and sound built environment (GoK, 2019). The legislations and regulations highlight the operating environment and compliance standards. In this section, the study explores these laws, legislations and institutions tasked with enforcing them, and discusses the extent of their success towards addressing the challenge of non-compliance with building regulations generally, in Kenya.

2.5.1 Key legislations in Kenya's Construction Industry

Table 2.2 below highlights the essential and relevant laws governing the Kenya's construction industry, analyzing their scope and gaps to inform the required compliance framework priorities;

2.5.2 Key Institutions Relevant to Construction Industry in Kenya

The key institutions tasked with the regulation and enforcement of the key legislations, their respective mandate and gaps existing in their execution of the given mandates are further highlighted in table 2.3 herein below;

Table 2.2 Legal Framework of Kenya's Construction Industry; **Source:** *Author's Construct,2021*

Legislation/Law	Relevance to Construction	Identified Gaps
National Construction Authority (NCA) Act 2011	An act of parliament providing for establishment, powers and functions of the NCA. NCA is mandated to oversee the construction industry and coordinate its development.	• Non-recognition, by the Act, of other actors' role in construction for example, County Governments. • Failure to give NCA investigative and prosecutorial powers.
Occupational Safety and Health Act (OSHA) 2007	Act of Parliament providing for safety, health and welfare of workers and all persons lawfully present at workplaces, for instance, construction sites. Requires all machinery, plant and equipment to be operated by only competent personnel	• No prescription for requisite standards for measuring safety at construction site; as well as mechanisms for for quality control on qualifications and training of plant operators.
Building Code 1968 (*Under Review*)	A set of rules and laws enacted under defunct Local Government Act in 1968; governing and specifying the minimum agreed levels of safety for structures & buildings.	• Currently lacks legal anchorage as Local Government Act Cap 265 was repealed. • Non-recognition of emerging construction technology; materials and techniques. • Laws are prescriptive rather than performance-based.
Environmental Management and Coordination Act (EMCA) Revised 2015	An Act of Parliament providing for establishment of an appropriate legal and institutional framework for management of environment. Establishes NEMA to oversee quality control in respect to environment, for instance, issuance of EIA licenses for proposed constructions and their inspection thereafter.	• Prescribes general standards on environmental protection and not directly related to construction industry.
Agreement and Conditions of Contract for Building Works	Highlights contractual relationship and obligations of the parties in a construction building project	• Despite its provisions being enforceable in law, it is one source of conflicts in construction contracts owing to selective application of its clauses in favour of some parties
Public Health Act Cap 242	Act giving authority and responsibility to health officials to take lawful action against any danger to health from unsuitable dwellings, including their demolitions	• Some public health officers given such responsibility lack requisite technical capacity, for instance, to identify defects in buildings.
Physical and Land Use Planning Act, 2019	Act making provisions for planning, use, regulation and development of land Requires subjecting of building plans to development control process and approval by County Governments	• Despite not making reference to the Building Code, the provisions of the Building Code are used by the County Governments to effect control.

Table 2.3 Institutional Framework of Kenya's Construction Industry; **Source:** *Author's Construct, 2021*

Institution	Mandate	Major gaps in mandate
National Construction Authority (NCA)	Oversees the construction industry and coordinates its development. Given powers to; give accreditation and register contractors, register construction works, accreditation and registration of skilled construction workers, encourage standardization & improvement of construction techniques and materials.	● Yet to fully operationalize the mandate to oversee the construction industry via regulations. ● Lacks investigative & prosecutorial powers to enforce own regulations. ● Overlapping mandate with County Governments, for instance, in inspection of buildings and building control. ● Lacks full authority and capacity to standardize and improve construction techniques and materials.
Directorate of Occupational Safety and Health (DOSH)	Director ensures compliance to safety and health requirements at workplace, including construction sites.	● Director may lack technical capacity to check building safety.
National Building Inspectorate (NBI)	To audit buildings for conformity with land registration, planning, zoning, building standards and structural soundness.	● Overlapping mandate with County Governments, Ministry of Lands and National Land Commission.
County Governments	Responsible for, among other roles, controlling development through building plan approvals and inspections during construction.	● Inadequate technical capacity in enforcement and compliance departments. ● Political interference in discharge of mandate. ● Reliance on outdated Building Code 1968. This is intended to be solved through the current review ● Non-recognition of other actors' roles in construction industry.
National Environmental Management Authority (NEMA)	Mandated by EMCA 1999 to generally supervise and coordinate all matters environment and be the government's principal agent in implementation of environment policies.	● Their role in building regulation is inclined to environmental protection hence decisions subject to approval by other authorities/agencies. ● Lack capacity to review critical components of buildings.

Joint Building and Construction Council (JBCC)	Aimed at advancing science and act of planning & building, promoting excellence in the construction of buildings & to suppress malpractice.	• Lacks legal anchorage despite publishing several policy guidelines in construction such as Agreement and Conditions of Contract for Building Works.
Kenya Bureau of Standards (KEBS)	Develops, promotes & enforces standards related to products, measurements, materials & processes; providing testing services & training. Mandated to develop construction standards.	• Inadequate technical personnel and capacity to carry out material testing for construction projects.

2.5.3 Key Observations made from the Legal and Institutional Framework

i. There is lack of coordination among various institutions involved in control and regulation of building construction including NCA, County Governments, KEBS, DOSH among others.This is supported by the findings in NCA (2015).

ii. NCA has not fully succeeded in realizing its mandate of overseeing and coordinating development in construction industry. This can be attributed to inadequate capacity, unclear scope of operation and overlap with other agencies, and gaps in legislation, for instance, lack of prosecutorial powers, among others (Gacheru, 2015; NCA, 2015; Otido & Omwenga, 2019).

iii. Majority of construction laws and regulations lack clarity of scope hence overlapping of mandates by enforcement institutions. For instance, the NCA's role to encourage standardization and improvement of construction techniques and materials overlaps with that of KEBS of promoting standardization in industry and commerce.

iv. Some building control authorities, for example, Public Health Officials are not adequately trained to inspect buildings for contravention of Public Health Act provisions. Even though these officials are professionals, they are not adequately equipped with technical skills on building technology, for instance, accessing and surveying on-going construction works (NCA, 2015).

v. There are instances of political interference in the enforcement of building laws and legislations, for instance, the Governor for Nairobi City County disbanding the Planning

Committee in 2019. Such actions are a hindrance to implementation of urban plans as asserted in Kitur (2019).

vi. Enforcement and quality assurance institutions are not fully equipped with the technical expertise and capacity required to carry out their mandate in respect to building regulation. For instance, KEBS may not have all the latest sophisticated equipment for materials testing. This may be attributed to the reason majority of construction materials such as concrete strengths are tested in private laboratories in the country and at a fee. This is a weak link in ensuring construction quality assurance.

vii. The Agreement and Conditions of Contract for Building Works April 1999 edition, which is currently in use has been cited as one major source of construction contractual conflicts, with some parties calling for its revision. Proposals have been presented on areas in need of further review or amendment, and whose implementation and operationalization is believed to be a solution to the contractual conflicts. The implementation of the draft Agreement and Conditions of Contract for Building Works 2020 by JBCC is anticipated to address the challenges experienced with the 1999 edition. Even though its provisions are enforceable in law–upon signing of contract between parties–the establishment of the publishing body, the Joint Building and Construction Council (JBCC) is currently not anchored in any construction law in Kenya but only registered as a company founded by Architectural Association of Kenya (AAK) and Kenya Association of Building and Civil Engineering Contractors (KABCEC) in 1980.

viii. Rising complexity and sophistication of construction has rendered certain provisions of the Building Code obsolete. For instance, the code's prescriptive material as opposed to performance-based and old construction technologies prescribed are not compatible in some more complex construction projects today. In addition, the Building Code lacks legal anchorage. However, efforts have been made to revise the code, with the first attempt leading to Draft Building Regulations 2009. These regulations were never adopted nor implemented. Subsequently, an executive order in 2019 to finalize and adopt the Building Code led to the amendment of NCA Act No.41 of 2011 to anchor the Building Code and enforce it. Spearheaded by a committee, the code has been reviewed through consultation with key construction industry stakeholders leading to the endorsement of the draft Building

Code 2020, reviewed and approved for stakeholder engagement and public participation. This is yet to be operationalized. When operationalized, the Building Code 2020 is expected to address the flaws of the Building Code 1968 through a streamlined building approval, enhanced accountability, clear role definition for parties hence reduced contractual claims, optimal use of resources, safe construction and enhanced collaboration among construction regulators. One of the draft's milestones is the shift from prescriptive material to a performance-based regulation to enable to enhance creativity, adoption of new technology and materials; as well as allowing for revisions every five years to adapt to the dynamic micro and macro construction environments (NCA, 2021). As opposed to the existing code which Kabando and Wuchuan (2014) regard as an impediment to the growth of building sector, the Building Code 2020 seeks to promote growth of this sector by encouraging investors and addressing the inadequate housing challenge.

2.6 Factors Influencing Compliance Levels of Building Contractors with Building (NCA and others) Regulations in Kenya

Several research and surveys have been undertaken in Kenya around the topic of building contractor regulation and its challenges. The studies conducted by Ndaire (2012), Gacheru (2015), Gacheru & Diang'a (2015), NCA (2019), Ndumia (2015), Nyaanga (2014), and Otido & Omwenga (2019) have collectively identified high project registration fees or construction levy; inadequate sensitization on NCA regulations; inadequate contractor technical and financial capacity; inadequate contractor training; reluctance by contractors to attend NCA workshops; alleged corruption by NCA officials in registration and regulation of contractors; inadequate NCA capacity in technical and financial resources; lack of prosecutorial power by NCA on errant contractors; overlapping of roles by NCA with other regulatory agencies; lack of coordination among the regulators yielding confusion among the regulated contractors among other challenges contributing to the low levels of compliance and non-compliance with NCA regulations among building contractors in Kenya as discussed below;

2.6.1 Construction Levy Imposed by NCA

Section 31 of the NCA Act 2011 provides for the imposition of a 0.5% construction levy on any construction project exceeding five million Kenya Shillings payable by the developer or client (GoK, 2011). Even though the burden of the levy is on the developers, Gacheru (2015) and

Gacheru & Diang'a (2015) agree in their studies that this levy has been criticized as being superfluous and an additional cost to the development process whose purpose is not clearly given. The effect of this levy on the SMBCs is that the NCA regulations requires the main contractor to ensure that the project owner has remitted the levy to the NCA and that such contractor should not commence construction works on any project whose owner has not notified the NCA and subsequently paid the required levy. Failure to adhere to this requirement, the NCA may cancel, suspend or revoke the registration of a contractor (GoK, 2014). However, further review of literature reveals that this levy was suspended by the NCA in the year 2017 via a notice, as a relief to developers who struggled with the payments in a lowly performing Kenyan economy (NCA, 2020). Consequently, despite being captured as one of the SMBCs' compliance factors in previous related research topics, this factor is invalidated for this study hence not investigated further.

2.6.2 Level of Contractor Sensitization on NCA regulations

The degree to which individuals are aware of the presence of development control restrictions is significant because it influences their willingness to follow them (UNCHS Habitat, 1999). Wahome (2013) adds that lack of awareness on regulations leads to non-compliance with the set regulations , negatively impacting on their implementation. Gacheru & Diang'a (2015) opine that many contractors are not adequately sensitized on the NCA's role, mandate, its regulations and the significance of complying with the regulations, a challenge that has left many contractors lacking the goodwill to comply with the regulations as echoed by (Otido & Omwenga, 2019). It may further be argued that as a result of inadequate sensitization on the role of NCA, the contractors have had a poor attitude towards NCA perceiving it as a government income generation tool, as cited in Gacheru (2015).

2.6.3 Technical and Financial Capacity of SMBCs

The workmen's expertise, experience, and personal ability all play a role in influencing the quality of their work and determining their effectiveness and efficiency (Adebayo, 2005). Moreover, Nyaanga (2014) holds that the competence and qualifications of contractors influence their compliance with regulations, and thus, standards of buildings in Kenya. According to Nyaanga (2014), many Kenyan contractors lack essential professional skills in the sectors of construction and engineering. This in turn translates to lack of professionalism and observance of

building regulations in undertaking construction projects. Ndaire (2012) opines that Small and Medium Construction Enterprises (SMCEs), in this context SMBCs, are faced with difficulty to access capital hence always financially constrained to undertake their projects effectively and efficiently. In addition, this financial incapacitation has led to their inability to employ skilled and competent workers hence they are deficient of requisite technical skills to effectively comply with regulations (Ndaire, 2012). Financial constraint as a factor for compliance has been equally held by Gacheru & Diang'a (2015) in their justification for reduction of construction levy by NCA.

2.6.4 Level of Continuous Contractor (CPD) Training by NCA

Among other core functions, the NCA is intended to promote and coordinate training programmes and research in the construction industry (GoK, 2011). Gacheru & Diang'a (2015) note that currently, the contractor training programme by NCA lacks proper coordination and is characterized by lack of proper curriculum, inadequate training structures and motivating strategies to enhance attendance. Usually, these trainings are ignored by contractors, many of whom send their representatives (Nyaanga, 2014). The curriculum is not in tandem with rapidly changing trends in construction thereby presenting a challenge in compliance in the wake of emerging technology.

2.6.5 Level of Transparency and Accountability in Contractor Registration and Regulation by NCA

Ethics and integrity that presuppose honesty and openness are integral components of any undertaking to ensure efficiency in the utilization of resources and effectiveness in service delivery (Mwenzwa, 2013). Even though the NCA disputes the allegations on corruption in their regulation process in (Gacheru, 2015), corruption in the registration of contractors by NCA through use of falsified registration documents and alleged bribery of NCA officials to obtain desired NCA registration classes and practicing licenses has been cited by Gacheru & Diang'a (2015) as a conduct that attracts and has contributed to the rise of quackery in the construction industry and whose effect is seen in the standards of buildings and ability by contractors to comply with building regulations. Moreover, Otido & Omwenga (2019) postulate that high level of corruption that exist in approval process and control of buildings construction has led to reduced regulation of building construction projects by NCA.

2.6.6 Capacity of NCA to Enforce Own Regulations

OECD (2000) opines that the contractor's ability to comply with [NCA] regulations is determined by how the different problems faced by both the contractor and the regulatory authority interact with the regulation's quality and design. Further, resource constraints cause a hurdle especially where they form a barrier to inspection and surveying exercises that are needed in order to disclose the true extent of of non-compliance. Often, resource constraint would imply that regulatory authorities have to rely on tip-offs from whistle blowers and the general public for a prompt action (Oded, 2013).

The NCA is constrained on financial and human resources. The authority is understaffed on requisite technical skills and capacity to successfully undertake its mandate of training, accreditation, sensitization, supervision, enforcement and research (Gacheru, 2015; NCA, 2019 Otido &Omwenga, 2019).

2.6.7 Lack of Prosecutorial Power by NCA

Sklansky (2017) defines prosecutorial power as the power to hold a trial against a person who is accused of crime to see if the person is guilty. Enforcers may regard the lack of a suitable tool, such as the ability to fine on the spot, as a major hindrance to effective control (Konisky, 2007). Even though the NCA Act 2011 outlines the various penalties for non-compliant contractors, Gacheru (2015) confirms that the authority lacks the power to prosecute errant contractors and that it has to rely on other agencies such as the police to have violators punished. As a result, the authority decries lengthy trial processes for violators of the regulations with some violators ending unpunished (NCA, 2019), presenting a gap in the Act.

2.6.8 Overlapping roles of NCA with other regulatory agencies

Various studies in the built environment recognize the multiplicity of regulatory agencies in the construction environment, for example, NEMA, DOSH, NCA, County Governments, among others. The agencies generally aim at promoting a safe and sustainable development. The NCA has been cited to be lacking clear guidelines on inspection of buildings, a factor contributing to its inadequate regulation of the contractors. Furthermore, its position is ambiguous, overlapping and conflicting with that of other regulating agencies, and it offers directions to contractors that

are obliged to be provided by other bodies, leaving contractors in a bind as to which instructions to follow (Gacheru, 2015; NCA, 2015; Otido & Omwenga, 2019).

2.6.9 Choice of Enforcement Strategy Adopted by NCA

The NCA is empowered to perform, among others, functions relating to enforcement of the NCA Regulations 2014 (GoK, 2014). Konisky (2007) notes that different rules may have different degrees of of success in their enforcement and call for different enforcement strategies. Enforcement of some rules may fail, for instance, because they are too long, unclear, or complex to interpret or enforce; because they ban good behavior or do not cover certain types of undesirable behavior. Furthermore, enforcers must employ certain compliance strategies such as prosecution, persuasion, negotiation, advice, education or promotion (Roberts *et al*, 2007). Gacheru (2015) states that NCA's enforcement strategy is indeed a hindrance to compliance, as she justifies the need for NCA to explain rationales for its laws and possible means of compliance in a patient and open-ended manner to ensure compliance.

2.6.10 Poor Coordination among Regulatory Agencies

NCA (2015) notes that there is no coordinated working relationship between the professionals and the regulatory agencies as far as building supervision and enforcement of non-compliance are concerned. Consequently, the approval processes to obtain requisite approvals from the agencies are lengthy as each agency uses its own unique parameters.

2.7 Factors Influencing Compliance with National Building Regulations; Case of Cape Town, South Africa

In a survey dubbed "Africa Construction Industry Performance Survey for 2018," which is one of the quarterly surveys of the performance of the construction industry in Africa conducted by a panel of construction industry players in various countries in Africa, only a dismal 13% of South African respondents felt any reason to smile with regard to the performance of construction industry in their country in the period 2017-2018 (Barnes, 2019). Despite South Africa's higher ranking in GDP, quality of life , among other aspects compared to Kenya, the researcher finds it significant to assess its construction industry performance , with focus on the industry's regulation and compliance status.

A number of building regulations and other laws exist in South Africa to manage and influence the construction industry's operating environment, and whose compliance with is a statutory requirement (Abimbola & Cattell, 2013). The national standards in respect to products and practices for the Civil Engineering and Built Environment are developed and maintained by Construction Standards Department within the South African Bureau of Standards (SABS) (CIDB, 2007).

However, Abimbola & Cattell (2013) note that non-compliance with enacted building by-laws has been reported and observed in Cape Town. For instance, residents of a Cape Town suburb protested against the Community Housing Company's (CTCHC) poor workmanship, alleging that the developer's houses were damp and prone to flooding in the winter, and that building developments had gone ahead without approved building plans, thus violating the National Building Regulations (Booysen, 2010; Peterson, 2010).

In addition, the promulgation of the National Building Regulations and Standards Act 1977 provided for authority for formulation of the National Building Regulations 1985 and later revised in 1988. Similarly, Local Authority By-Laws, Standards (Local and ISO), Codes of Practice, Occupational Health and Safety Act 1993, Physical Planning Act 1967 also seek to regulate the built environment. The South African government puts in place certain processes to be adhered to as a show of compliance with regulations including; clients submitting building plans, health and safety plans, surface water drainage plans to Local Authority for approval and the issuance of building permits (Meijer *et al*, 2002) and cited in Abimbola & Cattell (2013). In Kenya, it is the obligation of the clients to submit building plans to County Governments for approval but through professionals contracted by them (clients) such as Architects, similar to best practice countries like Singapore which require such plans to be submitted by external qualified persons–say professionals. One advantage developing economies are likely to derive from having plans submitted by such qualified persons in line of enhancing regulations compliance is eliminating bribery at the approval stage where clients have been accused of bribing approval departments and having such plans approved without thorough scrutiny of their structural integrity. This is an unlikely scenario with the professionals who must uphold professional integrity in their work, understand the adverse consequences of breach of regulations at such early stage of development, and want to see such projects materialize.

Moreover, the contractors are required to register with the Construction Industry Development Board (CIDB) which, among other roles, grades firms according to a scale from 1 to 9 for public tenders; and the National Home Builders Registration Council (NHBRC) whose requirements they must comply with (Van Wyk, 2004).

In their study on Building contractors' compliance with national building regulations in Cape Town, Abimbola & Cattell (2013) outline inadequate contractor sensitization on national building regulations, inadequate training and lack of qualifications among construction workers, questions and recommends for further investigation of the capacity of local governments to enforce construction laws, as well as the appropriateness of the requirements. The study documents that a fraction of building contractors were unaware of the existence of any legislation regulating building construction. Moreover, others perceive the regulations as poorly documented, too strict and adding onto construction expenses, all attributable to poor sensitization on their role and essence.

In regard to qualifications, the study opines that there is a wide knowledge and skills gap in the construction industry with a number of construction workers such as site managers, agents and tradesmen lacking formal construction qualifications, especially among the small registered firms which, the study adds, exhibit higher levels of non-compliance with the building regulations.

2.7.1 Observations made from the Kenya and South Africa Cases

i. Both countries have systems for regulating and controlling the operations in their respective construction industries, for instance, the CIDB versus NCA, the National Building Regulations versus NCA Regulations, Local Authorities versus County Governments in South Africa and Kenya respectively, as they both have Building By-laws, the Building Code, Physical Planning Act and OSHA (Abimbola & Cattell, 2013; GoK, 2011).

ii. The challenge of non-compliance with building regulations is a phenomenon witnessed in both countries (Abimbola & Cattell, 2013; Gacheru & Diang'a, 2015).

iii. Inadequate contractor sensitization on building regulations and contractor incapacity and incompetence have been identified by studies in both countries as contributing factors to non-compliance (Abimbola & Cattell, 2013; Gacheru & Diang'a, 2015; Ndaire, 2012).

iv. The study on South African construction industry records a higher rate of non-compliance with national building regulations among the small registered contractors, concurring with this study's justification of the scope on SMBCs in Kenya (Abimbola & Cattell, 2013; CAK, 2017; Kulemeka et al., 2015).

v. The submission of building plans for approval by clients themselves in South Africa rather than by professionals such as Architects, Engineers, among others is one likely factor for non-compliance with regulations at the approval stage.

2.8 Construction Regulation in Other Developing Countries; Case of Nigeria

As is the experience in other developing nations, Nigeria's construction industry is marred with challenges which impair the standard of construction attributable to, among others, low quality materials and workmanship, which can be addressed by enforcing relevant regulations (Adenike, 2006; Bamisile, 2004; Grema, 2006). Whereas construction regulation challenges are experienced in other developing economies same as Nigeria, the choice for Nigeria with the aim to draw similarities in such challenges with Kenya is not pegged on any peculiarity but on the basis of ready availability of useful information on the country's construction industry from various scholarly works.

Construction rules are commonly considered as the driving force behind high-quality construction in most Nigerian construction enterprises. Until the year 2006, building design, construction, operation, and maintenance in Nigeria lacked uniform regulations, guidelines, and standards;a scenario that resulted in a slew of dreadful outcomes in the construction sector and the built environment as a whole (Fuya et al, 2017).

In Nigeria, there has been a surge in the number of occurrences of building collapse despite the existence of building regulations, raising concerns on the effectiveness of the instituted construction regulations. These regulations are frequently disobeyed, resulting to low quality materials and work on site (Sani & Othman, 2011). Bamisile (2004) adds that whereas there exist a few national standards relating to general construction in Nigeria, many of these are unknown to the public and construction industry stakeholders.

Non-compliance in Nigeria, according to Gelder (2007), is as a result of two major challenges in the construction practice namely; unsound and unused regulations. Whereas 'unsound

regulations' challenge arise because regulations are frequently not clearly defined, 'unused regulations' refers to issues that occur from failure to use prescribed items and services. Causes of unsound regulation include misuse or misquoting of standards, non-compliance with regulations, and fake specifications (not job specific) and conflicting drawings.

2.8.1 Construction Regulatory Framework in Nigeria and its comparison with Kenya

From the above overview of Nigeria's construction industry regulation and compliance challenges similarly depicted by a surge in collapse if buildings, the two countries (Kenya and Nigeria) are faced with the same challenges in regulation of construction sectors. Consequently, this study reviews the regulatory framework of Nigeria's construction industry and compares its key legal and institutional framework with that of Kenya.

A regulatory framework, according to the Nigerian Institute of Quantity Surveyors (NIQS) (1969), is the due process of regulation surrounding a single topic that includes all relevant legislative documents (acts, regulations, annexes, etc.) and describes the agency or body responsible for enforcing the framework. Regulation of building contractors in Nigeria is chiefly vested in the hands of a statutory authority, the Council of Registered Builders of Nigeria (CORBON) established by Builders Registration Act Cap B13LFN 2004 of the Federal Government of Nigeria, whose key mandate is to oversee and organize the building industry's developments (Fuya et al, 2017), similar to the mandate given to NCA in Kenya. In addition, the construction industry is subject to legislations such as National Environmental Standards and Regulation Enforcement Agency (NESREA) Act 2007; Nigerian Urban and Regional Planning Act Cap N138LFN 2004; Occupational Health and Safety Act (OHSA) 2005 among others. The NESREA Act of 2007 is a collection of rules and regulations aimed at protecting the environment and its natural resources and ensuring its long-term development, (FGON, 2007), a similar role played by EMCA 1999 in Kenya.

Moreover, the Nigerian Urban and Regional Planing Act 2004 attempts to ensure that the country's planning is practical and purposeful in order to minimize congestion and poor environmental conditions (FGON, 2004), a role relatable to that of Physical and Land Use Planning Act 2019 of Kenya. OHSA 2005 contains laws and regulations to ensure safe and healthy workplaces, including construction sites (FGON, 2005) similarly addressed by OSHA 2007 of Kenya. Subsequently, several institutions are established by various legislations and

laws to enforce the regulations and whose roles and mandate span to the regulation of the construction industry. NESREA, established by the NESREA Act 2007, is in charge of developing and revising legislation on air and water quality, effluent limitations, the control of dangerous substances and other forms of pollution, and sanitation (FGON, 2007). This role is relatable to that of NEMA of Kenya in ensuring environmental protection and management. Moreover, OHSA 2005 establishes National Council for Occupational Safety and Health of Nigeria (NCOSH) to administer its provisions. The council enforces and implements OSH measures in the workplace including construction sites, promotes the protection of lives and properties, promotes OSH awareness, carries out inspection of workplaces and monitor the compliance of all regulations (FGON, 2005), a mandate performed by DOSH in Kenya.

The professional conduct and practice in Nigeria's construction industry is regulated by a number of bodies. The Quantity Surveyors Registration Board of Nigeria (QSRBN) established by Decree No. 31 of 1986 as the chief regulatory body for the practice of Quantity Surveying performs, among other roles, ensuring that QS graduates adhere to international standards, eliminating imposture and guaranteeing that all Quantity Surveyors working in the public and private sectors are QSRBN registered; ensuring that all firms are registered with the board and follow the profession's best practices and code of conduct. This mandate is given to BORAQS established under Architect and Quantity Surveyors Act 1934 Cap 525 of laws of Kenya. In addition, there exists the Council for the Regulation of Engineering in Nigeria (COREN) established by Decree 55 of 1970 and amended by no Engineers (Registration etc.) Act Cap E11 of 2004 Law of Federal Government of Nigeria mandated to regulate the practice of Engineering in all aspects and ramifications in Nigeria (FGON, 2004). In Kenya, the mandate of developing and regulating engineering practice is given to Engineers Registration Board of Kenya (ERB) by the Engineers Act 2011.

In addition to the regulatory bodies, Nigeria's construction industry has several professional bodies generally aimed at promoting the advancement of professionalism in the various professions. Some of the bodies include NIQS founded in 1969 to, among others, advocate for development of QS practice (Adeboyega, 2019). NIQS has a similar main objective to that of IQSK of Kenya. Nigeria Society of Engineers (NSE) founded in 1958 for Engineers shares in the objective of Association of Consulting Engineers of Kenya (ACEK) established in 1968. From

the above comparisons, it is observed that Kenya and Nigeria present a similarity in their regulation of the construction industry. Despite the existence of the regulatory laws, legislations, bodies and professional associations, Grimshaw (2001) notes that the current regulatory architecture in developing nations has flaws at the limits of responsibilities of its composite agencies, amounting to conflicts and ineffectiveness of the regulations.

2.8.1.1 Lessons Learnt from Nigeria and Relevance to Kenya

i. Review of construction regulation in Nigeria reveals that despite creating uniformity in building standards and regulations in 2006, the country has realized little success in delivery of quality construction products. This has been largely blamed on defiance to these regulations resulting in use of low quality materials and poor workmanship (Sani & Othman, 2011).

ii. Furthermore, non-compliance in Nigeria is attributed to inadequate sensitization on national construction standards among industry's stakeholders (Bamisile, 2004). Gelder (2007) adds that non-compliance also stems out of the opaqueness in the regulations as these are not clearly defined hence resulting in confusion in implementation.

By comparing the these two countries, the study intended to establish whether the challenges in construction regulation experienced in these two countries are born out of their regulatory framework or not. From the review and observations above depicting high similarity and further opined by Grimshaw (2001), there exist a possibility that these two countries share in the cause of low compliance with construction regulations. As a result, the findings of this study may be essential for implementation in the Nigeria's construction industry as well. By successfully implementing the study findings in Kenya and Nigeria, these countries can be a benchmark for other developing economies currently experiencing similar challenges the study seeks to address.

2.9 Construction Regulation in Singapore; A Comparative Analysis with Kenya

Webster (2020) defines best practice as a procedure that has been shown by research and experience to produce optimal results and that is established or proposed as a standard suitable for widespread adoption. The study aims at developing a compliance framework that would enhance the SMBCs' compliance with NCA regulations. As a result, a review of construction regulation best practices in developed economies such as Singapore, with established working

systems such as electronic One-Stop Shop building approvals, heavy reliance on qualified personnel for regulation and control of building and own local building standards among others, would be critical in achieving the study objective. Singapore is a unique case example of a developed economy, having transformed herself from a poor developing economy at her independence in 1965 to a world's modern industrial economy in one generation. As a result, her practices responsible for the success made in construction sector, are deemed relevant in the Kenyan owing to their common history as summarized in table 2.4 below;

Table 2.4 Comparative Analysis of Kenya and Singapore (Best Practice); **Source:** *Author's Construct, 2021*

Practice	Singapore	Kenya
Legal Framework	Has Urban Redevelopment Authority and Building Control Authority (BCA) as the statutory boards responsible for planning, building approval and control. The boards issue standards of practice and promote research and development in building construction sector.	There are different laws and regulations controlling building development namely Physical Planning and Land Use Act 2019, EMCA, NCA and Building Code 1968
Institutional Framework	Development control process is heavily dependent on external qualified persons, Accredited Checkers, Registered Site Supervisors (RSS), Licensed Builders as well as specialist builders. It is now mandatory for construction projects to seek a design review of the Professional Engineer's design by an Accredited Checker, without which any intended project would not proceed to the next level. The building regulations specify the minimum number of site supervisors for specific value of the building works. The Building Site Supervisors Manual has been developed and outlines the responsibility of each party involved in the construction process. High IT adoption in construction with well established Building Information Management System.	Construction Industry Professionals mainly play facilitative role in regulation. Low IT uptake in the construction industry, especially by the industry regulators such as NCA Lacks Building Information Management System (IMS).
Approval Procedure	Adopted electronic one stop shop/portal dubbed Construction and REAL Estate Network (CORENET). Consequently, approval process takes short period. There must be pre-consultation with BCA before submission of building plans for approval.	Has multiple institutions involved in building approval and inspections. Site inspections are ad hoc and purpose-based. Approvals are largely manual.

2.9.1 Key Observations and Lessons from Legal and Institutional Framework Comparison

i. High IT adoption in construction information management as well as one stop shop approvals in Singapore may be instrumental in solving the challenges associated with the multiplicity in regulation. The multiplicity of regulatory and approval institutions is a contributing factor to the lengthy and ineffective approval process and regulation of construction projects in Kenya. Uncoordinated regulation of contractors by several actors aids non-compliance with regulations especially where each actor assumes that a particular role has been performed by the other, all ending up not carrying out such role.

ii. Singapore acknowledges and highly values the role of professionals in construction regulation. Regulatory institutions, for instance, the County Governments in Kenya equally acknowledges the role of these professionals but who are inadequate in the County governments to fully carry out regulatory mandate. In addition, the professionals largely play facilitative roles in construction regulation in Kenya, contrary to Singapore where building control is largely vested on construction experts. Relying on regulating officers who are not professionals in construction is a weak link for ensuring compliance hence promoting non-compliance with regulations. Non-professionals are unlikely to employ the best compliance strategies.

iii. Construction regulation in Kenya is largely manual and multi-stage as opposed to the One Stop Centre (OSC) electronic system adopted by Singapore, which has been proved effective in approval. Manual regulation is a likely barrier to effective regulation of contractors, for instance, by NCA and even County Governments. Digital One Stop Portal is a cure for corruption as all regulating entities are brought on board hence low chances of colluding with any of them to evade the fair approval and regulation process. Manual supervision of construction works is a contributing factor to non-compliance with regulations as capacity constraints limit the stretch of operations to all areas in Kenya. However, this study acknowledges that plans to have one-stop shop approvals, regulation and monitoring of construction among the NCA, BORAQS, ERB among other stakeholders is underway and may soon address the challenge of manual and multiple stage and actor regulation.

iv. In Singapore inspection of construction works (which aids compliance with regulations) are scheduled, with the qualified person submitting progress reports at intervals to the BCA and making requests for such inspections in case of delays. This is contrary to the Kenyan practice where such inspections are ad-hoc, with some construction works going for months without inspection, further encouraging non-compliance with regulations.

2.9.2 Other Construction Best Practices in Singapore

In addition to legal and institutional framework practices in Singapore, the study further explores other significant best practices that could be attributed to the high levels of compliance with regulations in the country. While adopting the principle of compliance assistance which recognizes the fact that some non-compliance could be inadvertent and as a result of capacity constraints, as advanced by Chayes and Chayes (1995) managerialism approach of normative compliance, Singapore government has measures to assist construction companies including small and medium enterprises (SMEs), to comply with certain construction requirements. These include the following measures;

i. With an aim of supporting SME contractors which provide two-thirds of construction jobs in Singapore, the government awards more of government contracts (up to 80 per cent) to the SME contractors to help them secure public tenders (Li Sen, 2017). This is done in adherence with key principles of public procurement namely fairness, transparency and value for money. This is also implemented by the Public Procurement Regulatory Authority in Kenya, but has not penetrated the private sector.

ii. The government helps SME contractors without a track record with funding to take part in public tenders. This is achieved through the Gov-PACT initiative whereby the government provides grants to SMEs and start-ups to collaborate with and undertake projects initiated by government agencies, with those whose projects are approved being eligible for up to 70 per cent funding support for qualifying development costs (Li Sen, 2017).

iii. In the wake of Covid-19 pandemic, the government recognized the construction sector as one of the hardest-hit by the pandemic. A total of 1951 construction companies exited the sector in 2020 (Accounting and Corporate Regulatory Authority (ACRA), 2020). Consequently, the government set up a $1.36 billion fund dubbed Construction Support

Package to co-fund some of the extra costs construction companies have to incur to comply with more stringent virus-safety measures. Moreover,the government opted to bear the cost of covid-19 testing for the sector until March 2021 to further curb the spread of the virus at the sites. This initiative was the fruit of a discussion between the BCA, Singapore Contractors Association, the Specialists Trade Alliance of Singapore and other trade associations (Yong, 2020), aimed at offsetting some of the costs that would have otherwise been diverted from compliance with construction regulations, for instance, purchase of prescribed quality of materials.

iv. Singapore faces a shortage of skilled construction labour and has to rely on outsourced labour from countries such as China. Before the breakout of covid-19, China skilled labourers had to have skills certification done in their country before jetting into Singapore. However, most of China's construction certification centres were closed due to the pandemic, making this requirement a challenge and consequently causing construction skilled labour shortage in Singapore. To solve this situation, the Singapore government through the BCA gave a relief on China workers with work permit to enter Singapore without certification but instead obtain the same from their (Singapore) BCA training and certification institutions upon arrival, as a temporary measure to ensure construction companies are not faced with labour shortage and curb loss of construction productivity and any labour-related regulation non-compliance (BCA, 2020).

The study observes that some of the non-compliance factors compiled from previous studies around this research topic relate with the statements presented by proponents of both compliance approaches. From the summary of the relationship between non-compliance factors and compliance approaches presented in table 2.5 herein below, this study adopts a hybrid of both approaches. The question of attaining a balance in their adoption with regard to achieving the fourth research objective is further addressed through field study, contained in Chapters 4 and 5 of this work.

Table 2.5 Non-compliance factor and Compliance Approach Relationship; **Source:** *Author's Construct, 2021*

Non-compliance Factor	Relationship with Compliance Approaches
Low contractor sensitization on NCA Regulations	**Normative approaches** call for proof of legitimacy of rules. NCA needs to clarify regulations and show how fair they are. This also anchors on the need for a shared communication.
Inadequate technical and financial capacity of contractors to comply	**Normative approaches** recognize inadvertent non-compliance, arising from resource capacity constraints. Regulator needs to understand this and address such non compliance by ensuring capacity of the regulated entities rather than imposing penalties.
Inadequate continuous contractor training by NCA and; Reluctance by SMBCs to attend workshops	**Normative approaches** intend to address this if occasioned by failure on NCA. The body needs to bank on the shared discourse and knowledge on expectations by improving on training and its content coverage. **Rationalistic approach** comes in to enforce this if occasioned by contractors who fail to turn up for such training (as alleged in previous studies). Raising severity of penalty upon conviction for failure to turn up is one proposal by this school of thought.
Alleged Corruption in NCA registration and supervision of contractors	Even though largely focused on the regulator rather than regulated entity, corruption undermines the effort of increasing probability of conviction of defiant contractors as advanced by **rationalistic** school of thought. There are low chances of convicting an offender when registration and supervision falls short of transparency, accountability and integrity. Offenders are more likely to escape conviction after bribery.
Inadequate capacity of NCA to enforce regulations	**Rationalistic approaches** advocate for increased monitoring activities by regulators to increase chances of catching offenders. Therefore, this factor undermines such proposition, with the effect of impairing enforcement. Capacity of NCA must therefore be improved if rationalistic school of thought is to be adopted for achieving compliance.
NCA lacking prosecutorial power on offenders	One of the advocacies of **rationalistic** theoreticians is the amendment of legislations to increase probability of convictions. The study would adopt this advocacy in addressing this factor, to shorten the prosecution chain that has been cited as a weak link in enforcing compliance. The existing NCA Act 2011 does not give NCA such direct powers and have to rely on lengthy process of engaging police and other prosecutorial agencies such as Directorate of Public Prosecutions (DPP)
Inappropriate choice of enforcement strategy by NCA	The discussion on **both approaches** culminates into the recognition of these approaches as complimentary rather than mutually exclusive in application. It is proposed that a good enforcement system should encourage voluntary compliance or cooperation while at the same time coercing compliance from those unwilling to voluntarily comply or cooperate. This is achievable through a proper balance of the two approaches.

2.10 Study Gaps

A review of previous studies, journal articles and published works around this research topic collectively reveal a challenge in Kenya's construction industry, non-compliance with regulations. Studies have presented factors that influence building contractors' compliance with NCA regulations and consequently made various recommendations to address the identified

factors. Unfortunately, non-compliance with NCA regulations continue to manifest in the construction industry, as indicated in recent surveys on the causes of prevalent building collapse in Kenya. From the reviewed research works, the following gaps were identified;

i. Despite acknowledging non-compliance factors, no previous study rates the factor's contribution on such non-compliance among contractors.

ii. The previous studies around this research topic present general recommendations towards addressing contractor's non-compliance factors but without considering the factors' rating (by ranking and weighting). In addition, such recommendations lack expert opinion/ input.

iii. The previous studies have investigated non-compliance on contractors generally. Contractor's categories may experience different challenges hence factors affecting their compliance may vary. For instance, capacity related challenges are likely to be encountered by small and medium scale building contractors as opposed to large scale contractors.

iv. No study has investigated the choice and effectiveness of compliance approach adopted by NCA to achieve compliance from building contractors.

Consequently, this study seeks to address the following areas;

i. Specifically investigate non-compliance among small and medium scale building contractors (SMBCs) whose choice is justified herein above. With non-compliance challenges likely to be more pronounced at the lower cadre of contractor registration, this choice is deemed appropriate to fill the research gap left by general investigation of contractors.

ii. Compile and rate the non-compliance factors identified in previous studies. Such rating is intended to inform the recommendations on strategies for enhancing compliance among building contractors, drawn from best practices and taking into account expert opinion/ input.

2.11 Conceptual Framework

This chapter culminates in a conceptual framework that gives the visual presentation of the key variables, independent, dependent and the mitigating or moderating variables under study. Gacheru and Diang'a (2015) define a conceptual framework as a visual or written piece that describes through either narration or graphical presentation, the main items to be studied, for instance, key concepts or variables and their presumed relationships. Kyaka (2012) adds that

when clearly articulated, a conceptual framework has potential usefulness as a tool to aid the researcher to draw meaning from subsequent study findings. In this study, the conceptual framework provides a representation of the analysis of SMBCs' compliance factors with NCA regulations in Nairobi County and provides the direction of data collection and analysis. Therefore, it presents the organizing principle for analyzing factors influencing compliance levels of SMBCs with NCA regulations, while incorporating the mitigating or moderating variables with the effect of moderating the relationship between the dependent and independent variables through their interaction with the independent variables (Edwards & Lambert (2007), as shown in figure 2.1 below;

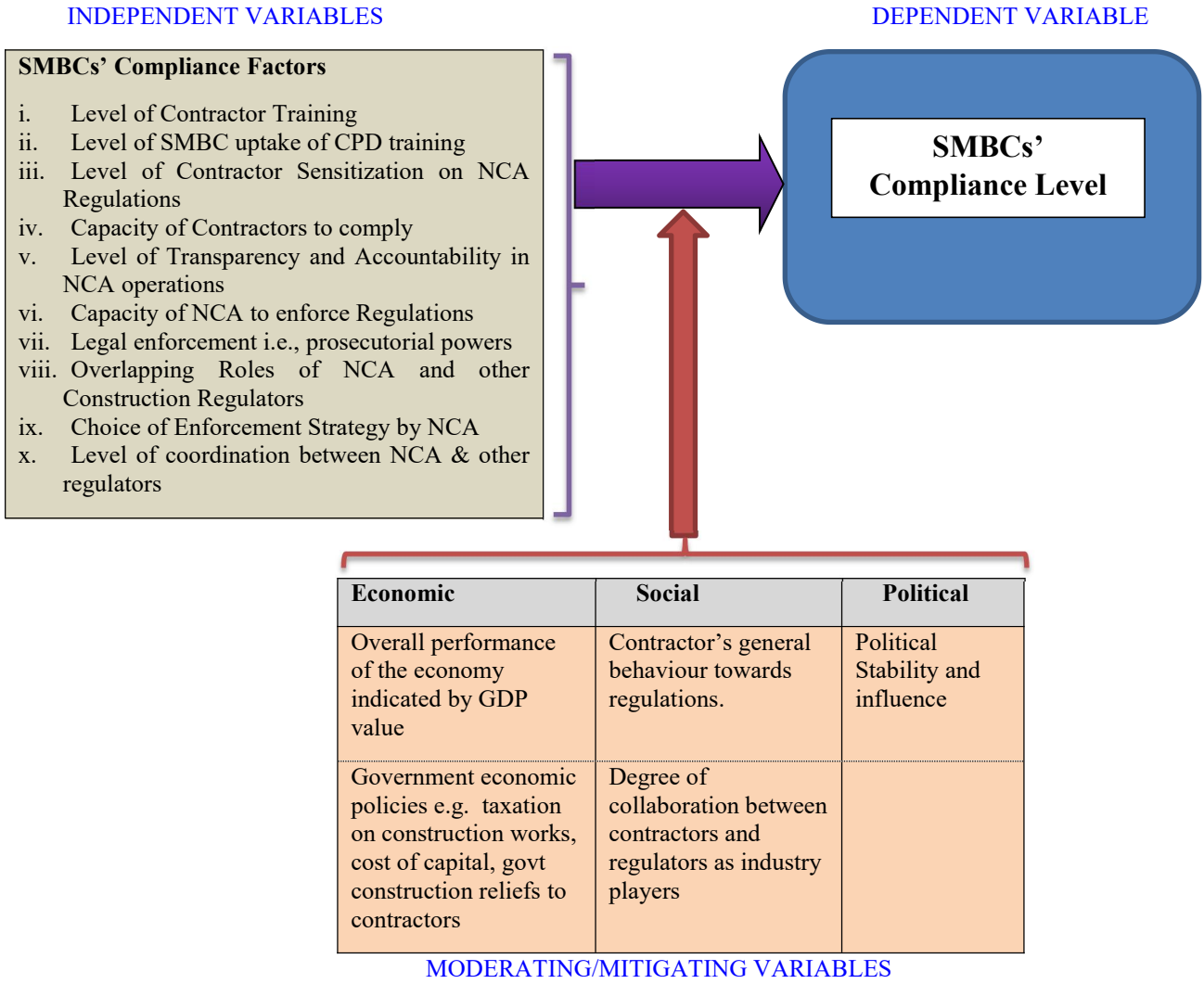

Figure 2.1 Conceptual Framework; **Source:** *Author's Construct, 2021*

2.12 Summary of Literature Review

Building regulation as a mechanism to ensure orderly, safe and sustainable development is significant and calls for involvement and active participation of all built environment stakeholders including regulatory bodies, contractors, professionals and developers or clients. Non-compliance with NCA regulations affects us all, either directly or indirectly hence the need for NCA as the main construction regulator and contractors as the regulated entity to play their part in as far as enforcement and compliance is concerned. Kenya and other developing economies such as South Africa and Nigeria continue to fight the challenge of non-compliance with building regulations despite the existence of established legal and institutional frameworks. Consequently, Kenya ought to borrow a leaf from nations such as Singapore whose good practice in construction regulation and procedure is internationally acclaimed and recognized as a benchmark; and to implement propositions from the theoretical review on joint application of rationalist and normative approaches of ensuring compliance from the regulated entities. This would, to a great extent, address the challenges associated with NCA regulations' non-compliance characterized by weak structures causing massive property destruction and loss of lives, dominance of work-related musculo-skeletal disorders (WMSDs) in construction workplaces and environmental degradation. Such adoption would help achieve the desired objective of NCA through their regulations to ensure sustainable development.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the research methods and techniques that were adopted to execute the objectives of this study. Particularly, the chapter discusses the research design, data sources for this study, study target population, sampling technique and preferred sample size, data collection instruments as well as their validity and reliability. It further discusses unit of analysis and justifies their suitability for the study, structure of main data collection instruments (questionnaire and interview schedules) and presentation techniques. Moreover, it looks at ethical considerations and culminates in the operational definition of variables.

3.2 Research Design

Research design refers to the scheme outline or plan that is used to generate answers to research questions (Orodho, 2003). Moreover, Yin (2009) describes research design as the arrangement of requisites for data collection and analysis in a way that ensures relevance to research objective. Essentially, it provides a framework within which data is collected, processed and analyzed to produce a valuable research output. This study aimed at collecting and investigating information on factors influencing compliance levels of SMBCs with NCA regulations, rating the factors based on their influence on compliance levels, proving that the current SMBC compliance levels are indeed low and devising a framework, through proposing strategies for enhancing compliance among SMBCs. In order to achieve these objectives, the study adopted a mixed research design, combining both the quantitative and qualitative elements in a complementary manner. Maxwell (2012) opines that a mixed research design is essential as it strikes a balance of efficient data collection and analysis, with the obtained data being more reliable, valid and providing context.

Quantitative descriptive approach aims at portraying and describing the state of affairs of a particular situation, by gathering data on certain frequencies of variables which are associated with some specific situation for interpretation purposes (Kothari & Gaurav, 2014). Furthermore, Orodho (2003) postulates that quantitative descriptive approach allows the researcher to observe or measure statistics to assess the relationship between or among variables without manipulating the independent variables, after collecting such information from a sample of individuals. In this

study, quantitative descriptive approach enabled the researcher to subject the respondents, particularly SMBCs, to the questionnaire containing structured questions and responses in a 5-point Likert Scale. Through this approach, the researcher sought to address the first, second and third research objectives.

On the other hand, qualitative approach is used to answer questions about experience, meaning and perspective. Data collected through this approach is usually not amenable to counting or measuring (Hammarberg *et al*, 2016). Similarly, Syagga (2019) states that qualitative approach seeks to provide in-depth description of real life experiences and give them meaning; and whose data is collected in form of words rather than numbers. In this study therefore, this approach assisted the researcher to seek answers from the respondents on mitigating mechanisms for non-compliance when addressing the fourth research objective.

3.3 Study Population

A population is a an entire group about which some information is required to be ascertained (Banerjee & Chaudhury, 2010). According to Kothari & Gaurav (2014), population is a complete set of objects or individual items with some evident characteristics and from which samples are taken from measurement. The population under study for the investigation and rating of the factors on their influence on compliance levels include NCA registered building contractors in category 5 to 8 (herein referred to as SMBCs) with physical address of and operating in Nairobi City County; and NCA officials drawn from the three NCA directorates namely Construction Research, Professional Development, Training and Capacity Building, directorate of Operational Services and directorate of Registration and Compliance. In addition, the study targeted construction industry experts and academics such as professors and lecturers from built environment faculties of Kenya's universities.

The study focused on SMBCs' compliance levels with NCA regulations hence SMBCs were deemed to be best placed to answer questions on factors influencing their compliance with NCA regulations and in response to first, second and third objectives of the study. This was further aided by answers from NCA officials pertaining to factors of alleged corruption, inadequate training programmes, inadequate capacity to enforce compliance and overlapping roles among others directly associated with the authority as identified in Chapter Two. Responses from experts and academics were equally sought after in addressing the fourth research objective.

According to the analysis of NCA's construction industry's capacity survey report of September 2019, there were 2846 NCA 8 to NCA 5 registered building contractors with physical address of Nairobi City County as distributed in table 3.1 below.

Table 3.1 Breakdown of NCA Registered Building contractors in Nairobi City County; **Source:** http://www.nca.go.ke/index.php/contractors-center/search-registered-contractors

CATEGORY OF REGISTRATION	NUMBER OF REGISTERED CONTRACTORS
NCA 5	605
NCA 6	785
NCA 7	694
NCA 8	762
TOTAL	**2,846**

The study further targeted 3 NCA officials, one from each NCA directorate and 3 respondents from the experts and academics category, arriving at a study population of 2,852. Whereas the researcher could not establish the exact number of NCA staff during the period of this research, three NCA officials, each drawn from the NCA directorates was deemed adequate and whose opinion was regarded as the valid and true position of the authority. Research constraints coupled with the busy schedule of NCA officials limited the number to three, otherwise, reaching more respondents would be more appropriate. Similarly, the study resorted to interviewing only three experts and academics from the larger population owing to research constraints. Being experts and academics, the researcher believes that working with this number was equally capable of obtaining informed, less biased but valid opinions from this category. The study population is illustrated in table 3.2 below.

Table 3.2 Breakdown of Target Respondents; **Source:** *Author's Construct, 2021*

CATEGORY OF RESPONDENT	TARGETED NUMBER
SMBCs	2,846
NCA officials	3
Experts and Academics	3
Target Population	**2,852**

3.4 Sampling and Sample Size

This section discusses the sample size adopted for the study as well as the sampling procedure used to arrive at the sample size. This discussion is captured under the following sub-sections;

3.4.1 Sampling

Sampling may be defined as a procedure where a fraction of data (sample) is taken from a large set of data (population) and the inference drawn from the sample is extended to whole group. Further, it is the process, or technique of selecting a suitable sample, or a representative part of a population, for the goal of ascertaining the population's parameters or characteristics (Patton, 1990). In addition, Mugenda & Mugenda (2003) describe random sampling as a process of selecting elements from a population in such a manner that each element in the sampling frame has an equal chance of being selected.

The study adopted both probability and non-probability sampling techniques. Probability sampling produces samples whose results can be generalized to the entire study population and allowing the researcher to calculate the precision of the estimates obtained from the sample to specify the sampling error (Rukwaro, 2016). Stratified random sampling method is therefore adopted to obtain a sample of the building contractors under study. Non-probability sampling, on the other hand, refers to sampling techniques for which a person's likelihood of being selected for membership in the sample is unknown. Consequently, purposive sampling entails a researcher intentionally selecting specific participants from their sampling frame because they have characteristics that the researcher desires (Neuman, 2007). Therefore, purposive sampling

was deemed appropriate for selection of NCA officials, experts and academics as respondents for the study.

3.4.2 Sample Size

A sample size may be defined as the number of items to be selected from the population to be studied, and whose findings will be used to make conclusions about the population (Kothari & Gaurav, 2014). Various authors on research methodology concur that a sample size should not be too small or excessively large, but rather be optimum such that it is an efficient and reliable representative.

The researcher adopted the Nachmias & Nachmias (1992) formula in determining the sample size for SMBCs from the population of 2846, while assuming 95% confidence level;

$$n = \frac{(z*z)\,(p*q)N}{e*e(N-1)+(z*z)(p*q)}$$ where;

n= sample size

z= standard deviation at 95% confidence level (in this case 1.96 worked from tables showing areas under normal curve)

p= % of target population assumed to have similar characteristics (taken as 95% for this study)

q= 1-p

N= population size

e= margin of error at 95% confidence level (1-0.95=0.05)

Therefore, the sample size, n, for SMBCs is;

$$n = \frac{(1.96*1.96)(0.95*0.05)(2846)}{(0.05*0.05)(2845)+(1.96*1.96)(0.95*0.05)} = \frac{519.33}{7.33} = 71 \text{ respondents}$$

In addition, as postulated by Israel (2012), a 30% addition is usually made to the calculated sample size to compensate for non-response during data collection. As such:

Sample size adjusted for non-response = 130% * n = 1.3 * 71 = 92 respondents

From this sample size, sample sizes for each stratum (NCA contractor registration category) were determined by the following formula;

$n_r=(N_r/N)n$ where n_r is the sample size for the stratum r; Nr is the population size for stratum r; N is the total population size for SMBCs and n is the total sample size for SMBCs. The results are tabulated as below;

Table 3.3 Disproportionate stratified random samples of SMBCs; **Source:** *Author's Construct,2021*

Stratum	Population size (frequency)	Sample size	Percentage
NCA 5	605	20	21.7%
NCA 6	785	25	27.2%
NCA 7	694	22	23.9%
NCA 8	762	25	27.2%
TOTAL	**2846**	**92**	**100%**

In addition, the study picked on 3 NCA officials and 3 respondents as academic and experts purposely selected, giving a total sample size of 98 respondents for the study.

3.5 Data Collection Instruments

The study targeted both primary and secondary data. Primary data was obtained from the respondents through administering questionnaires for SMBCs as the main tool for data collection, with interviews adopted for the NCA officials and experts. Secondary data, on the other hand, was obtained from existing published works and research studies on topics relevant to the study. The selection of these instruments was guided by the nature of data to be collected, time limit for the study and the study objectives. As held by Fisher (2004), these instruments enabled the researcher to collect more data as much as possible over a short period of time.

The questionnaire comprised both structured and unstructured questions drawn in line with the research objectives. Organized in three subsections, section A of the questionnaire intended to collect general information about the respondent including the respondent's work experience, answered by ticking the appropriate choice. Section B sought to gather information on influence of identified factors on compliance levels. It comprised three tables representing three groupings

of the factors influencing compliance, each containing structured questions with responses presented in a range of choices in a five-point Likert Scale. In addition, this section seeks SMBCs' rating of their compliance levels with NCA regulations through a 5-point Likert. Section C contained open-ended or unstructured question which sought after the opinion of the respondent on the remedies to the low compliance levels among SMBCs. Whereas structured questions aim at conserving time and money, as well as facilitating easier analysis as they are in immediate usable form, unstructured questions seek to encourage the respondent to give their in-depth and felt response without feeling held back in revealing any information (Mugenda & Mugenda, 2003).

Consequently, the interview schedules for NCA officials were drawn based on the reviewed literature from past studies and the findings from the administered questionnaires for purposes of corroborating these findings and any factors touching on the NCA as the regulator; as well as seeking the NCA's opinion on enhancing compliance of contractors. Moreover, the interviews with experts and academics sought to obtain information relating to best mechanisms for enhancing compliance levels based on the factors' rating from the study findings, reviewed international best practice and the theoretical underpinning.

3.5.1 Pilot Study for Validity and Reliability of Research Instruments

Correctness of data collected for purposes of research is heavily dependent on the instruments used to collect the data (Kimberlin & Winetrstein, 2008). This study relied on questionnaires and interview schedules for collecting data. Both instruments were designed based on the research variables outlined in the conceptual framework. As a key determinant of data correctness, establishing reliability and validity of the data collection instruments is a prerequisite.

Joppe (2000) describes validity as the extent to which an instrument measures what it is supposed to measure. Particularly, it focuses on how the questions in a questionnaire or interview answer research questions. On the other hand, reliability refers to the consistency, stability or dependability of the data. Whenever a researcher measures a variable, he or she wants to be sure that the measurement provides dependable and consistent results (Cooper & Schindler, 2003). Data need not only to be reliable but also true and accurate.

The researcher intended to achieve validity of the instruments by ensuring that the questions included in the questionnaire are pre-validated, precise, clear and objective. Consequently, the

questions included in the questionnaire were limited to what was reviewed in literature, whereas the interview questions were limited to the study findings from the administered questionnaires and reviewed literature. In further need to assess the validity and reliability of the instruments, pilot tests were conducted, as recognized by Orodho (2003). Five (5) questionnaires were sent to the respondents randomly picked, one from each stratum under study. This aimed at testing the clarity of the questions and whether it was possible for the respondents to answer them in line with the research objectives, and to inform the review of the questionnaires accordingly before actual data collection. The validity was determined by use of Content Validity Index (C.V.I). A C.V.I of 0.93 was obtained. This is considered a high index by Zamanzadeh *et al* (2015) hence the questionnaire contents were deemed valid for the study.

Moreover, the choice for a 5-point Likert Scale over 4-point Likert Scale aimed at ensuring validity of the study results as it allows for a lower margin of error. Brown (2010) opines that any scale without a neutral option can distort results and compromise their validity. He adds that the 5-point scale gives a deeper insight of the respondents' opinion and feeling, contrary to the 4-point or "forced Likert Scale" which forces the respondents to form an opinion.

To ascertain the reliability of the data collection instrument, an internal consistency technique using Cronbach's alpha was applied to the collected data in the pilot study as opined by Mugenda & Mugenda (2003). According to Mallery & Goerge (2003), Cronbach's alpha is a coefficient of reliability that gives an unbiased estimate of data generalizability. An alpha coefficient of between 0.7 and 1 is an indication that the collected data is reliable, with a relatively high internal consistency worth generalizing to reflect opinions of all respondents in the target population. A coefficient of 0.87 was obtained and hence the data deemed reliable.

To further ensure that collected data was reliable, the researcher sought after the help of research assistants in administering the questionnaires. Three volunteer research assistants were drawn from the undergraduate students from the department of Construction Management, Real Estate and Quantity Surveying at the University of Nairobi, with whom the researcher had contacts. Their help was sought after to save the researcher on time and effort to administer all the questionnaires within the limited study period. Moreover, this also ensured that the timing of the administration of the questionnaires was appropriately planned to minimize any chances of getting flawed results, usually partly a consequence of wrong timing of administering

questionnaires. As a result, the research assistants were trained on aspects relating to; understanding what the respondent was being asked in the questionnaire, how to approach the respondent and specific time for administering the questionnaire. The researcher preferred administration of questionnaires during the most human productive and efficient period of between mid-morning, say 10.00am and 12.00 noon (Barnes, 2015).

3.6 Data Analysis and Presentation Methods

This section entails the processes of preparing the collected data and transforming it into a useful form including; cleaning of data, editing, coding and processing to produce results. The study adopted a descriptive analysis of quantitative data. This data was processed using Statistical Package for Social Sciences (SPSS 21) and Microsoft Excel software to produce descriptive statistics. Preference for SPSS was due to its systematic analysis and ability to cover a wide range of the most common statistical and graphical data analysis including descriptive statistical measures such as percentages, means, median, Inter-quartile Range (IQR), frequencies and Relative Importance Index (RII). Ms Excel software was settled on as a back-up software due to its ease of understanding and use. Whereas the choice for frequencies and percentages was informed by their simplistic nature and ease of understanding and interpretation (Sinayev et al, 2015), Kometa et al (1994) in the determination of RII of the factors causing delays in the delivery of construction projects, portrays RII as an appropriate tool for prioritizing and ranking indicators rated on Likert-type scales. As a result, this measure was significant for the study in achieving the second research objective. The RII of each factor was achieved through the equation below, as adopted by Kometa et al (1994).

$$\mathbf{RII} = \frac{\sum \mathbf{W}}{\mathbf{AN}}$$ Where: -

RII is the Relative Importance Index ($0 \leq RII \leq 1$)

W is the weighting assigned to each option by the respondents for instance, this study had a range of 1 to 5 where 1 as the lowest weighting is attached to “Very Dissatisfied” and 5 as the highest weighting is attached to “Very Satisfied” as follows;

1=Very Dissatisfied, 2=Dissatisfied, 3=Neutral, 4=Satisfied and 5=Very Satisfied

W therefore is obtained by multiplying the total number of responses on the option by the rating for the option.

A is the highest weight, being ‘5’ in this research

N is the total number of respondents, in this study, the 66 duly filled questionnaires

Alternatively, the expanded version of the above formula is written as follows;

$$\mathbf{RII} = \frac{5*(n5) + 4*(n4) + 3*(n3) + 2*(n2) + 1*(n1)}{5*(n1+n2+n3+n4+n5)}$$

Where;

n1 = the number of respondents who selected Very Dissatisfied

n2 = the number of respondents who selected Dissatisfied

n3 = the number of respondents who selected Neutral choice

n4 = the number of respondents who selected Satisfied

n5 = the number of respondents who selected Very Satisfied

According to Tam & Le (2006), the RII takes the range of zero (0) to one (1) whereby zero (0) is disregarded and the factor invalidated. The higher the RII value, the greater the influence a particular factor has on SMBCs' compliance with NCA regulations. Furthermore, Tareq & Yasser (2017) adopts RII ranking scale with equal intervals, whose modified version the study used to interpret the RII values obtained. The scale is given in expressions as follows;

$0.10 \leq$ RII of Very Little Effect (**VLE**)<0.20

$0.20 \leq$ RII of Little Effect (**LE**)<0.40

$0.40 \leq$RII of Moderate Effect (**ME**) <0.60

$0.60 \leq$ RII of High Effect (**HE**) < 0.80

$0.80 \leq$ RII of Very High Effect(**VHE**) ≤ 1.00

The study adopted median together with IQR to analyze data collected from Likert Scale on the compliance level of SMBCs with NCA regulations. Weights were assigned to each Likert scale choice, ranging from the highest of 5 for "Excellent" to 1 for " Poor". The choice for median over mean–as the most commonly used measure of central tendency–was informed by Archilleas (2013) that opines that Likert scales generate ordinal data, which cannot yield mean values.

Therefore, a safer way to find what the “average” or “typical”response is, is by looking at the median response. In addition, measures of dispersion such as IQR express how strongly the respondents agree with each other (Archilleas, 2014). The choice for IQR was informed by Stephanie (2021) that holds that IQR is not affected by extreme outliers as in the case of standard deviation and range.

The results were then presented using tables, pie charts and bar charts for ease of understanding. Moreover, responses to open-ended questions on compliance enhancement mechanisms were analyzed using NVivo, a computer software program for analyzing qualitative data. Data from the 66 questionnaires collected were carefully read through, similar responses grouped together and each group assigned a unique code for ease of analysis. Results were given in percentages and presented through bar charts. Data from follow-up interviews with NCA officials and experts/academics were additionally analyzed and summarized results given in a discussion format.

3.7 Ethical Considerations

In the introductory sections of the questionnaires and interview schedules, the respondents were assured of the intention of the sought for data as strictly academic purposes and that information provided by them would be treated with utmost confidentiality and would only be accessible by the researcher and his supervisors. Furthermore, the researcher asked the respondents to conceal their specific identity, for instance, name and firm of the respondents in order to ensure anonymity. The researcher kept the confidentiality promise.

In addition, appropriate timing of interviews was done after consultation with the respondents and appointments subsequently booked. In addition, the interview questions were issued to academics/experts at least three days in advance to enable them to adequately prepare their responses. The interviews were timely, short and precisely targeting the research objectives, considering the tight schedules of the respondents. Interviews were conducted both physically and through Zoom online platform, at the convenience of the respondents. Physical administration of questionnaires was pre-planned upon consultation with the sampled respondents on appropriate timing for such questionnaires. This also saved the researcher on time and cost of administration as such questionnaires were instantly filled and collected by the researcher as well as research assistants. Due to the COVID-19 pandemic, the questionnaires

were also administered online to respondents who were physically unavailable, through the use of Google Forms. These were allowed a six-day period to fill and submit their responses. The duration took into account limited time available for the research and specifically timelines for data collection as per the study work plan and the respondents' (contractors) busy schedules.

3.8 Operational Definition of Variables

Operationalizing definitions refers to how the researcher will define each specific independent variables and dependent variable under study, indicating what to measure in the variables and how to measure them. This is shown in Table 3.4 as follows;

Table 3.4 Operational Definition of Variables; **Source:** *Author's Construct, 2021*

Research Objectives	i. To compile factors contributing to SMBCs' non-compliance and low compliance levels with NCA regulations. ii. To rate (by weighting and ranking) the factors on their contribution to SMBCs' non-compliance and low compliance levels with NCA regulations. iii. To prove that the current level of SMBCs' compliance with NCA regulations is low as opined by previous studies. iv. To propose a framework, a set of strategies that will enhance SMBCs' compliance with NCA regulations.					
Research Variables	**Type**	**Indicators**	**What to measure**	**Measurement Scale**	**Data analysis technique**	**Statistical Measure**
Inadequacy of Contractor training by NCA	Independent	Promote adequate, continuous and coordinated training of contractors and skilled workers	Influence on SMBCs compliance with NCA regulations	Ordinal, Ratio	Descriptive Analysis	Frequencies, Percentages
SMBCs Reluctance to undertake CPD and accreditation training	Independent	Encourage SMBCs to undertake CPD and accreditation training on safety and technology	Influence on SMBCs compliance with NCA regulations	Ordinal, Ratio	Descriptive Analysis	Frequencies, Percentages
Level of Contractor sensitization on NCA regulations	Independent	Upscale sensitization on NCA role and significance of regulations	Influence on SMBCs compliance with NCA regulations	Ordinal, Ratio	Descriptive Analysis	Frequencies, Percentages
Capacity of contractor to comply	Independent	Available requisite expertise and finances	Influence on SMBCs compliance with NCA regulations	Ordinal, Ratio	Descriptive Analysis	Frequencies, Percentages
Transparency and accountability in NCA	Independent	Promote free and fair contractor registration and supervision	Influence on SMBCs compliance with NCA regulations	Ordinal, Ratio	Descriptive Analysis	Frequencies, Percentages

NCA capacity to enforce regulations	Independent	Technical and financial ability of NCA to run operations	Influence on SMBCs compliance with NCA regulations	Ordinal, Ratio	Descriptive Analysis	Frequencies, Percentages
Legal enforcement powers by NCA	Independent	Available powers to prosecute defiant contractors	Influence on SMBCs compliance with NCA regulations	Ordinal, Ratio	Descriptive Analysis	Frequencies, Percentages
Duplicity of roles with other agencies	Independent	Presence of clear and distinct roles between any two regulators	Influence on SMBCs compliance with NCA regulations	Ordinal, Ratio	Descriptive Analysis	Frequencies, Percentages
Coordination among regulators	Independent	Harmony in flow of supervisory operations	Influence on SMBCs compliance	Ordinal, Ratio	Descriptive Analysis	Frequencies, Percentages
NCA enforcement strategy	Independent	Suitable strategy based on prioritization of causal factors	Influence on SMBCs compliance with NCA regulations	Ordinal, Ratio	Descriptive Analysis	Frequencies, Percentages
Performance of Economy	Moderating/ Mitigating	Current GDP value	Influence of performance of economy on SMBCs' compliance level	Ratio	Descriptive Analysis	Percentages
Government economic policies on Construction	Moderating/ Mitigating	Presence of tax reliefs on construction/materials, subsidized construction, interests on capital	Influence of government economic policies on SMBCs compliance levels	Ratio	Descriptive Analysis	Percentages
Contractor's behaviour towards regulations	Moderating/ Mitigating	Likelihood of compliance in absence of any push?	Influence of behaviour of contractors on their levels of compliance	Ratio	Descriptive Analysis	Percentages
Degree of collaboration between contractor and NCA	Moderating/ Mitigating	Inclusion of contractors body such as KABCEC in NCA decision making	Influence of collaboration between NCA and Contractor on SMBCs compliance	Ratio	Descriptive Analysis	Percentages
Political Stability and Influence	Moderating/ Mitigating	Normalcy in operation of government institutions without external influence	Influence of political stability and undue influence from political class on NCA operations	Ratio	Descriptive Analysis	Percentages
Ranking Compliance Factors	Dependent	Relative Importance Indices (RII)	Ranking of various factors' contribution	Interval	Descriptive Analysis	RII
Weighting Compliance Factors	Dependent	RII rating scale	Weight/ Effect of factor RII on non-compliance	Ratio	Descriptive Analysis	RII
Compliance level of SMBCs with NCA regulations	Dependent	Resultant Effect of Compliance Factors	Current Level of SMBCs compliance	Ordinal, Interval	Descriptive Analysis	Median IQR

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND DISCUSSION

4.1 Introduction

This research sought to investigate the compliance levels of SMBCs with NCA regulations. Specifically, it aimed at compiling contributing factors to SMBCs compliance levels and rating these factors, with the aim of developing, by making recommendations on strategies, an effective compliance enhancement framework for adoption in the regulation of building contractors. Similarly, the study aimed at exploring the alleged low compliance levels of SMBCs with NCA regulations. Research findings from the administered questionnaires were analyzed by SPSS version 21 software for the structured part and NVivo software for the open-ended part. Findings from the interviews were similarly analyzed by NVivo. Analysis generated results in form of percentages, frequencies, Relative Importance Index (RII) and median; and presented in tables, pie charts and bar charts. Such presentations were followed by brief interpretation and discussions guided by the study objectives and by answering research questions.

4.2 Study Response Rate

A total of 92 questionnaires were administered to the sampled respondents, employing both physical delivery and online administration via google forms. Out of these, 66 dully filled questionnaires were collected, representing a response rate of 71.7%. Mugenda and Mugenda (2003) opine that a response rate of 70% and above is an excellent representative of the study sample, hence, this was deemed adequate for further analysis. The 26 non-responsive questionnaires could be ascribed to the respondents who were unable to complete the questionnaires within the provided timeline of six days, largely those administered via google forms, owing to their busy schedules, limited research duration and restrictions on physical interactions occasioned by Covid-19 pandemic. However, this non-response was mitigated through the adjustment of sample size in Section 3.4.2 herein above, according to Israel (2012). In addition, the researcher interviewed all the 3 NCA officials and 3 experts/academics as sampled.

4.3 Distribution of Respondents

As a preliminary inquiry, the study sought to establish the distribution of the respondents according to the sampled strata (NCA classes) under study and the findings in frequencies presented in the pie chart below;

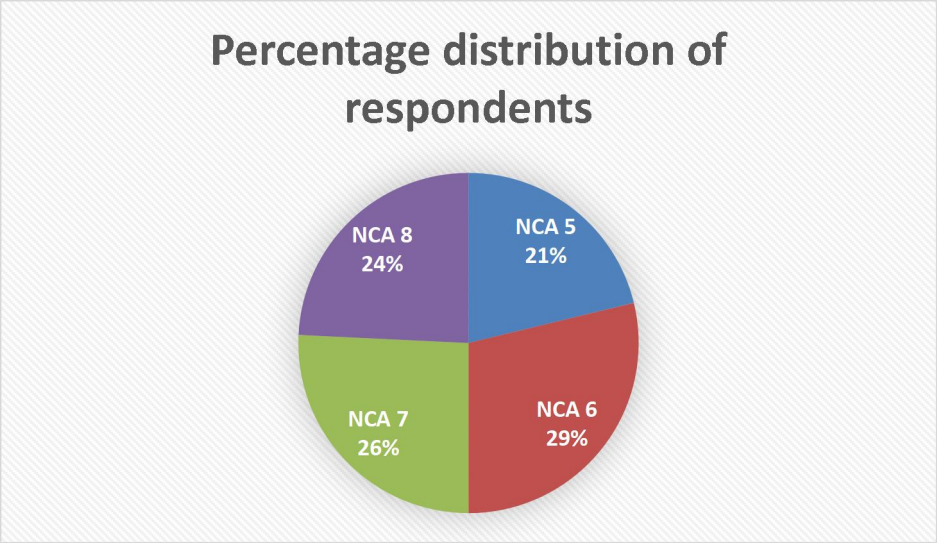

Figure 4.1 Percentage Distribution of Respondents; **Source:** *Field Study, 2021*

The above pie chart shows a balanced representation of the NCA classes of building contractors (strata) under study. Therefore, the findings of this study would be deemed to be representative of the category of building contractors under study.

4.4 Duration of Respondent Operation since Registration with NCA

The researcher further asked the respondents to indicate, by ticking the appropriate range, the number of years they had operated in the industry under NCA license, and results illustrated in table 4.1 herein below.

From the findings, at least 63.6% of the respondents cumulatively represented the period of operation between 4 to 9 years, which may be considered as equal to experience in construction. Therefore, the researcher considers majority of the respondents to be experienced enough in the construction hence their contribution to this study was found to be critical in ensuring validity of the study

Table 4.1 Respondent Duration of Operation Since NCA Registration; **Source:** *Field Study, 2021*

	Frequency				Cumulative Frequency	Percentage
Duration	**NCA 5**	**NCA 6**	**NCA 7**	**NCA 8**		
0-3 years	4	6	5	9	24	36.4%
4-6 years	2	5	8	7	22	33.3%
7-9 years	8	8	4	0	20	30.3%

4.5 Building Projects Completed by Respondents since NCA Registration

In further need to assess the SMBCs' exposure to construction and NCA regulations governing such construction, the study asked the respondents to indicate the number of building projects that they had completed, in a structured format. The findings were presented in table 4.2 below;

Table 4.2 Completed Projects by Respondents Since NCA Registration; **Source:** *Field Study, 2021*

Projects Category	Frequency				Cumulative Frequency	Percentage
	NCA 5	**NCA 6**	**NCA 7**	**NCA 8**		
Less than 5	3	4	4	6	17	25.8%
5 to 10	2	6	6	4	18	27.3%
11 to 20	3	5	3	5	16	24.2%
Above 20	6	4	4	1	15	22.7%
					66	**100%**

From the above tabular presentation, at least 46.9% of the respondents had completed more than 10 construction projects since their registration with NCA hence deemed to have been adequately exposed to construction (NCA) regulations. On the other side, only 25.8% had completed less than 5 construction projects and whose exposure would be considered low. This

score by contractors with less than 5 projects is equally vital for the research as the compliance challenges would be deemed to stretch even to new entrants in the construction business.

4.6 Factors Influencing Compliance Levels of SMBCs with NCA Regulations

Table 4.3 Percentage Distribution of Response-Scores; **Source:** *Field Study, 2021*

Statement		Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
1	Overlapping roles of NCA with other regulators causing confusion among contractors	45.5%	34.8%	0%	13.6%	6.1%
2	Inadequate requisite technical and financial capacity of SMBCs to comply	37.9%	40.9%	0%	18.2%	3.0%
3	Low levels of contractor sensitization on NCA regulations and mandate	39.4%	31.8%	4.5%	21.2%	3.1%
4	Inadequate contractor CPD training by NCA	25.8%	47.0%	4.5%	22.7%	0%
5	Lengthy process of punishing defiance by NCA due to lack of prosecutorial powers	33.3%	36.4%	3.0%	21.2%	6.1%
6	Uncoordinated regulation between NCA and partner regulators	39.4%	25.8%	4.5%	18.2%	12.1%
7	NCA's inadequate capacity to enforce own regulations	31.8%	30.3%	4.6%	24.2%	9.1%
8	Ineffective enforcement strategy adopted by NCA	27.3%	33.3%	9.1%	19.7%	10.6%
9	Reluctance on SMBCs to attend CPD & accreditation workshops by NCA	22.7%	30.3%	10.6%	28.8%	7.6%
10	Alleged corruption in the registration and supervision of contractors by NCA	18.2%	33.3%	10.6%	21.2%	16.7%
	Average Percentage	**32.1%**	**34.4%**	**5.1%**	**20.9%**	**7.5%**

Table 4.3 above shows the percentage distribution of the respondents' level of satisfaction with the statements on the factors influencing compliance levels of SMBCs with NCA regulations. At least 66.5% of the respondents averagely expressed their satisfaction with the statements on factors influencing SMBC compliance with NCA regulations with only 28.4% of the respondents indicating their dissatisfaction with the statements. The five-point Likert scale questionnaire used in data collection allowed for neutrality in the responses, which attracted the least average of 5.1%. On the five-point choice ranking, "Satisfied" topped at 34.4%, followed by "Very Satisfied" at 32.1% and "Dissatisfied", "Very Dissatisfied" and "Neutral" options at 20.9%, 7.5% and 5.1% respectively. The higher score by respondents generally satisfied with the statements validates the relevance and significance of the factors on SMBCs' compliance with NCA regulations.

The study grouped the factors influencing compliance levels of SMBCs with NCA regulations, as identified in literature review, into three categories namely; contractor-related factors, NCA-related factors and legislative factors.

4.6.1 Contractor-Related Factors Ranking

The Relative Importance Index (RII) and ranking of the two factors classified as "Contractor-related Factor Group" are as illustrated in table 4.4 below;

Table 4.4 Ranking of Contractor-related Factors; **Source:** *Field Study, 2021*

Contractor-related factors	**RII**	**Rank**	**Degree of Effect**
Inadequate requisite technical and financial capacity of SMBCs to comply	0.78	1	HE
Reluctance on SMBCs to attend CPD and accreditation workshops organized by NCA	0.66	2	HE
Result of Contractor-related Factor Group	**RII**	**Rank**	**Degree of Effect**
	0.72	2	HE

The surveyed participants ranked "Inadequate technical and financial capacity of SMBCs" as the most important factor that influences the low levels of SMBCs' compliance with NCA regulations in this group, with a RII of 0.78, implying high effect/influence. This top ranked factor's influence is further ranked as the second in its influence (effect) among all the factors explored in this study. "Reluctance on SMBCs to attend CPD and accreditation workshops organized by NCA" ranked the least important factor in this group with a RII of 0.66, also implying high effect/influence on SMBC compliance levels. This Contractor-related Factor Group's RII of 0.72 and implying high effect/influence placed it at the second rank among the three groups.

4.6.2 NCA- Related Factors Ranking

The RII and ranking of the six factors classified as "NCA-related Factor Group" are as illustrated in table 4.5 below;

Table 4.5 Ranking of NCA-related Factors; **Source:** *Field Study, 2021*

NCA-related factors	**RII**	**Rank**	**Degree of Effect**
Low levels of contractor sensitization on NCA regulations and mandate	0.77	1	HE
Inadequate contractor CPD training by NCA	0.75	2	HE
NCA's inadequate capacity to enforce own regulations	0.70	3	HE
Ineffective enforcement strategy adopted by NCA	0.69	4	HE
Alleged corruption in the registration and supervision of contractors by NCA	0.63	5	HE
Result of NCA-related Factor Group	**RII**	**Rank**	**Degree of Effect**
	0.708	3	HE

The results show that the surveyed respondents ranked "Low levels of contractor sensitization on NCA regulations and mandate" as the most important factor that influences the SMBCs' low compliance levels with NCA regulations in this group. Overall, this factor ranked third among all the factors explored in the study. On the other side, the factor "Alleged corruption in the registration and supervision of contractors by NCA" is the least important factor that influence SMBCs' compliance levels with NCA regulations, both in this group and among all the factors explored in this study. Overall, this group ranked third. All the factors in this group recorded a degree of high effect on SMBC compliance level, further implying the significance of these factors' contribution to the problem of low SMBC compliance with NCA regulations.

4.6.3 Legislative Factors Ranking

The RII and ranking of the three factors classified as "Legislative Factor Group" are as illustrated in table 4.6 below;

Table 4.6 Ranking of Legislative Factors; **Source:** *Field Study, 2021*

Legislative factors	**RII**	**Rank**	**Degree of Effect**
Overlapping roles of NCA with other regulators causing confusion among contractors	0.80	1	VHE
Lengthy process of punishing defiance by NCA due to lack of prosecutorial powers	0.74	2	HE
Uncoordinated regulation between NCA and partner regulators	0.72	3	HE
Result of Legislative Factor Group	**RII**	**Rank**	**Degree of Effect**
	0.75	1	HE

The results show that the surveyed participants ranked the factor "Overlapping roles of NCA with other regulators causing confusion among contractors" as the most important factor that influences the low levels of SMBCs' compliance with NCA regulations in this group. Overall, this factor was further ranked the first among all the explored factors in this study. On the other

hand, the factor "Uncoordinated regulation between NCA and partner regulators" was ranked the least important factor in this group. This Legislative Factor Group was ranked first, with its RII at 0.75 implying a high degree of influence on SMBC compliance level.

4.7 SMBCs' Compliance Factors Overall Ranking

Figure 4.2 below illustrates the ten (10) factors' overall ranking based on their RII;

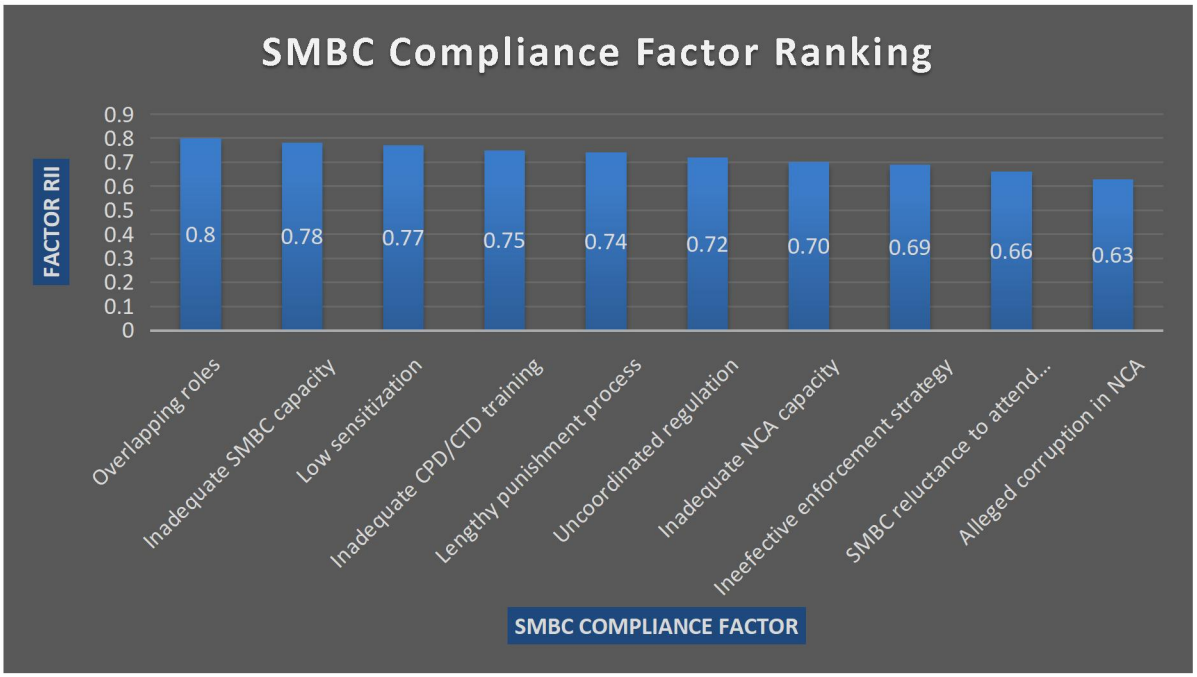

Figure 4.2 SMBC Compliance Factor Ranking; **Source:** *Field Study, 2021*

Figure 4.2 above illustrates RII and ranking of the ten (10) explored factors that influence the levels of SMBCs' compliance with NCA regulations in the construction industry in Kenya. The analysis therefore clarifies that the highest RII is 0.80 for "Overlapping roles of NCA and other construction regulators in Kenya" factor whereas the lowest RII is 0.63 for "Alleged corruption in the registration and supervision of contractors by NCA" factor. From the RII interpretation scale discussed in Chapter Three, the least important explored factor with RII of 0.63 has a High Effect (HE)/Influence on the problem in question–SMBCs' non-compliance and low compliance levels, while the most important factor as ranked by the study findings, with a RII of 0.80 has a Very High Effect (VHE)/ Influence on the problem. Moreover, nine (9) out of the ten (10) explored factors have a High Effect (HE)/ Influence on the problem. These therefore indicate that the factors compiled from previous studies as influencing contractor's non-compliance and

low compliance levels with construction regulations are highly relevant to the problem of SMBCs' non-compliance and low-levels of compliance with NCA regulations, that this study seeks to address. From the above figure, the factors are ordered as follows:

(1) Overlapping roles of NCA with other regulators causing confusion among contractors

(2) Inadequate requisite technical and financial capacity of SMBCs to comply

(3) Low levels of contractor sensitization on NCA regulations and mandate

(4) Inadequate contractor CPD training by NCA

(5) Lengthy process of punishing defiance by NCA due to lack of prosecutorial powers

(6) Uncoordinated regulation between NCA and partner regulators

(7) NCA's inadequate capacity to enforce own regulations

(8) Ineffective enforcement strategy adopted by NCA

(9) Reluctance on SMBCs to attend CPD and accreditation workshops organized by NCA

(10) Alleged corruption in the registration and supervision of contractors by NCA.

4.8 SMBCs' Compliance Factors Group Ranking

The 10 identified factors were grouped into three groups. The ranking of these groups is based on group importance as assessed by SMBCs who operate in the Kenya's construction industry, as illustrated in figure 4.3 below;

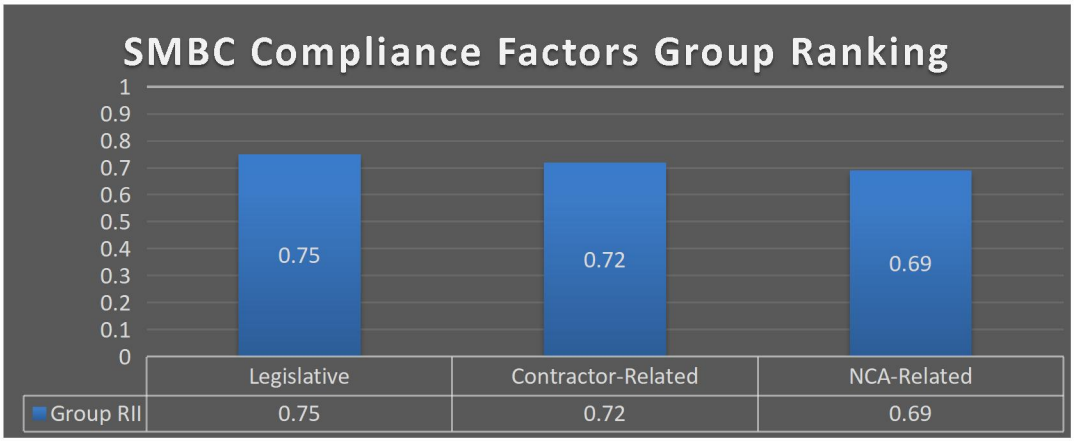

Figure 4.3 SMBC Compliance Factors Group Ranking; **Source:** *Field Study, 2021*

Figure 4.3 shows that the most important group of factors influencing SMBCs' compliance levels with NCA regulations is Legislative Factor Group with a RII of 0.75, followed by

Contractor-related Factor Group with a RII of 0.72 and NCA-related Factor Group as the least ranked with a RII of 0.69. All the groups' RII represent a High Effect (HE)/ Influence hence their relevance and significance towards the problem of SMBCs' non-compliance and low compliance levels with NCA regulations.

4.9 Compliance Levels of SMBCs with NCA Regulations

The researcher sought for the respondent's level of compliance with NCA regulations in a 5-point scale range of choices. Table 4.7 below illustrates the performance of each compliance level and the SMBC overall compliance level;

Table 4.7 Compliance Levels of SMBCs with NCA Regulations; **Source:** *Field Study, 2021*

Compliance Level	Excellent	Above Average	Average	Below Average	Poor
Frequency	7	17	18	18	6
Overall SMBC Compliance Level					
Median=3.0			IQR=2.0		

From the frequency distribution in table 4.7 above, further analysis yielded a median value of 3.0 for the data set and a corresponding IQR of 2.0. From the weightings attached to each level of compliance choice in the Likert Scale used, this median indicates that majority of the respondents had attained Average Compliance with NCA regulations. The corresponding small IQR of 2.0 shows that there was a consensus/ relatively good consistency in the results and that the compliance level choices as preferred by the respondents were closely associated with each other.

4.10 SMBC Suggestions on Improving Compliance With NCA Regulations

The study sought to devise a compliance enhancement framework by proposing strategies, to enhance SMBCs' compliance levels with NCA regulations. Consequently, in an unstructured question, the SMBC respondents were asked to suggest possible remedies to their low levels of compliance with regards to NCA regulations. The qualitative data collected from the 66 duly

filled questionnaires were carefully observed, similar responses grouped together and analyzed. Figure 4.4 below illustrates proposals from the analysis.

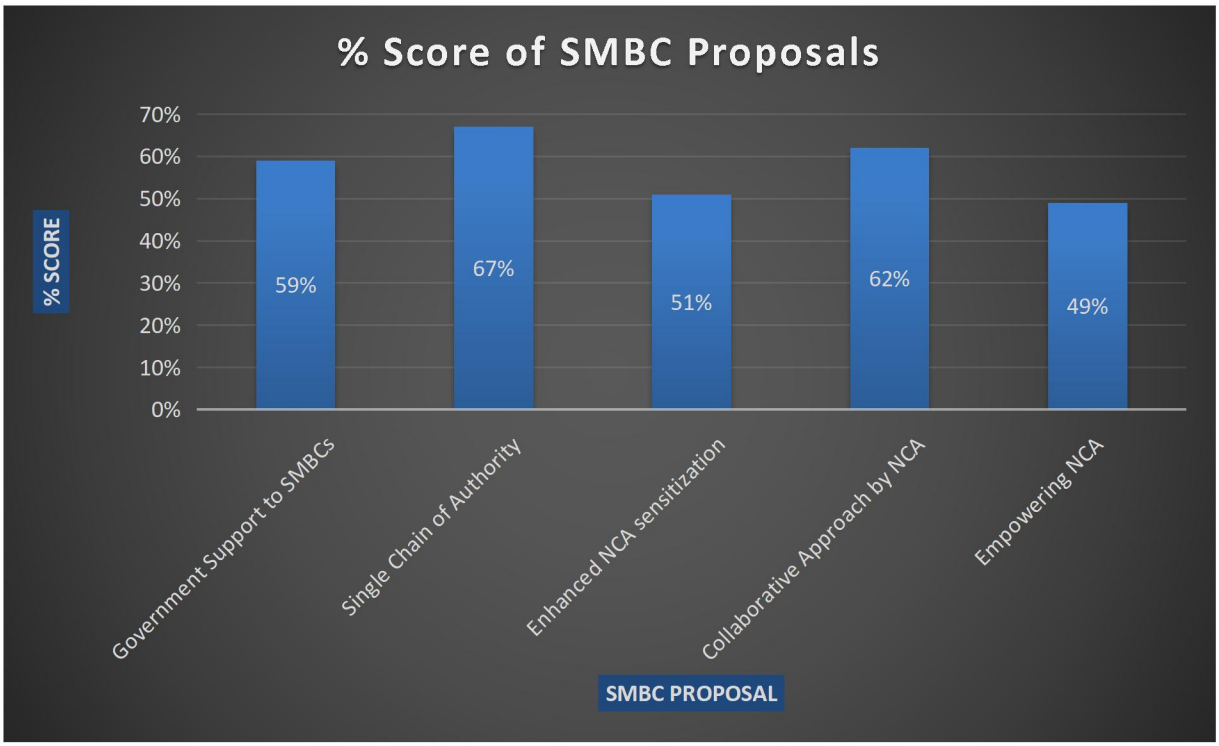

Figure 4.4 SMBC Proposals on Improving Compliance; **Source:** *Field Study, 2021*

The above bar chart illustration shows that call for a single chain of command and authority in the enforcement of building regulations topped the proposals, followed by a call for a collaborative approach by NCA in enforcement of their regulations, need for government support to SMBCs, need for enhanced NCA sensitization on mandate and regulations and finally need for more NCA empowerment.

The respondents propose for a single chain of authority by having one regulatory body to enforce all the building regulations, to mitigate against confusion that has arisen from various regulators with overlapping roles and conducting uncoordinated regulations. Furthermore, the respondents propose that the NCA would achieve higher levels of compliance from SMBCs if they reviewed their approach of enforcement from what they term as “harsh police” to a more cooperative and collaborative manner, by encouraging and motivating these SMBCs to comply. In addition, the respondents called for government intervention in supporting SMBCs, just like other SMEs, in

enhancing their management and technical skills for better results in their construction endeavour/ undertakings.

Moreover, the respondents propose for enhanced levels of sensitization by the NCA on their mandate and regulations to enable them understand the regulations better and appreciate their importance to them. Finally, there is a call for a more empowered NCA on its technical and financial capacity as well as legislative empowerment to improve on prosecution of non-compliance and defiance. Whereas some fraction of the respondents believe that the NCA has not been able to penetrate remote areas to ascertain compliance, the current law, NCA Act 2011, has contributed to the lengthy prosecutions hence the need for the law to be amended to allow the NCA to directly carry out this mandate. While advocating for a collaborative approach, the respondents similarly believe that inadequate capacity of the NCA is detrimental to the efforts to achieve higher compliance levels and consequently to improve the reputation of the industry.

The SMBCs' proposals concur with the findings in literature review from best practice and advocacies of compliance theoreticians. Call for a single chain of command and authority by the SMBCs follows in the need to have a "one-stop shop" platform for approvals, regulation and monitoring by the various stakeholders as seen in Singapore as best practice and whose proposals for adoption in Kenya is currently underway. Best practice hints at assisting small and medium enterprise contractors comply through intensified training, concurring with the SMBC proposal for aided training on technical and management skills.

Furthermore, the call for intensified sensitization on regulations agrees with the call for shared discourse and knowledge by normative compliance approaches as a way of achieving assisted compliance. On the other hand, call for strengthening of NCA concurs with the rational compliance theories' advocacy for increased likelihood of detecting and punishing defiance by the regulators. These proposals therefore confirm the literature review's proposal for a hybrid of both compliance approaches in enhancing SMBCs' compliance.

4.11 NCA Clarification on NCA-related Factors as Identified in Literature Review and Field Study

In order to verify the NCA related factors compiled from existing literature and ranked by the respondents, the researcher procured follow-up interviews with 3 NCA officials, to represent the

NCA directorates. In a one interview schedule organized into three sections for each respondent, the verbal responses from one-on-one interviews were recorded and summarized by the researcher in the question and answer format. The interview transcript is shown below;

Is the NCA satisfied that the sensitization on its role and regulations among building contractors and general public is adequate?

Interviewee A: Yes! This is one area the authority has greatly improved yearly. Though it may not be excellent, I would say the authority has highly performed in conducting construction industry stakeholder sensitization programs across the regions of the country. It is true the sensitization on NCA mandate and regulations may not have penetrated some remote corners of the country, it is the authority's focus to upscale such programmes across the country, subject to human and financial resource availability at the authority.

Has the NCA adequately conducted contractor CPD trainings and accreditation programmes for skilled construction workers respectively? Is the curriculum updated to make it effective in ensuring contractor compliance with the regulations in this era of rapidly advancing technology and need for sustainable development?

Interviewee A: Yes! The authority is focused on capacity building through continuous professional development and skills-upgrade to contractors and skilled construction workers. The authority runs annual training CPD seminars to all registered contractors with the aim of enhancing their technical and managerial skills. In addition, the seminars earn the attendants CPD points which increases their chances for annual practicing license renewal. The seminars are sector-based and tailored to address various capacity building needs in each of the classes of works. All accredited construction workers are additionally incorporated in skill-upscale workshops to address various capacity building needs in the seven (7) different trades in the industry, including accredited site supervisors on matters site supervisory and safety.

How would you rate the contractors' and skilled workers' attendance of the trainings? Does the NCA do a follow-up on attendance of the trainings to track any non-response and what has it done to improve attendance?

Interviewee A: So far, the contractors' and skilled construction workers' uptake of CPD and CTD programs respectively has not been quite impressive. Whereas the authority is devoted to

provide such capacity building programs, the authority has noted an average uptake of the trainings from the contractors and skilled workers, despite the popularization of the seminars in the mainstream media and on the NCA website. The legal framework however, does not grant the authority powers to compel attendance and this is seen as a down-dragging effort in ensuring compliance is achieved as those who do not attend these trainings still sneak into construction without attaining minimum CPD points for subsequent license renewal. The authority has eyes set on mechanisms to ensure all registered contractors and skilled workers attend the workshops, and strengthen surveillance on illegal practice .

With the setting aside of the 0.5% construction levy in 2017, what other sources of funding does the authority rely on and are they adequate to efficiently run the authority's operations? What is the authority doing to improve its financial status?

Interviewee B: Despite the NCA Act 2011, which regulates the authority's operations, providing the authority with powers to impose a construction levy not exceeding 0.5%, the authority set aside the levy in 2017 as a way to cut down construction levies and motivate developers in the industry. The authority has to run its operations and like other government agencies, must come up with own sources of funds to top up on the limited government support. The authority gets its funding from contractor registration fees, license renewal fees, fines charged on defiant developers, as well as from interests earned from its investments. However, the current financial base of the authority is inadequate to run its expansive operations across the country. Consequently, the authority is focused on expanding its investment base as a way to boost its finances. In addition, there are ongoing debates on the set aside construction levy, on the suitability of its re-introduction.

Does the NCA have the requisite human resource to adequately handle its technical operations countrywide? How best can the authority build on this resource to enhance its operations?

Interviewee B: Human resource is critical for the success of the authority's functions. The extensive supervision operations require a well-established technical staff. However, currently the authority does not have adequate technical capacity to conduct site inspections and enforce compliance countrywide. This deficiency can largely be attributed to the financial constraint the authority is faced with. It is the authority's hope that the financial capacity is improved to allow

for hiring of more technical personnel and increased continuous training of existing ones to enhance supervision.

Does the NCA currently have powers to directly prosecute contractors defiant of the NCA regulations without relying on County Governments and police? (If no) has the authority made any efforts to have such powers and would the grant of such powers enhance the success of the authority's regulation of contractors?

Interviewee C: No! Despite the mandate to oversee the construction industry, the authority relies on the County Government enforcement officers, who in turn partner with the police to make arrests and prosecutions, after identification and reporting of non-compliance. This longer chain of prosecution has presented a gap in the fight against non-compliance by contractors, with some instances of non-compliance hardly reaching arrest and prosecution stages. With proposals made to review the construction laws and have such powers transferred to the authority, we are optimistic that when effected, much is likely to be achieved with regards to prosecutions and deterrence of non-compliance from the contractors and developers.

Does the NCA engage the contractors, for instance, through their association (KABCEC) in making decisions on matters touching on their regulation requirements? What impact do you believe their inclusion in decision making would make/ has made towards NCA's efforts to ensure maximum compliance?

Interviewee C: The authority is guided by certain principles tailored to match the interests of construction industry stakeholders. The authority does not directly engage the contractors when making or revising regulations. However, these decisions focus on the wellbeing of the construction industry and the interests of its players. However, the stakeholders have always been engaged on certain aspects through public participation, for instance, on the National Building Regulations 2020 aimed at replacing the current Building Code 1968 in use. Whereas the authority believes in participatory leadership and has incorporated KABCEC in the authority's board sitting, inclusion of the contractors in making certain critical decisions regarding enforcement would slow down such decision making processes and negate the authority's efforts to sanitize the industry of malpractices. The authority however strives to sensitize all stakeholders on its decisions affecting them from time to time.

Are the registration and supervision functions of the authority in any way negatively affected by the political tensions and leaders' influence? (If yes) do you believe such interference can be mitigated and how?

Interviewee C: Political tensions are not good for any endeavour, be it business or regulation which the authority does. A politically charged atmosphere at times breeds negative ethnicity and fuels chaos in certain areas, especially in electioneering periods. Penetrating certain areas to inspect construction works may be problematic during such times and this is a good environment for and shielding against malpractices from the provisions of the regulations. There have been few instances where high ranking politicians try to meddle in the affairs of the authority, especially on taking actions against non-compliance. These politicians run construction firms and others are developers. It is shocking that as leaders, some choose not to follow due procedures in construction while they are supposed to lead from the front and going to extent of obstructing justice. The authority has however been firm in its decisions regarding compliance with its regulations, regardless of the violator's race, ethnicity or social status, and has consequently achieved much in taming such practices. We also encourage our leaders to always remain sober in their political engagements and avoid incitements of any form Funnily, some of these political leaders will be the first to castigate the authority when structures fail, for having failed in its mandate.

It has been alleged that the registration, upgrade of registration and supervision processes of the NCA are marred with corrupt deals. How true is this allegation and what is the authority doing to improve its image?

Interviewee C: NCA is a corruption free zone! Construction directly impacts on the society and therefore engaging in unscrupulous deals in such processes would mean trading with innocent lives. However, corruption is a national disaster as pronounced by the Head of State sometime back. The authority through its complaints desk, has received few reports of some of our officers colluding with developers and contractors to achieve approvals for registration and construction. Consequently, the authority has engaged accredited research bodies to conduct surveys on corruption eradication and whose results the authority has implemented. The fight against this vice is not an easy task and perhaps the reason we may not be able to see results in a day or two. The fight is continuous and the authority is optimistic that its operations will be free from any

form of corruption, spanning even to its financial management. The authority has called on all construction stakeholders to join hands in beating this giant [corruption] that most times happen at our watch.

There exist other construction regulators in Kenya, for instance, the County Governments, NEMA, Directorate of Occupational Safety and Health (DOSH) and Public Health Officers. It is stated that some roles of the NCA overlap with those of other regulators and whose uncoordinated enforcement has caused confusion among the regulated contractors. How true is this and does it affect the authority's achievement of maximum compliance from contractors? How can this be mitigated?

Interviewee C: The NCA Act mandates the authority to be the overall regulator of construction industry in Kenya and oversee its development. By its nature, the industry is adversarial and extensive attracting several tradesmen, professionals and different clientele hence the need for multi-agency approach to ensure effective regulation. All these mentioned agencies involved in regulation operate under specific laws from which their functions are defined. While the authority encourages multi-agency regulation, these laws need to be reviewed and clarified so that each agency has distinct roles in the regulation web. Similarly, there is need for the agencies to identify the flow of their involvement in inspections, with the NCA as the overseer. This will not only solve the overlapping of roles challenge but also save on the time, human and financial resources each of the agencies spend on performing similar functions.

It is stated that the current NCA compliance strategy is ineffective and has, on the contrary, contributed to contractor's low compliance levels with the regulations. Is this true? (If no) how would you justify its suitability for achieving compliance in the Kenyan construction industry?

Interviewee C: The authority has adopted a mix of both cooperative and punishment-oriented strategies to enforce its regulations. I believe it has been effective in achieving above average compliance from the SMBCs and by extension all contractors. The challenges highlighted here have partly contributed to its slightly above average performance hence improving on them is expected to boost its success. Furthermore, the authority conducts from time to time, compliance and registration framework forensic audits to evaluate and improve on the enforcement strategy.

4.12 Expert/Academics Opinion on Improving SMBC Compliance Levels with NCA Regulations

The researcher sought for varied opinions of three construction experts and academics on strategies for enhancing compliance levels of SMBCs with NCA regulations and the results from the three different interviews conducted on each question summarized in the discussion below.

1. *Has the NCA been successful in regulation of building contractors in Kenya?*

The experts acknowledged that building control and regulation is an elaborate process, spanning from approval of designs to completion and hand-over of final products. The NCA's mandate in regulation is equally wide and beyond contractor regulation. In unison, the experts interviewed agreed that indeed NCA has not performed to expected standards and that much better results would be realized if the NCA improved. However, the experts/academics noted that the performance of the NCA is largely pegged on its inadequate capacity in terms of personnel to effectively carry out its mandate.

2. *Reviewed literature cites government support and aid such as tax reliefs on construction materials, low or zero interests on borrowed capital and financial boost to SMBCs, as a contributing factor to contractor's compliance. Do you agree with this? Is the government of Kenya offering any such support to local contractors as a way of achieving assisted-compliance with building regulations?*

The experts/academics admitted that assisted-compliance draws its relevance from the challenges affecting the SMBCs. The experts recognized management deficiencies and inadequate technical expertise as the major problems SMBCs are faced with hence any assistance accorded to them must reflect these challenges. While appreciating the positive impact government support would have on small and medium enterprises in ensuring they thrive, the experts recommended the need for government funded contractor management training programs, claiming that poor management of these enterprises escalates into the major problems they face, including non-compliance with regulations. The experts added that financial aids to a firm in its management death bed is a waste of resources and would only be viable if they were secondary to such training.

3. *Does the overall performance of the Kenyan economy has an influence on the levels of compliance of Small and Medium scale Building Contractors (SMBCs) with NCA regulations? What measures would help buffer such effect?*

The experts/academics postulate that even though the status of the economy does have influence on compliance levels of SMBCs, such influence is indirect. They affirmed that it is always the desire of the SMBCs to remain in the construction business and that in most instances, non-compliance is never intentional. The hard-hitting effects of a poorly performing economy are directly felt by the developers, who in turn instigate short-cuts implemented by SMBCs, which translates to SMBCs non-compliance with NCA regulations. Some of these shortcuts include failure to have on site qualified Architects and Engineers as a cost cutting strategy, who are supposed to certify SMBCs' work hence opening a window for non-compliance. The experts further noted that some qualified professionals' names would be inserted in drawings submitted for approval but are actually not involved in such projects.

4. *A few management theoreticians have advocated for inclusive and cooperative management, which requires the managers to involve those they manage in making decisions that directly affect them. Has this been effective in the NCA-SMBCs case scenario, that the NCA incorporates the contractors' opinions before making decisions on regulations and enforcement strategies?*

The experts/academics noted that there seemed to be a big gap between the NCA and those they regulate and that a cordial relationship between them was lacking. They added that for a long time the NCA has been known as the "harsh policeman" by the contractors, especially the SMBCs who see them as a cause of interruption when the officials storm construction sites. As a result, the authority has allegedly inflicted fear among the contractors and has appeared to be ineffective in achieving compliance, as opposed to when good relations are established between the entities. Consequently, the experts proposed for the creation, and if at all it does exist, improvement on a continuous Public Relations exercise at the NCA coupled with a heightened civic education that the NCA is there to serve the interests of the SMBCs. Moreover, the experts observed that the effectiveness of KABCEC, which should be in the fore-front for advocating for contractors and actually sits on the NCA board, is questionable as it has apparently been silent on salient matters affecting their members. Experts are of the view that a close working relationship

between NCA and the contractors' body and engaging the contractors in a dialogue concerning the motives of the regulations is a requisite for higher levels of compliance, as seen in other professions and trades.

5. *It is held that the general behaviour of contractors towards building regulations influences how they respond to such regulations. For instance, that contractors will most likely comply with the regulations upon exertion of some force or application of some motivation by the regulators. How true is this statement and what measures can be put in place to minimize such effect?*

The experts observed that whereas laws exist to regulate the conduct of people, it is common to find that abiding by such laws calls for extra effort, either through civic education, coercion or both. They noted that contractors are not any different and such occurrence are not a surprise. While admitting that achieving compliance with certain regulations among SMBCs would call for different approaches including use of force, the experts and academics emphasized on having civic education adequately done among the SMBCs as a great step towards realizing higher levels of compliance. In addition, the experts propose that compliance would be achieved from the SMBCs if some of the regulations were incorporated into contracts they undertake, as they would be contractually bound to comply. However, the experts note that since such inclusion would attract more costs on the developers as the contractors price against the preliminary items, for instance, provision of health and safety on site; there is likelihood of resistance on such proposal from the developers hence adequate civic education must also be done to them to understand the importance of such changes. This would call for intervention of the State Department of Public Works as well as other influence groups in the construction sector.

6. *Among other objectives, the study seeks to rate (by weighting and ranking) factors that influence compliance levels of contractors (SMBCs) with NCA regulations. The SMBCs' ranking order of the factors from the analysis of field study data is as follows.(Listed in Interview Schedule in Appendix Three). Based on this ranking, what major measures would you recommend to enhance SMBCs' compliance with NCA regulations?*

The experts and academics interviewed made the following proposals on enhancing SMBCs' compliance with NCA regulations;

i. That the various laws governing the operations of the regulating agencies need to be reviewed and clarified so that the extensive construction regulation and control process is well understood and coordinated by the agencies under the NCA umbrella.

ii. The experts proposed a more intensified NCA scrutiny of the contractors on technical and financial capacity before registration as the first step to remedying incapacity of SMBCs as a compliance factor. While citing that it was such an easy process to become a registered contractor in Kenya, competent performance was a different aspect hence registration needed a more rigorous free and fair exercise and should be void of alleged corrupt deals in the exercise. Similarly, the experts and academics proposed the adoption of a more aggressive system of evaluating contractors for projects by the developers through professionals, to ensure the contractors have the requisite personnel and financial power to effectively implement NCA regulations for the success of such projects. In addition, they propose for government sponsorship of contractor trainings which should largely focus on management modules, to enable SMBCs manage own construction projects including finances and human resource.

iii. The experts and academics emphasized on enhanced civic education on NCA regulations among SMBCs as well as developers as a critical step towards enhanced compliance with the same regulations. The experts recognized that an informed and sensitized society is better placed to comply with regulations as opposed to an ignorant group who are more likely to resist or ignore such regulations and that even coercion may not yield compliance from them.

iv. The experts call for the government to ensure, through their relevant agencies, that there are available opportunities for undertaking structured trainings tied up with licensing for contractors. The structuring, as expressed by the experts and academics, should be cognizant of the dynamic nature of the industry with new ideas and technologies emerging daily and reflected in the curriculum, which should be frequently updated to match the skills-needs of the industry at the prevalent time. The experts believe that tying such training with licensing will solve the low uptake and reluctance from the SMBCs. In addition, sponsoring such training will encourage more SMBCs to be trained on emerging construction trends and management skills.

v. The experts and academics propose for the review of existing laws, especially on punishment of non-compliance to have such powers transferred to authorities that may achieve higher performance as the current mandated authorities have not proven success. The experts observed that indeed, Kenya has good laws but the problem comes in implementation. The experts noted that as currently constituted, the NCA relies on the County Governments to effect arrests and less of such arrests have been witnessed. As a result, they are of the view of having such powers given to the NCA as the overseer of construction, but only achievable through law reviews.

vi. Cognizant of the fact that the NCA may not be adequately endowed with the technical and financial prowess to oversee construction regulation, the experts proposed for having the NCA delegate some of its functions to partner regulatory agencies such as BORAQS to operate under it, especially those functions that overlap with the agencies' roles. For instance, the fight against non-compliance by contractors would largely be stepped up if the professionals on a particular project, say Quantity Surveyors and Architects were given powers to immediately take legal action against such contractors such as suspending their licenses at the point of defiance without having to wait for NCA's lengthy process of investigations before final decision. Moreover, the experts are of the opinion that the NCA could hire construction professionals to do construction inspections as a compliment to the authority's inadequate technical capacity to inspect all construction works across the country. Furthermore, the experts note that with the proposals to transfer prosecution role to NCA, more financial resources are needed for the success of this function. The experts therefore call on the government to empower the authority even as it (NCA) comes up with ways to boost and better manage its finances.

7. *From the theoretical perspectives of rationalistic (deterrence-based) and normative (cooperative) approaches of compliance on which this study is grounded, which direction would you recommend the NCA to take to achieve higher levels of compliance from SMBCs?*

The experts and academics unanimously proposed the adoption of a mixed approach of compliance with cooperative or normative strategies highly preferred but complemented with deterrence-based strategies on low scale. The preference for cooperative compliance was backed by the dynamic nature of construction industry with new ideas and technologies coming up

everyday and the need for continuous learning on the same. As a result, the experts postulate that enhanced civic education and engaging SMBCs in dialogue on expectations from and merits of the NCA regulations would go a long way in achieving higher compliance levels from the SMBCs. They add that this will eject the fear that has been inflicted on the SMBCs by the "harsh police" in NCA. The experts emphasized on the need for compliance by every construction stakeholder to be friendly; citing the notable transformation at the Kenya Revenue Authority (KRA) that banked on civic education that greatly contributed in making the citizenry know that taxes exist for the benefit of all. As a complimentary strategy, experts advised for low-scale implementation of deterrence-based or rationalistic approaches to achieve higher levels of compliance with NCA regulations from SMBCs. The experts and academics observed that being a capitalistic market characterized with intensive competition among contractors with intention to maximize their profit margins and remain in construction business, intensified inspections on construction works to identify non-compliance through shortcuts and taking necessary actions would greatly step up the efforts made by normative strategies.

The SMBCs and experts converge at need for intensified civic education, sponsored SMBC training on technical and management skills, more collaboration between the regulator and regulated contractors and empowerment of the NCA. Best practice as in case of Singapore and normative theoreticians underscore training as a way of enhancing compliance among the regulated entities, hence concurs with the propositions of the SMBCs and experts. Call for delegation of compliance enforcement roles to construction professionals by the experts concurs with the emphasis for active engagement of professionals in construction regulation, as opposed to the facilitative role they tend to largely play in Kenya.

In addition, the requirement by NCA to have legislation reviewed to give the authority direct prosecutorial powers and as supported by experts and SMBCs stamps the rationalistic approach proposal of intensification of punishment as a defiance detterence mechanism. Generally, there is convergence among the study respondents with regards to compliance enhancement strategies. The experts also note that whereas there exist good laws for the construction industry, laxity in enforcement has made stakeholders not believe in their existence and essence, a contributing factor to non-compliance. This stamps the call to crack the whip, even in the midst of collaborative compliance framework.

4.13 Challenges Encountered During Study

The COVID-19 pandemic came with restrictions on physical interactions in majority of offices, hence the researcher's decision to complement physical administration of questionnaires with online Google Form administration. However, the researcher experienced a reluctance and low response to the questionnaires administered via Google Forms. Consequently, the researcher had to swiftly shift to unanticipated physical administration in such instances. This increased the study duration and costs. Whereas cost was sufficiently addressed by the contingency allowance in the research budget, duration change prompted an the researcher's to adjust the work plan with regards to timelines, for instance, taking time off other duties in order to complete this study in time. In order to avoid similar challenges in future, the researcher recommends that more awareness needs to be created, especially in the construction industry on the need to embrace technology in the wake of fast-advancing technological world.

4.14 Chapter Summary

The study recorded a 71.7% response rate among SMBCs, with all the sampled NCA officials and academics/experts granting the researcher interviews. The SMBCs respondents were well balanced among the NCA categories under study, with the majority of the respondents recording construction experience exceeding 4 years and completing above 5 projects since NCA registration. Moreover, at least 66.5% of the respondents cumulatively expressed their satisfaction with the statements on compliance-influencing factors. Legislative factor group was ranked top, followed by contractor-related factor group and finally NCA-related factor group, with all the groups recording RII values implying high influence on SMBC compliance levels. On individual factor ranking, overlapping roles of NCA and other regulators was ranked top at RII of 0.80 implying very high influence on SMBC compliance levels, whereas alleged corruption in NCA was ranked the least influential factor. The respondents recorded an average compliance level with NCA regulations. This chapter further records SMBC suggestions on compliance enhancement, NCA clarification NCA-related factors as well as expert/academics opinion on improving SMBCs' compliance levels with NCA regulations.

CHAPTER FIVE

RESEARCH SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This study sought to investigate the compliance levels of SMBCs with NCA regulations. Particularly, it sought to compile the factors that have been identified in previous related studies to be contributing to the current compliance levels with the aim of rating (by weighting and ranking) these factors on their relative importance to this study topic, and finally proposing strategies in address of the study problem. Towards this end, the study investigated the compliance factor rating as well as the compliance levels of SMBCs with NCA regulations in a field survey of the SMBCs. In addition, it sought for the SMBCs proposals on improving their compliance levels as well as seeking the opinion of construction experts and academics on strategies for enhancing compliance levels of SMBCs with NCA regulations. This chapter therefore presents a summary of the study findings as discussed in Chapter Four, including drawing conclusions from these findings in response to the study objectives and proposition. It further provides recommendations made in addressing the research objectives and culminates into areas proposed for further research with regards to this study area.

5.2 Summary of Study Findings

5.2.1 Average Percentage Score of SMBCs' Level of Satisfaction with Compliance Factors

The respondents expressed their level of satisfaction with the statements on SMBC compliance factors given in a 5-point Likert scale as follows; The "Satisfied" response on all the factors scored an average 34.4%, closely followed by "Very Satisfied" at 32.1% and "Dissatisfied", "Very Dissatisfied" at 20.9% and 7.5% respectively. Only 5.1% of the respondents expressed their neutrality on the stated factors. Collectively, majority of the respondents (66.5%) expressed their satisfaction with the factors, with a minority of 28.4% showing dissatisfaction with the stated factors as influencing compliance levels of SMBCs with NCA regulation.

5.2.2 SMBCs' Compliance Factor RII Scores and Ranking

The two (2) factors under contractor-related factor group scored a RII of 0.78 for "Inadequate SMBCs technical and financial capacity" and a 0.66 RII for "SMBCs reluctance to attend CPD

seminars." Both RII implied a high effect on non-compliance, with the group scoring an average RII of 0.72 and ranking second. This performance justified the factor group's importance on the problem of SMBCs' non-compliance and low levels of compliance.

NCA-related factor group had six (6) factors investigated. Low contractor sensitization on NCA regulations and mandate emerged with the highest RII of 0.77 in this group, while "alleged corruption in registration and supervision of contractors by NCA" scored the least RII of 0.63. This factor group scored an average RII of 0.708 implying a high effect on non-compliance and ranking third.

Furthermore, the legislative factor group had three (3) factors, with the highest ranking "overlapping roles of NCA with other regulators" scoring a RII of 0.80 implying a very high effect on SMBCs' low levels of and non-compliance with NCA regulations. Lengthy process of punishing defiance came second with a RII of 0.74 and uncoordinated regulation ranking last in the group with a RII of 0.72. The group's average RII of 0.75 placed it at first raking among the three factor groups.

Overall, the SMBC compliance factors attained the RII scores and ranking as outlined in table5.1 below;

Table 5.1 SMBC Compliance Factor Ranking; **Source:***Field Study, 2021*

SMBC Compliance Factor	RII Score	Rank
Overlapping roles of NCA and other regulators	0.80	1
Inadequate SMBC capacity to comply	0.78	2
Low sensitization levels by NCA on regulations	0.77	3
Inadequate CPD/CTD training by NCA	0.75	4
Lengthy process to punish defiance	0.74	5
Uncoordinated Regulation by NCA and partner agencies	0.72	6
Inadequate NCA capacity to enforce regulations	0.70	7
Ineffective enforcement strategy by NCA	0.69	8
SMBCs reluctance to attend CPD workshops	0.66	9
Alleged corruption in NCA registration & supervision	0.63	10

5.2.3 SMBCs' Level of Compliance with NCA Regulations

The SMBC respondents' level of compliance with NCA regulations attained a median value of 3.0 and a corresponding IQR of 2.0. The median value interpretation implied that majority of the respondents had achieved average level of compliance with the NCA regulations, whereas the IQR implied that there existed high level of consensus in the outcome.

5.2.4 SMBCs' Proposals on Improving their Compliance with NCA Regulations

67% of the respondents were in support of the need to have the contractor regulation streamlined to see the process overseen by a single authority. 62% of the respondents proposed for adoption of a more collaborative approach by the NCA in seeking compliance from the SMBCs. Moreover, 59% of the respondents called on the government to support the SMBCs in enhancing their management and technical skills through sponsored trainings. In addition, 51% of the respondents called on the NCA to intensify their sensitization programs on their regulations for higher compliance levels to be achieved. Finally, the need for financial and human resource empowerment of the NCA, as well as law reviews to grant it prosecutorial powers got a 49% of the respondents' support.

5.2.5 NCA's Clarification on NCA-related and Moderating Factors of SMBC Compliance

The follow-up interview with NCA officials to shed light on the NCA-related independent as well as moderating factors got responses as summarized in table 5.2 below;

Table 5.2 NCA Clarification on SMBC Compliance Factors; **Source:** *Field Study, 2021*

SMBC Compliance Factor	NCA's Clarification
Low sensitization on NCA mandate and regulations	NCA (hereinafter referred to as the Authority) has greatly performed in this area. However, some remote areas may not have been reached. The authority is focusing on improving on this, subject to resource availability.
Inadequate CPD/CTD Training	Capacity building through CPD and skills upgrade is one of our strengths. Talk of the annual CPD and CTD seminars organized and popularized by the authority and in tandem with emerging trends in industry.
Reluctance in SMBC attendance of training workshops	Attendance currently not satisfactory despite our efforts to ensure they attend. No legislation provides for compelling attendance. We are however working on strategies to ensure compulsory attendance and strengthen surveillance on illegal practice.
Inadequate financial and technical capacity to enforce compliance	Authority faces budget deficits to adequately fund operations. Government financial support is limited. We have come up with strategies to muscle up our finances. Moreover, extensive supervisory operations requires a well established technical staff. Currently, authority lacks adequate technical capacity, a deficiency largely attributed to financial constraints. We are likely to improve on this when financial hitches are addressed.
Long process of punishing defiance due to lack of prosecutorial powers by NCA	We rely on County Governments who partner with police to effect arrests. This has slowed down the fight against malpractices. Already, proposals have been made to review law and transfer these powers to the authority, which we believe is best placed to execute such powers as the overseer of construction.
Collaboration between NCA and SMBCs in making decisions on regulation	No direct engagement in making critical enforcement regulations. However, such are made on certain fundamental principles and in the best interest of industry stakeholders. Stakeholders are engaged in certain process through public participation, for instance, in National Building Regulations 2020. Direct engagement in critical enforcement decisions is a barrier to successful enforcement.
Alleged corruption in registration and supervision of contractors by NCA	NCA is a corruption free zone! However, some few reports have been received through our complaints desk and the authority has taken them up. The authority is highly focused in eradicating this vice and has conducted corruption eradication surveys towards the course. All construction stakeholders must join hands in the fight.
Influence of political tension and leaders' on NCA mandate	Authority is legally established established and mandated to oversee the industry. We are not intimidated by political leaders. We have had few instances of such influence but the authority has always dealt with them in accordance with the law. Ethnic clashes fueled by political statements especially in electioneering periods is not healthy for our work as such environments encourage non-compliance due to difficulty to penetrate some areas and conduct inspections. We strongly condemn such acts from the political class.
Overlapping roles/uncoordinated regulation	NCA is the overall regulator of construction industry in Kenya. However, the extensive and adversarial nature of this sector needs a multi-agency approach in regulation. We have encountered instances of roles overlapping. On this, we call for law clarification and reviews for more distinct functions of each agency, even as the partners coordinate the regulation process for effective service delivery.
Compliance enforcement strategy by NCA being ineffective	Our mix of cooperative and punishment-oriented strategies have achieved an above average level of success in enforcing these regulations. However, there are challenges and our continuous compliance and registration framework forensic audits are intended to be a solution.

5.3 Study Conclusion

The study sought to compile SMBCs' compliance factors. Eleven (11) factors were compiled from previous related research works namely; overlapping roles of NCA with other regulators; inadequate technical and financial capacity of SMBCs to comply; low levels of contractor sensitization on NCA regulations and mandate; inadequate contractor CPD training by NCA; reluctance by SMBCs to attend CPD workshops; lengthy process for punishing defiance by NCA due to lack of prosecutorial powers; NCA's inadequate capacity to enforce own regulations; uncoordinated regulation between NCA and partner regulators; ineffective enforcement strategy adopted by NCA; alleged corruption in the registration and supervision of contractors by NCA and; high and unjustifiable levy imposed by NCA on developers. Further validation of the factors however revealed that "high and unjustifiable levy imposed by NCA on developers" factor was invalid at the time of this research as the construction levy had been set aside by the NCA in 2017. Consequently, the study proceeded with ten (10) factors which were subjected to field study analysis.

The second research objective was to rate, by weighting and ranking, the SMBC compliance factors compiled from previous research works. Based on each factor's RII as obtained from study analysis of field data, the study concludes that the SMBCs' compliance factors vary in their weighting, hence there exist a variation in the factors' contribution towards SMBCs' compliance levels. Overlapping roles of NCA and other regulators rated top with a RII of 0.80 and which implied a very high effect or influence on SMBCs' compliance. On the tail end of factor rating was alleged corruption in the NCA registration and supervision of contractors with a RII of 0.63, implying a high effect or influence on SMBCs' compliance. All the investigated factors had RII of high effect and above, leading to the conclusion that the investigated SMBC compliance factors were all significant to the problem this study sought to address.

The SMBC compliance factors had their RII and ranks as; **(1)** overlapping roles of NCA with other regulators, with RII of 0.80; **(2)** inadequate technical and financial capacity of SMBCs to comply, with RII of 0.78; **(3)** low levels of contractor sensitization on NCA regulations and mandate, with RII of 0.77; **(4)** inadequate contractor CPD training by NCA, with RII of 0.75; **(5)** lengthy process for punishing defiance by NCA due to lack of prosecutorial powers, with RII of 0.74; **(6)** uncoordinated regulation between NCA and partner regulators, with RII of 0.72; **(7)**

NCA's inadequate capacity to enforce own regulations, with RII of 0.70; **(8)** ineffective enforcement strategy adopted by NCA, with RII of 0.69; **(9)** reluctance by SMBCs to attend CPD workshops, with RII of 0.66 and lastly; **(10)** alleged corruption in the NCA registration and supervision of contractors, with RII of 0.63. These RII values which imply factor weightings and significance to SMBC compliance levels, leads to the conclusion that SMBCs' compliance factors have varying magnitude of influence towards SMBC compliance levels and confirms the study proposition that any two factors do not carry same magnitude of influence towards SMBC compliance level, but have different ratings defined by their weightings and ranking.

The legislative factor group ranking first with a group RII of 0.75 further leads to the conclusion that indeed, legislative actions needed to be taken to address the SMBCs' compliance. This is perhaps reflected in the top ranking factor on overlapping roles which has been established to be born out of conflict in legislations governing regulators. Even with the contractor-related factor group at 0.72 RII and NCA-related factor group at 0.69 RII ranking second and third respectively, all the three factor groups achieved RII values in the high influence category. These results can lead to a conclusion that all these factor groups are significant influencers of SMBCs' compliance with NCA regulations.

The study further further confirms that indeed, the NCA has not satisfactorily performed with regards to SMBCs' sensitization on its [NCA] regulations, collaboration with SMBCs in enforcement of regulations, coordination of SMBCs' regulation, as well as its enforcement strategy. In addition, the authority is confirmed to be lacking adequate technical and financial resources and continues to battle corruption reported in its operations.

The study also concludes that government support, political influence, performance of the economy, contractor's general behaviour as well as the level of collaboration between regulators and SMBCs mitigate the effect that some SMBCs' compliance factors have on their [SMBCs] compliance levels with NCA regulations.

In response to the third research objective, the study confirms that the current SMBCs' compliance level with NCA regulations is at average rating. In a range of 1 to 5, the SMBCs scored a median value of 3.0 thereby leading to the conclusion that the current SMBCs' compliance level with NCA regulations is still not satisfactory and proves the alleged low levels, despite previous studies identifying the non-compliance factors. Therefore, the study concludes

that for construction of structurally sound, environment friendly and sustainable buildings, there is need for improvement on SMBCs' compliance levels by acting on the study recommendations presented below.

5.4 Research Recommendations for Policy and Practice

From the research findings and conclusions drawn thereof, the study recommends the following strategies, in their order of preference for action, as a suitable solution to the average levels of SMBCs' compliance with NCA regulations;

i. Legal and Regulation Review: there is need for review and clarification of existing laws and regulations as a requisite for distinct roles of the multi-agency regulation team and a smoothly coordinated process under the NCA lead.Such review should consider reallocation of non-compliance prosecutorial powers from the County Government to NCA as a way of streamlining regulation of SMBCs.

ii. Greater evaluation: there needs to be a more intensified scrutiny of SMBCs on technical and financial capacity prior to registration by the NCA and adoption of a more aggressive system or criteria of evaluating SMBCs by developers, through their professionals, for projects to ensure that only competent contractors with the requisite technical and financial prowess to effectively implement NCA regulations are selected for the projects, as a remedy to non-compliance born out of SMBCs' incapacity.

iii. Training: Introduction of sponsored SMBCs' training, for instance, by the government, largely focused on addressing management challenges that these SMBCs are faced with, to enlighten them on how to effectively manage their human and financial resources for improved implementation of construction regulations.

iv. Awareness: NCA should intensify civic education on its regulations and mandate among SMBCs and developers as a normative compliance strategy.

v. NCA Capacity Building: Due to the NCA's inadequate capacity, the authority could resort to delegating some of its functions to partner agencies and hiring construction professionals to conduct inspections in areas beyond the authority's stretch of its already constrained

technical and financial resources. There is need to improve the NCA's technical and financial capacity to effectively carry out its supervisory role.

vi. Self-Regulation by SMBCs: there is need for the SMBCs, through the contractors body KABCEC, to develop and strengthen policies, principles and regulations that govern the conduct of their members as well as stringent actions against members who go against the principles, policies and regulations.

vii. Review of Enforcement strategy: NCA should review its existing enforcement framework to conform to a hybrid approach of compliance dominated by cooperative strategies and supplemented by rationalistic strategies.

5.5 Areas of Further Research

The study recommends that further research could be done on the following areas;

- The contribution of building developers/clients on contractors' non-compliance with building standards and codes in Kenya.
- Performance of County Governments in Kenya in supervision of building construction works within their jurisdiction.
- An investigation on the indicators of building contractors' compliance with building regulations in Kenya.
- An investigation into the compliance levels of NCA 1- NCA 4 contractors with NCA regulations.

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APPENDICES

APPENDIX ONE: QUESTIONNAIRE FOR SMBCs

CONTRIBUTIONS OF INFLUENCING FACTORS TO COMPLIANCE LEVELS WITH NCA REGULATIONS:

(A case study of small and medium scale building contractors in Nairobi City County)

Researcher: Owino Wyclise Okang'a

Reg. No: B53/35984/2019

University of Nairobi- Master of Arts in Construction Management

Questionnaire for SMBCs

Introduction

This is an academic research being carried out with the aim of evaluating the compliance levels of small and medium scale building contractors (SMBCs) with the existing NCA building regulations in the Kenya's construction industry. This questionnaire therefore seeks your opinion and views on compliance-influencing factors and how best contractor compliance with NCA regulations can be enhanced.

The questionnaire presents you with the opportunity to freely express your opinion as well as giving proposals on areas deserving improvements. Being one of the sampled contractors to contribute to this research, sparing your time to complete this questionnaire as accurately as possible and submitting is greatly appreciated. You are assured that the responses presented by you are purely for the purposes of this study and will be treated with utmost confidentiality.

Section A

I. What class of building contractor is your firm? Please tick where appropriate;
NCA 5☐ NCA 6☐ NCA 7☐ NCA 8☐

II. What category below represents your duration of practice under the NCA license? Tick where appropriate; 7-9 years☐ 4-6 years☐ 0-3 years☐

III. Which category below represents the number of building construction projects completed by your firm since registration with NCA?

Less than 5☐ 5 to 10☐ 11 to 20☐ Above 20☐

Section B

IV. Given in the table below are statements about perceived contractor-related factors that influence the levels of compliance of SMBCs in Kenya with NCA regulations. How would you express your level of satisfaction with the statements on their contribution to compliance? Kindly respond by ticking, an option that suits your experience.

		Very Satisfied (5)	**Satisfied (4)**	**Neutral (3)**	**Dissatisfied (2)**	**Very Dissatisfied (1)**
1.	Inadequate requisite technical and financial capacity of contractors to comply					
2.	Reluctance on SMBCs to attend CPD & accreditation workshops by NCA					

V. Given in the table below are statements about perceived NCA-related factors that influence the levels of compliance of SMBCs in Kenya with NCA regulations. How would you express your level of satisfaction with the statements on their contribution to compliance? Kindly respond by ticking, an option that suits your experience.

		Very Satisfied (5)	**Satisfied (4)**	**Neutral (3)**	**Dissatisfied (2)**	**Very Dissatisfied (1)**
1.	Low levels of contractor sensitization on NCA regulations and mandate					
2.	Inadequate continuous contractor (CPD) training by NCA					

3.	Alleged corruption in the registration and supervision of contractors by NCA					
4.	NCA's inadequate capacity to enforce own regulations					
5.	Ineffective enforcement strategy adopted by NCA to ensure compliance					

VI. Given in the table below are statements about perceived legislative factors that influence the levels of compliance of SMBCs in Kenya with NCA regulations. How would you express your level of satisfaction with the statements on their contribution to compliance? Kindly respond by ticking, an option that suits your experience.

		Very Satisfied (5)	**Satisfied (4)**	**Neutral (3)**	**Dissatisfied (2)**	**Very Dissatisfied (1)**
1.	Lengthy process of punishing defiance by NCA due to lack of prosecutorial powers					
2.	Overlapping roles of NCA with other regulators causing confusion among regulated contractors					
3.	Uncoordinated regulation between NCA and partner regulators					

VII. How would you rate your level of compliance with the NCA regulations under the following descriptions with respective weightings in brackets? Please tick where appropriate;

Excellent**(5)**☐ Above Average**(4)**☐ Average**(3)**☐ Below Average**(2)**☐

Poor**(1)**☐

Section C

VIII. In the spaces provided below, please suggest some of the ways in which the building contractors' compliance with the NCA regulations can be improved in the Kenya's construction industry.

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ii. ….……...……
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iii. ….……...……
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v. ….……..……
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viii. ….……..……
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ix. ….……
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x. ….……
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Thank you for your participation!

APPENDIX TWO: INTERVIEW SCHEDULE WITH NCA OFFICIALS

CONTRIBUTIONS OF INFLUENCING FACTORS TO COMPLIANCE LEVELS WITH NCA REGULATIONS:

(A case study of small and medium scale building contractors in Nairobi City County)

Researcher: Owino Wyclise Okang'a

Reg. No: B53/35984/2019

University of Nairobi- Master of Arts in Construction Management

INTERVIEW SCHEDULE WITH NCA OFFICIALS

Introductory note for all participants

I do appreciate the effort made, squeezing through your fixed schedule to participate in this interview. This is an academic research based on the aforementioned topic and the information provided shall purely be for the purposes of this study. You are assured that this information will be treated with the confidentiality it deserves and that your identity shall be protected. Your honesty and willingness to answer these interview questions is highly encouraged and appreciated.

Part A: Interview Questions for Official from NCA Directorate of Construction Research, Professional Development, Training and Capacity Building

1. Is the NCA satisfied that the sensitization on its role and regulations among building contractors and general public is adequate?
2. Has the NCA adequately conducted contractor CPD trainings and accreditation programmes for skilled construction workers? Is the curriculum updated to make it effective in ensuring contractor compliance with the regulations in this era of rapidly advancing technology and need for sustainable development?
3. How would you rate the contractors' and skilled workers' attendance of the trainings? Does the NCA do a follow-up on the attendance of the trainings to track any non-response and what has it done to improve attendance?

Part B: Interview Questions for Official from NCA Directorate of Operational Services (HR and Finance)

1. With the setting aside of the 0.5% construction levy in 2017, what other sources of funding does the authority rely on and are they adequate to efficiently run the authority's operations? What is the authority doing to improve its financial status?
2. Does the NCA have the requisite human resource to adequately handle its technical operations countrywide? How best can the authority build on this resource to enhance its operations?

Part C: Interview Questions for Official from NCA Registration and Compliance Directorate

1. Does the NCA currently have powers to directly prosecute contractors defiant of the NCA regulations without relying on County Governments and police? (If no) has the authority made any efforts to have such powers and would the grant of such powers enhance the success of the authority's regulation of contractors?
2. Does the NCA engage the contractors, for instance, through their association (KABCEC) in making decisions on matters touching on their regulation requirements? What impact do you believe their inclusion in decision making would make/ has made towards NCA's efforts to ensure maximum compliance?
3. Are the registration and supervision functions of the authority in any way negatively affected by the political tensions and leaders' influence? (If yes) do you believe such interference can be mitigated and how?
4. It has been alleged that the registration, upgrade of registration ad supervision processes of the NCA are marred with corrupt deals. How true is this allegation and what is the authority doing to improve its image?
5. There exist other construction regulators in Kenya, for instance, the County Governments, NEMA, Directorate of Occupational Safety and Health (DOSH) and Public Health Officers. It is stated that some roles of the NCA overlap with those of other regulators and whose uncoordinated enforcement has caused confusion among the regulated contractors. How true

is this and does it affect the authority's achievement of maximum compliance from contractors? How can this be mitigated?

6. It is stated that the current NCA compliance strategy is ineffective and has, on the contrary, contributed to contractor's low compliance levels with the regulations. Is this true? (If no) how would you justify its suitability for achieving compliance in the Kenyan construction industry?

Thank you for your time and co-operation!

APPENDIX THREE: INTERVIEW SCHEDULE WITH ACADEMICS/EXPERTS

CONTRIBUTIONS OF INFLUENCING FACTORS TO COMPLIANCE LEVELS WITH NCA REGULATIONS:

(A case study of small and medium scale building contractors in Nairobi City County)

Researcher: Owino Wyclise Okang'a

Reg. No: B53/35984/2019

University of Nairobi- Master of Arts in Construction Management

INTERVIEW SCHEDULE WITH ACADEMICS/EXPERTS

Introduction

Thank you for finding time off your busy schedule to allow this interview. The researcher is undertaking an academic research on the aforementioned topic and your input to this research is critical and seeks to enable the researcher achieve the study objectives. Information provided by you shall purely be for the purposes of this study and will be treated with the confidentiality it deserves.

Interview Questions

1. Has the NCA been successful in regulation of building contractors in Kenya?
2. Reviewed literature cites government support and aid such as tax reliefs on construction materials, low or zero interests on borrowed capital and financial boost to SMBCs, as a contributing factor to contractor's compliance. Do you agree with this? Is the government of Kenya offering any such support to local contractors as a way of achieving assisted-compliance with building regulations?
3. Does the overall performance of the Kenyan economy has an influence on the levels of compliance of Small and Medium scale Building Contractors (SMBCs) with NCA regulations? What measures would help buffer such effect?
4. A few management theoreticians have advocated for inclusive and cooperative management, which requires the managers to involve those they manage in making decisions that directly

affect them. Has this been effective in the NCA-SMBCs case scenario, that the NCA incorporates the contractors' opinions before making decisions on regulations and enforcement strategies?

5. It is held that the general behaviour of contractors towards building regulations influences how they respond to such regulations. For instance, that contractors will most likely comply with the regulations upon exertion of some force or application of some motivation by the regulators. How true is this statement and what measures can be put in place to minimize such effect?

6. Among other objectives, the study seeks to rate (by weighting and ranking) factors that influence compliance levels of contractors (SMBCs) with NCA regulations. The SMBCs' ranking order of the factors from the analysis of field study data is as follows. Based on this ranking, what major measures would you recommend to enhance SMBCs' compliance with NCA regulations?

Order of Factor Ranking

i. Overlapping roles of NCA with other regulators causing confusion among contractors.
ii. Inadequate requisite technical and financial capacity of SMBCs to comply.
iii. Low levels of contractor sensitization on NCA regulations and mandate
iv. Inadequate contractor CPD training by NCA
v. Lengthy process of punishing defiance by NCA due to lack of prosecutorial powers
vi. Uncoordinated regulation between NCA and partner regulators
vii. NCA's inadequate capacity to enforce own regulations
viii. Ineffective enforcement strategy adopted by NCA
ix. Reluctance on SMBCs to attend CPD and accreditation workshops organized by NCA
x. Alleged corruption in the registration and supervision of contractors by NCA

7. From the theoretical perspectives of rationalistic (deterrence-based) and normative (cooperative) approaches of compliance on which this study is grounded, which direction would you recommend the NCA to take to achieve higher levels of compliance from SMBCs?

Thank you for your time and insights on this research!

APPENDIX FOUR: UNIVERSITY RESEARCH LETTER

UNIVERSITY OF NAIROBI
DEPARTMENT OF REAL ESTATE & CONSTRUCTION MANAGEMENT
P.O. Box 30197, 00100 Nairobi, KENYA, ***Tel: No. +254-020-491 3532***
E-mail: *dept-cmqs@uonbi.ac.ke*

Ref: B53/35984/2019 **Date:** 12th July, 2021

To Whom It May Concern

Dear Sir/Madam,

RE: RESEARCH LETTER – OWINO WYCLISE OKANGA

This is to confirm that the above named is a student in the Department of Real Estate & Construction Management pursuing a course leading to the degree of M.A. Construction Management.

He is carrying out a research *entitled "**Compliance Levels of Small and Medium Scale Building Contractors with NCA Regulations; Case Study of Nairobi City County, Kenya**"* in partial fulfillment of the requirements for the degree programme.

The purpose of this letter is to request you to allow him access to any kind of material he may require to complete his research. The information will be used for research purposes only.

CHAIRMAN
DEPARTMENT OF CONSTRUCTION MANAGEMENT AND QUANTITY SURVEYING
UNIVERSITY OF NAIROBI

Isabella N. Wachira-Towey, (PhD)
Chair & Senior Lecturer,
Department of Construction Management & Quantity Surveying

APPENDIX FIVE: LETTER OF INTRODUCTION

Letter of Introduction

Dear Sir/ Madam,

RE: REQUEST FOR PARTICIPATION

I am a student of the University of Nairobi currently in the final year of study pursuing a Master's Degree in Construction Management. I am conducting a study on the **Contributions of Influencing Factors to Compliance Levels with NCA Regulations; A case study of small and medium scale building contractors in Nairobi City County** as my research project. As one of the sampled respondents, your views are essential in this study and would be highly grateful if you provided information on this area of study. I would like to assure you that the information provided by you in the questionnaire shall be strictly for academic purposes and be treated with utmost confidentiality.

Please find attached a copy of the Research Letter from the University department and a Questionnaire/Interview Schedule for your valued input.

Thank you!

Wyclise Okang'a Owino

Reg. no: B53/35984/2019

Mobile No: +254708625734

Email: owinowicky@students.uonbi.ac.ke/ owinowicky@gmail.com