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FACTORS AFFECTING NATIONAL CONSTRUCTION AUTHORITY ON REGULATING BUILDING CONSTRUCTION PROJECTS IN NAIROBI CITY COUNTY, KENYA

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ABSTRACT

Cases of collapse of buildings which lead to subsequent loss of lives and property are prevalent in Kenya. This can be attributed to a variety of reasons which include poor designs and non-compliance, cost cutting and use of sub-standard material, lack of quality control, and use of incompetent contactors. The NCA is mandated to register and regulate the undertakings of construction projects in Kenya. This study aimed at investigating factors affecting the National Construction Authority on regulating building construction projects in Nairobi County, Kenya with specific objectives being; to determine the influence of Quality control on regulating building construction projects, to assess the influence of finance involved on regulating building construction projects, to investigate the effect of Contractors Competency on regulating building construction projects and to investigate the effect of Construction policies on regulating building construction projects. The scope of the study was targeting all construction projects in Nairobi County Kenya. The research adopted a mixed research design approach which was then incorporated with both qualitative and quantitative elements of research. A sample size of 208 contractors from Nairobi County and National Construction Authority officials were used for this research. The study found that quality control, Resource planning, contractors competency and construction policies were the major issues that must be looked in to for the successful regulation of building construction works and that National Construction Authority has a mandate to oversee the regulation policies of building construction are followed in order to reduce cases of building failures and subsequent collapse in Kenya. The study therefore recommended that the NCA should come up a taskforce to oversee compliance of safety measures and on regular basis do building inspections. It further recommended that there should be adequate law enforcement by the authority with regards to regulation of buildings. Finally the study suggested that more research should be done to examine the influence of contractors' competency on quality of building constructions.

Key Words: *Quality control, finance, Contractors Competency, Construction policies, construction projects*

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INTRODUCTION

An important criterion for the success of regulatory reform is whether regulatory systems accomplish their policy objectives for any project (OECD, 2000). Despite a massive increase in regulation and government-imposed formalities in most countries since the 1970s, results have often been disappointing (Cheit, 2011). This has prompted most governments to examine how they can achieve their policy objectives more cost effectively through better regulation and different mixes of policy tools. This expansion of national focus is reflected in the establishment of the National Construction Authority (NCA) to regulate the construction industry in Kenya. Regulations include laws, formal and informal orders, subordinate rules issued by all levels of government, and rules issued by nongovernmental or self-regulatory bodies to whom governments have delegated regulatory powers (Hawkins, 2002). Regulations are generally promulgated and maintained because they are expected to achieve concrete policy objectives that will increase the quality of life in society as a whole – by, for example, improving environmental quality, human safety and health, or consumer protection (Robert *et al*., 2011. Contractors operating or willing to undertake construction operations in Kenya are required by law to register through the National Construction Authority (NCA), which is constituted under Act No. 41 of 2011 Laws of Kenya (G.O.K., 2011). The NCA has published the National Construction Authority Regulations 2014, the Code of Conduct and Ethics for the Construction Industry, and the NCA Strategic Plan (2015-2020) to effectively regulate the construction industry in Kenya.

Statement of the problem

The construction industry everywhere faces problems and challenges when it comes to the development and initiation of the project. However, in developing countries like Kenya, these difficulties and challenges are present alongside a general situation of socio-economic stress, chronic resource shortages, institutional weaknesses and a general inability to deal with the key issues of the project (Aggarwal, 2003). Cases of collapse of buildings which lead to subsequent loss of lives and property are prevalent in Kenya. This can be attributed to a variety of reasons which include poor designs and non-compliance, greedy property owners, cost cutting and use of sub-standard material, lack of quality control, and use of incompetent contactors (Lidonga, 2014).

The NCA is mandated to clear builders and contractors as a way of eliminating rogue contractors in Kenya and malpractices in building and construction (G.O.K, 2012). The Authority is tasked with the responsibility of inspecting construction and building projects around the country to ensure high quality of work and close projects posing health risks and collapse hazards (G.O.K., 2011).

If the NCA wants to ensure regulatory compliance, it must understand what challenges are faced by contractors and seek ways to curb these challenges through appropriate regulatory tools and strategies. The degree to which the contractor will comply with the NCA regulations is based on how various challenges faced by both the contractors and the Authority interact with the design and quality of the regulation (OECD, 2000). This research therefore aims at investigating factors affecting the National Construction Authority on regulating building construction projects in Nairobi City County, Kenya and ensuring compliance to the NCA rules and regulations from the contractor's perspective.

Objectives of the Study

To determine factors affecting the National Construction Authority on regulating building construction projects in Nairobi City County, Kenya. The specific objectives were:-

- To determine the influence of Quality control on regulating building construction projects in Nairobi City County.

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- To assess the influence of Resource planning on regulating building construction projects in Nairobi City County.
- To investigate the impact of Contractors' Competency on regulating building construction projects in Nairobi County Kenya.
- To investigate the impact of Construction policies on regulating building construction projects in Nairobi County Kenya.

THEORETICAL REVIEW

System Theory

The theory was developed by Ludwig, Niklas and Kenneth (1954) and tries to expound more on how sub-systems are working in a correlation and coordinated manner to achieve a specific task. In resource planning, system theory creates a link between the various levels in an organization on how optimum resource utilization can be best achieved. According to Pugh (2010), the systems theory helps to understand the synergies that are required in the sector from all stakeholders particularly how the various institutions and players in the sector ought to move together as a system in order to deliver efficiency. The theory also explains the institutional relationships that must be maintained within the sector, intra and interrelationships. Intra relationships can be viewed in the lenses of this theory as the relationships among the many institutions as a network in the sector while inter relationships can be viewed as the internal institutional arrangements within each institution which plays a role in the sector.

Institutional Theory

The theory was invented by William (1995), and considers the processes by which structures, including schemes, rules, norms, and routines, become established as authoritative guidelines for social behavior. The basic premises and concepts of the institutional theory approach provide valuable guidelines for analyzing organizational environment relationships with emphasis on the social expectations, values, rules and norms as the sources of pressure on organizations (Porter & Kramer, 2007). This theory is built on the concept of legitimacy rather than efficiency or influence as a primary organizational goal (Kramer, 2007).

Conceptual Framework

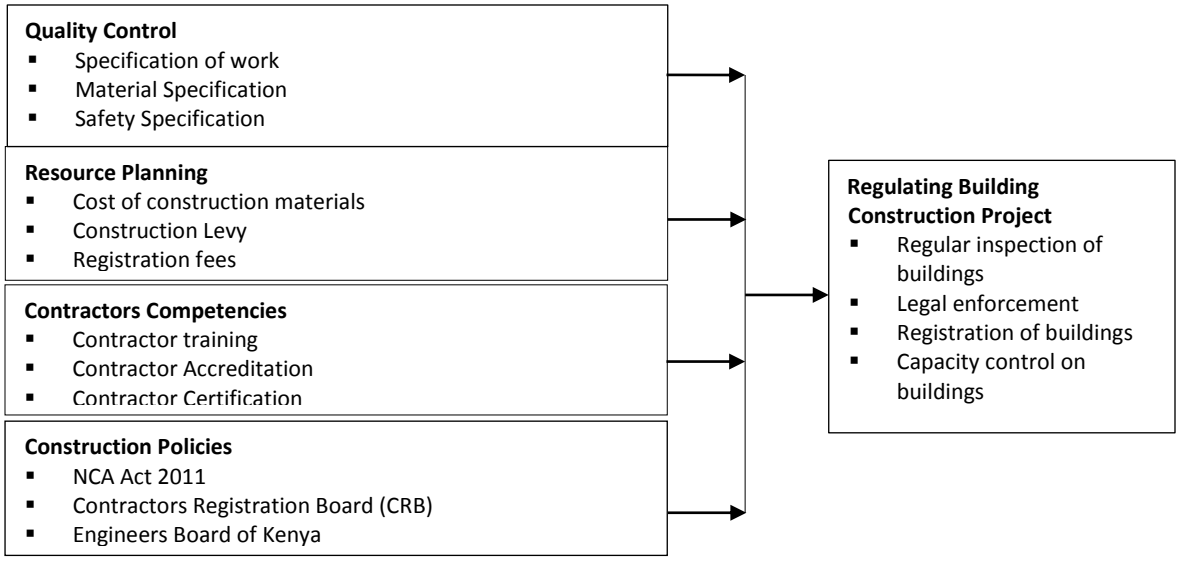

Figure 1: Conceptual Framework
Source: Author (2019)

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Quality Control

Specific quality control requirements for the WORK are indicated throughout the Contract Documents. The requirements of this section are primarily related to performance of the work beyond furnishing of manufactured products. The term "Quality Control" includes inspection, sampling and testing, and associated requirements.

The quality control element defines how the contractor expects to manage the quality requirements of the project as defined by the specifications. Quality control during construction consists largely of insuring conformance to this original design and planning decisions. Project managers often use project plans, milestones and budgets to reduce risks and obtain project control (Mata & Ashkenas, 2005). Quality is about meeting the general customer requirements both now and in the future. Quality is meeting the needs and satisfaction of the ultimate end user of the project, the owner (Oberlender, 2014).

Milwaukee (2007) posit that the primary function of quality assurance is to obtain completed construction that meets all contract requirements. Assurance is defined as a degree of certainty. Quality assurance personnel continually assure--or make certain--that the contractor's work complies with contract requirements. Contractor Quality Control: The primary function of CQC is the successful execution of a realistic plan to ensure that the required standards of quality construction will be met.

The design QC plan shall be managed by a Design QC Manager who has verifiable engineering or architectural design experience or is a registered engineer or architect (McLean 2011).The Design QC Manager is under the supervision of the QC Manager. His responsibilities include workmanship, methods, and techniques to ensure that all work is performed properly by qualified and careful craftsmen.

Juran and Joseph (2010) observed that the job of project management is to manage scope, schedule, budget, and quality of a project. However, since quality measures are often best made from a separate, objective viewpoint, it helps to have a management structure that retains this objectivity. The manufacturing industry, which generally utilizes processes that are repetitive in nature, can more easily make use of quality programs that are based on statistical QC techniques. The statistical nature of these types of quality programs facilitates process improvements through continual efforts. Planning, engineering design, and construction, on the other hand, often involve "one of a kind" projects where a QMS that emphasizes effective management practices is more appropriate. Similarly, software development and systems design are related processes that each requires their own unique QMS and specialized quality tools and procedures (Juran *et al* 2010).

Resource Planning

Sambasivan and Soon (2007) have developed construction delay factors in construction and categorized them into eight major groups. These are client-related factors, contractor-related factors, consultant-related factors, material-related factors, labor- and equipment-related factors, financial-related factors, contract-related factor and external factors. Among others, a financial-related factor is one of the most critical factors that cause delays in construction projects (Alaghbari *et al*, 2007). In addition, delay in paying contractors will subsequently jeopardize contractor's cash flow. Delay in payment resulted in the slow progress on site, as many sub-contractors and suppliers are subjected to financial difficulties; hence, no material is delivered to the site.

A similar trend was experience in the Malaysian construction industry. According to Ahmed *et al*, (2003), the possible financial-related factors that lead to delays in Malaysian construction projects are

financial problems of clients such as delayed payments, financial difficulties and economic problems; financial and cash flow problems of contractors; and external factor of poor economic conditions such as currency and inflation rate. In addition, difficulties in obtaining loans and short of funding are adverse financial-related factors that were identified in previous works.

Sambasivan and Soon (2007), decide to group these causes under four different categories, namely late payment, poor cash flow management, insufficient financial resources and financial market instability. All the sub-problems are closely related to each other and will cause a significant impact on projects' delays. Late payment is defined as failure of a paymaster to pay within the period of honoring of certificates as provided in the contract (Harris & McCaffer, 2003). According to the construction industry working group on payment (2016), in Kenya problems in payment at the higher end of the hierarchy will lead to a serious knock-on cash flow problem down the chain of contracts.

According to Fugar and Agyakwah-baah, (2010)), one of the most important factors causing delays in high-rise projects in Indonesia is the shortage of resources. In addition, (Harris and McCaffer, 2003). Investigated the causes of delays in highway construction and concluded that one of the main causes of delays is the insufficient resources of an organization. Ubaid (1991) concluded that the contractor's resources are the major measures on the contractors' performance that cause delays.

Regulating Building Construction Project

Regulation refers to a set of principles by which government activities are guided or the declared objectives that a government seeks to realize (Business dictionary, 2017). The University of Sydney (2016) defines policy as course of action adopted or proposed by government. The purpose of policy is to convey overall mission of an organization, ensure clear understanding of expectations, influence behavior and support ethical decision making, foster credibility and trust as well as create ground for development of standards.

Sapru (2009) discusses the concept of public policy as not being a precise term but a concept which denotes a declaration of goals, course and actions, general purposes and an authoritative decision. It can also be used to depict desired objectives or processes within government (Hagwood, 2009.

The housing sector in Kenya is guided by the Housing Policy (Sessional Paper number 3 of 2004). The policy centers on affordability and access to housing and outlines specific aims of increasing access to housing including empowering the poor to access housing and basic services and infrastructure necessary for a healthy living environment especially in urban areas. Encouraging integrated, participatory approaches to slum upgrading, including empowering the poor access housing and essential services and infrastructure fundamental for a sound living condition particularly in urban zones.

Policy requires an institutional mechanism for implementation in order to actualize the envisaged benefits of the policy (Maina, 2012). Clearly, the Housing Policy (2004) does not cover critical areas of implementation mechanism of guidelines in the sector. The inability to foresee the chaos resulting from the vibrancy of the multiple efforts to meeting the envisaged housing demand is in itself a deficiency of the policy.

METHODOLOGY

The study adopted both descriptive and correlational research designs. These were found to be appropriate to the study since it sought to establish the relationship between, Quality control, Contractors Competency and Construction policies and their influence on regulating building construction projects in Nairobi County, Kenya.

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The population for this study was drawn from all building works contractors in Nairobi County as shown below as of December 2017.

Table 1: Breakdown of NCA Registered Building Works Contractors

Category	Number of Registered Contractors
NCA 1	261
NCA 2	187
NCA 3	204
NCA 4	678
NCA 5	605
NCA 6	785
NCA 7	694
NCA 8	762
TOTALS	**4,176**

Source: http://www.nca.go.ke/index.php/contractors-center/search-registered-contractors

The researcher applied purposively sampling technique to select the sample for the study which comprised 5% of 4176 of the total population leading to the sample size of 208 respondents. The researcher used structured questionnaires and interview method to collect data for the study. These were administered to the sampled respondents in respect to their responsibilities in the building sector.

The qualitative data gathered by use of questionnaires and interviews were analyzed by means of comparison with documented information about quality control, finance involved, contractor competencies and construction policies and contextual frameworks on regulating building construction projects. It formed an integral part of the discussion and subsequent recommendations. The method of comparison was deliberately chosen because no conventional methods such as distributive analysis and normalcy of responses could be done to this type of data.

Quantitative data was analyzed by use of the Statistical Package for Social Scientists (SPSS version 21) and presented in tables, charts

FINDINGS AND DISCUSSION

Quality Control

Table 2: Opinions on the statements relating to Quality Control

Statement	SD	D	N	A	SA
The authority is mandated to oversee the operation of construction to ensure materials and construction practices meet government and company construction standards.	22%	12%	2%	40%	24%
Contractors do not comply with well-structured and standardized material specification guidelines set by NCA.	21%	13%	0%	40%	26%
NCA sets up taskforce to defines safety measures to complied with craftsman and supervisors	20%	12%	4%	35%	29%
Building designs do not undergo thorough architectural standards check before they are implemented.	10%	24%	4%	38%	24%
Inadequate contractor capacity to ensure compliance to regulations	17%	16%	4%	36%	26%
Unclear safety specifications makes it hard for the NCA to draw guideline for the contractors.	12%	18%	8%	38%	24%

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Table 2 showed that from the statement of the authority is mandated to oversee the operation of construction to ensure materials and construction practices meet government and company construction standards majority of the respondents were in agreement adding up to 64%, only 2% were lacking idea and 34% were on the contrary opinion that there is no authority mandated to oversee the operation of the construction. On the statement that Contractors do not comply with well-structured and standardized material specification guidelines set by NCA, 66% were in agreement while 34% disagreed with the statement. On whether NCA sets up taskforce to define safety measures to be complied with by craftsman and supervisors, 64% agreed with the statement to be true while 32% were disagreed with the statement, 4% were indifferent to the statement the study was in agreement with the findings of (Oberlender, 2014) that Quality is meeting the needs and satisfaction of the ultimate end user of the project, the owner the more the organization is producing quality work then satisfaction will be achieved. On the statement that building designs do not undergo thorough architectural standards check before they are implemented, 62% agreed with the statement while 34% disagreed, 4% were indifferent to the statement. On whether there is inadequate contractor capacity to ensure compliance to regulations, 62% were affirmative while 33% were of the contrary, 4% neither agreed nor disagreed with the statement. When the respondents were asked whether unclear safety specifications makes it hard for the NCA to draw guideline for the contractors, 62% agreed, 30% disagreed while 8% were indifferent the result concurs with the findings of (Mata & Ashkenas, 2005) that the project managers often use project plans, milestones and budgets to reduce risks and obtain project control. The study sought to find out how often the NCA do supervision at the construction site to check for the quality of the building materials and safety measures of the workers. On response 33% of the respondents stated that supervision is often, 22% of the respondents stated very often, 27% of the respondents stated quite often, while 18% of the respondents stated not all. As shown in figure 2 below.

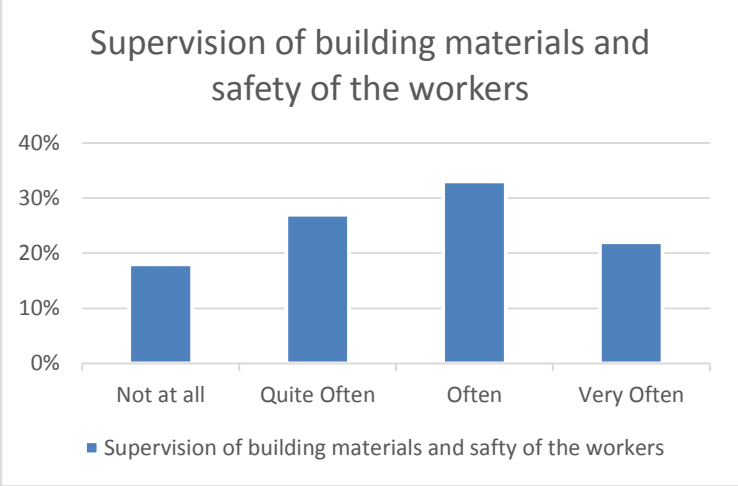

Figure 2: Supervision of building materials and safety of the workers

Resource Planning

The enquiry on the resource planning and its subsequent effect on regulating building works were viewed based on the statements made to explore more on the variables as follows;

Table 3: Opinions on the statements relating to Resource Planning

Statement	SD	D	N	A	SA
High registration fees imposed by NCA makes it hard for the contractors to register their buildings with the NCA.	12%	26%	3%	35%	24%
The authority has imposed high construction levy.	21%	26%	12%	29%	14%
High cost of building materials has lead constructor to opt substandard materials that hence poor structures.	5%	7%	8%	42%	38%
Corruption in the regulation process has led to misappropriation of	7%	8%	9%	39%	37%

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resource					
Lack of adequate sensitization about NCA rules and regulations	3%	6%	11%	46%	34%
Inadequate NCA capacity leading to poor enforcement of regulations	8%	16%	10%	38%	28%

Table 3 represented opinions of the respondents on the statement regarding resource planning. Respondents were asked whether high registration fees imposed by NCA makes it hard for the contractors to register their buildings with the NCA, of which 59% were of the assenting opinion, 38% disagreed with the statement while 3% were apathetic. Asked whether the authority has imposed high construction levy, majority of the respondents 47% disagreed, 43% agreed while 12% were neutral towards the statement and the findings were in agreement with the findings of Sambasivan and Soon (2007) on factors leading to construction delay in Kenya and quoted that poor planning is one of the factors and later assert that unless the planning is done in a proper way then the constructions will be a success. On whether high cost of building materials has lead constructor to opt to substandard materials that hence poor structures a large majority of the respondents at 80% agreed, a meagre 12% disagreed while 8% were indifferent. On whether corruption in the regulation process has led to misappropriation of resource, 76% of the respondents disagreed, a scanty 15% agreed while 9% were neutral towards the statement. On whether there is lack of adequate sensitization about NCA rules and regulations, majority of the respondents at 80% agreed, 9% disagreed while 11 % were ignorant to the statement. Lastly the respondents were asked whether inadequate NCA capacity leads to poor enforcement of regulations, 66% of the respondents agreed, 24% disagreed while 10% were indifferent to the statement. The study sought to ascertain whether high cost of construction materials lead to the substandard building, and 56% of the respondents said yes while 44% of the respondents said no and this is in line with the study of Fugar and Agyakwah-Baah, (2010) one of the most important factors causing delays in high-rise projects and the problem of project delays and cost overrun are caused by financing and payment for completed works, poor contract management is the shortage of resources, unless the financers have the sufficient fund is when the project will be successful.

Regulating Building Construction Project

Table 4: Statement Relating to Construction project

Statement	SD	D	N	A	SA
Most of the buildings in urban centers have been converted into different uses other than the purposes for which they were registered for, however the authority has not taken its mandate to enforce legal action against such act.	11%	14%	7%	44%	24%
There is poor regular inspection of buildings during construction that leads to unnecessary building construction in Kenya.	12%	15%	10%	37%	26%
There exist a number of buildings in the country that are not registered with the authority, thus it's difficult for the authority officials to regulate the said buildings.	10%	11%	9%	41%	29%
The level of inadequacy of the building law enforcement by the authority in the country contributes to contribute to irregular regulation of buildings.	14%	18%	8%	36%	24%

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The lack of good will to comply with the existing building laws by the building construction industry makes it hard for the NCA to regulate building construction projects in Kenya.	10%	23%	7%	34%	26%
The existence of unclear guidelines on regular inspection of buildings leads to poor regulation of building construction projects.	20%	21%	9%	26%	24%
The high level of corruption that exist in the approval process and the control of buildings constructions leads to reduced regulation of building construction projects.	8%	12%	7%	41%	32%
Building professionals have not thoroughly engaged in control of buildings hence reduced regulation of business.	13%	17%	10%	32%	28%
There is lack capacity control of buildings, thus reduced regulation of building constructions.	15%	19%	8%	33%	27%

Table 4 showed the respondents opinion on statements about Regulating Building Construction Project. The respondents were asked whether most of the buildings in urban centres had been converted into different uses other than the purposes for which they were registered for, however the authority had not taken its mandate to enforce legal action against such act. 68% of the respondents agreed to the statement while 25% of the respondents were of the contrary opinion. 7% were neutral to the statement. Asked whether there was poor regular inspection of buildings during construction that led to unnecessary building construction in Kenya, 63% of the respondents agreed while 27% of the respondents disagreed, 10% of the respondents were uncertain of the statement. Majority of the respondents at 70% agreed that there existed a number of buildings in the country that were not registered with the authority, thus it was difficult for the authority officials to regulate the said buildings. 21% of the respondents disagreed with the statement while 9% neither agreed nor disagreed with the statement. On whether the level of inadequacy of the building law enforcement by the authority in the country contributed to irregular regulation of buildings, 60% of the respondents agreed while 32% of the respondents disagreed, 8% of the respondents were indifferent. 60% of the respondents were of the opinion that the lack of good will to comply with the existing building laws by the building construction industry made it hard for the NCA to regulate building construction projects in Kenya. 33% of the respondents disagreed with this statement while 7% were uncertain. Asked whether the existence of unclear guidelines on regular inspection of buildings leads to poor regulation of building construction projects, 50% of the respondents agreed while 41% of the respondents disagreed and 9% were neutral to the statement. Majority of the respondents at 73% agreed that the high level of corruption that exist in the approval process and the control of buildings constructions led to reduced regulation of building construction projects. 20% of the respondents were of the contrary opinion while 7% were unsure. On whether building professionals have not thoroughly engaged in control of buildings hence reduced regulation of business, 60% agreed with the statement while 30% and 10% were indifferent to the statement. Finally 60% of the respondents were of the opinion that there was lack of capacity control of buildings, thus reduced regulation of building constructions. 34% were of the contrary opinion while 8% were impassive to the statement the statement is in agreement with the findings of Luger and Temkin (2000) that provide insights about the sources of delay for residential development in their surveys of regulators in New Jersey and North Carolina hence lack of capacity should be treated as one of the ways that leads to poor control as construction works are concern.

Correlation Results

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Correlations of Quality control and Regulating Building Construction

The results below indicated that quality control has a negative relationship with regulating building construction. This was indicated by Table 5, which showed that the p-value is at p= -.100 and this did not meet the threshold for acceptance since p<0.05. The negative relationship was represented by correlation coefficient of -.100, and the number of respondents considered was 182. These findings indicated that quality control decreases regulating building construction by a value of 0.034. According to a study by Yilmaz and Çelebi, 2015, material weaknesses and choice as well as manufacturing faults may lead to unreliable structural materials including centrally blended concrete or substandard structural steel.

Table 5: Quality Control correlation results

		Regulating building construction	Quality Control
Regulating building construction	Pearson Correlation	1	-.100**
	Sig. (2-tailed)		.034
	N	182	182
Quality Control	Pearson Correlation	-.100**	1
	Sig. (2-tailed)	.034	
	N	182	182

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

Correlations for Resource Planning and Regulating Building Construction

Pearson correlation coefficient was used to determine the relationship between resource planning and regulating building construction. The results indicated that resource planning had a significant negative relationship with regulating building construction projects. This was indicated by Table 6, which showed that the p-value was =0.009 and this also did not meet the threshold since p<0.05. The negative relationship was represented by correlation coefficient of -.124, and N=182.

Table 6: Correlation results for resource planning

		Regulating building construction	Resource planning
Employee Engagement	Pearson Correlation	1	-.124**
	Sig. (2-tailed)		.009
	N	182	182
Resource planning	Pearson Correlation	-.124**	1
	Sig. (2-tailed)	.009	
	N	182	182

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

Regression Analysis

The study carried out regression analysis to establish the statistical significance of relationship between the independent variables that involved quality control, resource planning, contractor competencies and construction policies on the dependent variable that was regulation of building construction.

Regression Results on Influence of Quality Control on Regulating Building Construction Project

H_0: *Quality control does not significantly influence regulating building construction*

Table 7 presented the regression model on quality control versus regulating building construction. As presented in the table, the coefficient of determination R square is 0.010 and R is 0.100 at 0.05

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significance level. The table indicated that 0.1% of the variation on regulation of building construction is influenced by quality control practices. This implied that a unit change in quality control increases regulation of building construction by 0.01%.

Table 7: Regression model summary for quality control

Model Summary			
R	R Square	Adjusted R Square	Std. Error of the Estimate
0.100	.010	.008	1.48148

Table 8 presented the results of Analysis of Variance (ANOVA) on quality control and regulation of building construction. As presented in the table 8, the ANOVA results for regression coefficients indicated that the significance of the F is 0.035 which was less than 0.05 hence implying that there was a positive significant relationship between quality control and regulation of building construction.

Table 8: ANOVA Regression results for quality control

ANOVA[b]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	9.877	1	9.877	4.500	.034[a]
	Residual	972.295	180	2.195		
	Total	982.172	182			

a. Predictors: (Constant), Quality Control

b. Dependent Variable: Regulation of Building Construction

The study further determined the beta coefficients of quality control on regulation of building construction. Table 9 showed that the relationship between quality control and regulation of building construction was negative since the coefficient of quality control is -.074 which was significantly lower than zero. The t-statistics was -2.121 which was also lower than zero. This demonstrated that a single unit change in quality control causes regulation of building construction to decrease by 0.074 units.

Table 9: Coefficients of quality control

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.863	.390		20.142	.000
	Quality Control	-.074	.035	-.100	-2.121	.034

a. Dependent Variable: Regulation of Building Construction

In terms of significant associations found between quality control and regulation of building construction, this study concludes that: null hypothesis I, "there is no significant association between quality control and regulation of building construction" is rejected and alternative hypothesis; "there is significant association between quality control and regulating building construction" is accepted. However, the association was negative in the sense that a focus on quality control may impact negatively on regulation of building construction. The

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findings corroborates with (Oberlender, 2014) that alluded that quality is meeting the needs and satisfaction of the ultimate end user of the project, the owner. Therefore we can conclude that quality control influences regulation of building construction projects.

Regression results for the Relationship between Resource Planning and Regulation of Building Construction

H_0*: Resource planning does not significantly influence employee engagement*

The study conducted regression analysis to determine the significance relationship of resource planning versus regulating building construction. Table 10 presented the regression model and indicated that the coefficient of determination R square was 0.015 and R was 0.124 at 0.05 significance level. The coefficient of determination indicated that 15% of the variation on regulating building construction was influenced by resource planning. This implied that there exists a positive relationship between resource planning and regulating building construction. The results correspond to the findings of Sweis *et al,* (2007) that argued that financial difficulties faced by many contractors cause delays in construction projects. This was found to be caused by the many changes that are made by project clients during construction and as a result, increases the construction costs in which contractors have to procure the material and equipment beyond their normal boundaries.

Table 10: Regression model for resource planning

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.124[a]	.015	.013	1.47755

a. Predictors: (Constant), Resource Planning

The Analysis of variance (ANOVA) results as shown in Table 11 further confirmed that the model fit was appropriate for this data since p-value of 0.009 which was less than 0.05, with 181 degrees of freedom. This implied that there was a significant positive relationship between resource planning and regulating building construction.

Table 11: Analysis of Variance results (ANOVA) for Resource Planning

	Sum of Squares	Df	Mean Square	F Sig.
Regression	15.036	1	.036	6.887 .009[a]
Residual	967.036	181	2.183	
Total	982.172	182		

The study further determined the beta coefficients of resource planning on regulating building construction. Table 12 below showed that the significant relationship between resource planning and regulating building construction was negative since the coefficient of resource planning is -0.096 which was significantly lower than zero. The t statistics was -2.624 which was also lower than zero. This demonstrated that resource planning had a negative influence on regulating building construction. This conformed with Ahmed *et al*, (2003), that found that possible financial-related factors lead to delays in construction projects are financial problems of clients such as delayed payments, financial difficulties and economic problems; financial and cash flow problems of contractors; and external factor of poor economic conditions such as currency and inflation rate.

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Table 12: Regression coefficients for Resource Planning

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	8.104	.408		19.847	.000
	CAREER MANAGEMENT	-.096	.037	-.124	-2.624	.009

a. Dependent Variable: Regulating Building Construction

In terms of significant associations found between resource planning and regulating building construction, this study concludes that: null hypothesis II, "there is no significant association between resource planning and regulating building construction" is rejected and alternative hypothesis, "there is significant association between resource planning and regulating building construction" is accepted. However, the association was negative in the sense that a focus on resource planning may impact negatively on regulating building construction. The findings corroborates with the existing research which supports that the construction industry working group on payment (2016),that in Kenya problems in payment at the higher end of the hierarchy led to a serious knock-on cash flow problem down the chain of contracts.

CONCLUSION

It was important to conclude that quality control, Resource planning, contractors competency and construction policies were the major issues that must be looked in to for the successful regulating building construction work and that National construction authority has a lot on regulation of building construction in Kenya. Safety of both workers and inhabitants has to be a priority to the National Construction Authority.

RECOMMENDATIONS

The authority should oversee the operation of construction to ensure materials and construction practices meet government and company construction standards as per their mandate. NCA should ensure that contractors comply with well-structured and standardized material specification guidelines. NCA should sets up taskforce to define safety measures to be complied with by craftsman and supervisors. Building designs should be first put through architectural standards check before they are implemented.

NCA should consider registration fee reduction to help contractors to register their buildings with the NCA. Contractors should avoid shortcut but invest in quality building materials to enhance constriction of standard buildings. The authority should launch a mechanism to fight corruption in the regulation process to avoid misappropriation of resource.

The authority should enforce legal action against act of using building against its prescribed use. There should be level of adequacy of the building law enforcement by the authority in the country to contribute to regulation of buildings.

Suggestions for further Research

A further study should be conducted to examine influence of contractors competency on quality of building constructions since the most buildings under construction are continuously under repair and the maintenance cost are high, they do not last for a longer period of time.

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