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Factors Influencing Performance of Building Construction Companies: A Case of Selected Firms in Kilifi County, Kenya

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Abstract

The demand for buildings in Kenya has led to developers encroaching land demarcated (Gazzeted) as public land. Of recently the Kenya government has addressed land grabbing issues by demolishing unplanned building structures. Scarcity of land has forced developers to opt for high rise buildings hence a rise in cases of collapsed buildings forcing government to take measure in combating illegal unapproved building constructions. The purpose of this study was to establish factors that influence performance of building construction companies in Kilifi County, Kenya. Researcher collected a sample of 51 from 58 Target populations. Researcher had four independent variables for matters concerning objective, questions, and hypothesis under study: firstly independent variables which were :Contractor's competences denoted by X_1; Contractors compliance with government policies X_2; Contractors financial capacities X_3 and contractors technological capabilities X_4, Secondly Dependent variable was performance of building firms (Y). Data ware tabulated, presented through frequency and finally analyzed with the aid of statistical Package for social services (SPSS version 24). Researcher utilized a Likert scales ranging from scale 1 - Strongly Disagree to 5-Strongly Agree. The findings revealed that all independent had a mean greater than 3 meaning they had influence on performance of building construction firms.(Contractor's competences X_1 = 4.925; Contractors compliance with government policies and regulations X_2 = 4.90 contractors financial X_3 = 4.93 Contractors technological capabilities X_4 = 4.915 and dependent variables, Performance of building contractor's had Y= 4.9). The study concludes that contractor's compliance with government policies had the highest mean of 4.98 and Technological capabilities were the lowest with a mean of 4.195. The study recommended planning of works before execution, Stakeholder's participation, utilizing work breakdown structure and work schedule to monitor progress of work. Fiscal strategies adopted to assess loans at low interest rate. Contractors encouraged regularly saving money and acquiring assets for financing future projects

Key words: *Contractor's competences; Government policies and regulations; Financial capacities; Performance of building contractors; Technological capacities*.

1.0 Introduction

1.1 Background of the Study

Globally, performance of building construction projects is one of the problems encountered in building sector. Every building construction project has the following constraints; time, cost and quality. It is common to experience poor performance during project implementation stage. Poor performance does not always result from management incompetence. Poor performance can cause time and cost overruns. Mohamed (2002) identified the factor influencing contractor performance in Indonesia, through a study of non-value-adding activities during the construction process. According to him evaluation of performance has been a challenge for the construction industry for decades. They discovered that Productivity in the construction industry in Indonesia was not only influenced by labour, but also by other factors such as equipment, materials, construction methods, and site management. Kobina (2015) found that building contractors were unable to participate in international competitive tendering due to shortage of competent technical personnel, inadequate technical and financial resources.Kibaara (2018) found out that the national construction authority predicted growth of construction firms in terms of capability and capacity to efficiently execute the large scale projects anticipated within the vision 2030 national development plan. Sammy (2014) stated that construction industry played vital roles in transforming the aspirations and the needs of its people into reality by implementing various physical structures. He stressed that a construction project gets approved as successful when completed on time, within budget, and in accordance with specifications and to stakeholder's satisfaction. Abdalla (2017) study identified community participation as factors that influence implementation of infrastructure projects in Kilifi County

1.2 Statement of the Problem

Building contractors is considered as one of the important economic activities that contribute towards economic growth of Kenya. A records from Kenya national bureau of statistics indicated that construction sector grew by 8.4% in the first quarter of January to April in year 2017 and by 10.2% over the same period in 2016. Construction industry plays a major role in transforming the aspirations and the needs of its people into reality by implementing various physical structures such as residential, commercial and industrial buildings. In Kenya Construction projects are facing challenges of poor performance. Many building construction projects fail or perform poorly due to factors like poor time management, unplanned works, lack or inadequate technical knowhow, lack of adequate funds and lack of working equipment. Research carried out by Gacheru (2015) revealed that cases of collapse of buildings which lead to subsequent loss of lives and property are prevalent in Kenya due to poor designs and contractor's non-compliance of National construction authority regulations , cost cutting and use of sub-standard material, absence of quality control, and use of incompetent contactors. Challenges faced by contractors in ensuring compliance with NCA regulations are: high registration fees imposed by NCA, high construction levy imposed by NCA, poor attitude towards the NCA as a government regulator, inadequate NCA capacity leading to poor enforcement of regulations and inadequate contractor capacity to ensure compliance to regulations. Mohamed (2002) discovered that Productivity in the construction industry in Indonesia was not only influenced by labour, but also by other

factors such as equipment, materials, construction methods, and site management. Kim et al (2008) reported that performance was affected by exposure to serious external uncertainties such as political, economic, social, and cultural risks, as well as internal risks from within the project. Kwame, Kuragu, Baiden and Badu (2014) research revealed that the most important factors which affected Ghanaian contractors were poor access to credit and inability to compete with foreign owned firms due to inadequate contractor's technological capacity.Bakar and Tufail (2012) revealed that technology transfer was contributing in some way or another toward the development of local contractors.

1.3 Objectives of the Study

The study was guided by the following research objectives.

i. To examine how contractor's competence influence performance of building construction firms.
ii. To establish how Government Policies and Regulations influence the performance of building construction firms.
iii. To assess how contractor's financial capacity influence performance of building construction firms.
iv. To examine the influence of technology on the performance of building construction firms.

2.0 Literature review

2.1.1 Contractor's competences factors

Kobina (2015) observed that local construction firms in Ghana were unable to compete with International firms owing to inadequate technical skills and lack of financial resources. He proposed local building contractors to enter into partnership and also conduct workshops and seminars to improve on knowledge of building sector thus enhance performance in all areas of construction. In study by Riham, Hosny and Askar (2015) it was revealed that many construction firms in Egypt were not training supervisors and managers on safety rules and construction procedures thus leading to poor performance. Their study recommended introduction of safety guide book, sensitization and mitigation measures of hazards associated with construction works. Irieen (2015) subdivided project management competences factors into five: project management planning prior to executing the project: Stakeholder involvement in the project planning processes: project control to put the project on track in case of any deviation done by regular check of project schedule: Utilization of project tools to develop project plans charts and project progress reports to track project progress: and project time management whereby activity sequencing , activity estimation ,project forecasting , project scheduling .activity prioritization and estimating project completion date to ensure timely completion of a project.

2.1.2 Contractor's compliance with government policies and regulations factors

Bala, Bello, Kolo and Bustani (2009) observed that growth of local construction firms in Nigeria were categorized into two: firstly government-related problems which included unfavorable business environment, weak economy, and lack of enabling government policies, corruption and lack of government patronage. The second category was firm-related problems among them were lack of vision, lack of entrepreneurial skills, limited technical expertise, limited plant and

equipment, and limited managerial expertise. They concluded that government-related problems created the firm-related problems. Furthermore, the study identified categories of most significant measures required to accelerate the growth of local firms‟ resources and capabilities. Firstly Through government intervention measures in creating favorable environment, government policies and support and secondly through firm-intervention measure by enhancing product quality and upgrading managerial expertise.
Murithi, Makokha and Otieno (2017) found out that challenges faced by contractors in ensuring compliance with NCA regulations were: high registration fees imposed by NCA, high construction levy imposed by NCA, poor attitude towards the NCA as a government regulator, inadequate NCA capacity leading to poor enforcement of regulations, and Inadequate contractor capacity to ensure compliance to regulations.

2.1.3 Contractor's financial capacities factors

Kwame, Kuragu, Baiden and Badu (2014) research revealed that the most important factors which affect Ghanaian contractors were poor access to credit, inability to compete with foreign owned firms due to inadequate contractor's technological capacity. They noted that some construction firms were awarded tenders on basis of one's political affiliation. They recommended action to be taken to improve access of Ghanaian contractors to credit and also address problems relating to late payments for completed projects. Fatai (2014) revealed that factors influencing the performance of Nigerian indigenous companies were: financial problems, government unfavorable fiscal and government policy, non-access to financial institutions, poor management practice, poor accounting standards, shortage of manpower, financial indiscipline and corruption.

2.1.4 Contractor's Technological capabilities factors

Mesároš and Mandičák (2017) research in Slovakia on Impact of ICT on Performance of Construction Companies found out that BIM (Building Information Modeling) tool presented an easy way for design of construction projects in all parameters together. The tool is good for cost planning, project documentation and designing, time planning activities and other parameters of construction project in the phase of design and implementation that means that Companies that invested to ICT had higher corporate performance than construction companies that does not investment to the ICT. That meant cost reduced and profit increased for these companies. Last of the investigated ICT were controlling systems in construction companies in Slovakia. ERP (Enterprise Resources Planning) systems and Controlling systems probably impact on financial performance. Controlling systems was a tool for cost planning, checking and cost management. Corporate performance of companies using controlling system was higher than companies that did not use the controlling system. Generally, ICT had a significant impact on the performance of construction companies in Slovakia. Bakar and Tufail (2012) revealed that technology transfer contributed toward the development of local contractors. The role and contribution of technology Transfer in developing and upgrading the capability and the capacity of the local contractors, was vital. The technology transfer program involving cooperation between local and international contractors greatly contributed to the development of local contractors.

2.2 Theoretical Framework

The study was guided by two theories, Management theory and Regulation Theory. Management theory and regulation the first management theory popularly referred to as Frederick Taylor's

Scientific Management. He believed in sharing of work load between the workers and management with management each group doing "the work for which it is best suited". Taylor believed in breaking a complex task down into a number of sub-tasks, Literature review captured in this research supports Taylor's theory as it identified work break down structure as a techniques utilized for dividing works into well planned and small manageable units. According to the second theory, governments controlled prices, imposed safety standards to prevent accidents, regulated jobs. Literature review in this research revealed that National construction authority as a body mandated by government to oversee the activities of building contractors.

3.0 Research methodology

The study adopted descriptive research survey design in examining the factors influencing establishment of building construction firms. The descriptive survey design method was useful in examining how contractor's competences, how contractor's compliance to government policies and regulations, how financial capacity and building contractor's technological capacities influence performance of construction firms in Kenya in a case of selected firms in Kilifi County, Kenya. The targeted population was 58 composed of contractors in various NCA categories, grouped according to Sub=Counties in which projects were undertaken.The Sub-Counties were Rabai,Ganze, Kaloleni, Magarini, Kilifi North and Kilifi South Sub-Counties. However, the sample size was 51 respondents which was about 88% of the target population.

4.1 Analysis of contractor's competences

This variable sort to establish how contractor's competences influenced performance of building construction firm, where four indicators were studied : Firms preparation of technical and financial plans prior to executing of projects (measured by total number of technical projects done) :Contractors engagement of main stakeholders in the project planning process (measured by list of stakeholders); Firms use of work break down structure (measured by charts); Contractors check of progress of works against work schedule (measured by availability of work schedule) . Project performance was measured by competent and experienced manpower. Respondents were asked (as shown on table 1) to rate how the following factors related to contractor's competence on performance of construction firms in Kilifi county using a scale of 1-5; where: Never = 1, rarely = 2, Sometimes =3, Mostly =4, Always =5.The results of the four items of contractor's competence were presented in table 1.

Table 1: Means and standard deviation for Contractor's competence

Descriptive Statistics			
	N	**Mean**	**Std. Deviation**
Planning prior to project execution	51	5.00	.000
Engaging stakeholders at planning stage	51	4.84	.418
implementations of a work schedule	51	5.00	.000
Implementation of work break down structure	51	4.86	.448
Valid N (listwise)	51		
Average Mean Score		**4.925**	**0.433**

The respondents were asked to rate the degree to which item one of firm's early preparation of financial and technical planning and item two of implementation of a working schedule as to whether they affects performance of building construction companies. The mean for this two

item ware rated the highest at 5.00 (SD = 0.00). The item on whether stakeholders participation affects performance had the lowest mean of 4.84 (SD = 4.180) and that of work breakdown structure had mean of 4.86 (SD = 0.448). All the four items had mean score greater than 3.00 which implies that the respondents were in agreement that contractor's competences influenced performance of their firms.

4.2 Analysis of contractor's compliance with government policies and regulations

The researcher sought to find out if Government policies and regulations influence performance of building construction firms in Kilifi. The indicators under study included: Contractors Tax compliance (measured by current Tax compliance certificate): Contractors NCA certificate (measured by recommended class of NCA certificate): Registered business name (measured by business registration certificate from office of attorney general): license or work permits (measured by a license or work permit from Kilifi county government): Project performance was measured by contractor's possession of NCA and current Tax certificate together with certificate of registered business name. Respondents were asked (as shown on table 2) to rate how these factors related to contractor's compliance with government policies and regulations on performance of construction firms in Kilifi county using a scale of 1-5;where : strongly disagree = 1, disagree = 2, undecided =3, agree =4 , strongly agree =5 and the following results were obtained. The researcher found that all respondents complied with government policies and regulations by obtaining procurement mandatory documents such as bid bond, business name certificate, Tax compliance certificate and NCA certificate.

Table 2: Means and standard deviation for Contractor's compliance with government policies and regulations

Descriptive Statistics			
	N	**Mean**	**Std. Deviation**
Tax compliance	51	5.00	.000
Possession of NCA certificate	51	4.94	.238
Registered business name	51	5.00	.000
License and work permits	51	4.98	.140
Valid N (listwise)	51		
Average Mean Score		**4.98**	**0.095**

Results from Table 2 shows that tax compliance and business name had the highest mean of 5.00 (SD = 0.00). NCA certificate had the lowest mean of 4.94 (SD = 2.38) and that of License and work permits had mean of 4.98 (SD = 0.140). All the four items had mean score greater than 3.00 which implies that the respondents were in agreement that contractor's compliance with government policies and regulations influenced performance of their firms as shown on tables 2.

4.3 Analysis of contractor's financial capacities

The researcher sought to find out how contractors financial capacities influences performance of building construction firms in Kilifi, County. The indicators under study included: Contractors cash in bank (measured by financial statements): Contractors access to credit and finance (measured by loans acquired); Operational resources such as human resources (measured by

ability to acquire or finance human resources in terms of working capital): Assets such as land (measured by ownership documents of assets that qualified for use as collateral in obtaining loan. Project performance was measured by contractor's successful completion of project as per the contract sum captured on bills of quantities and specifications. Respondents were ask to rate how these factors related to contractor's financial capacities on performance of construction firms using a scale of 1-5; where: strongly disagree = 1, disagree = 2, undecided =3, agree =4, strongly agree =5 and the following results were obtained as presented in the table 3 The respondents were asked to rate the degree to which cash in bank affects performance of building construction companies.

Table 3: Means and standard deviation for Contractor's financial capacities

Descriptive Statistics			
	N	**Mean**	**Std. Deviation**
Contractors cash in bank	51	4.98	.140
Access to credit and finance	51	4.88	.382
Operational resources	51	4.96	.280
Contractors assets	51	4.90	.361
Valid N (list wise)	51		
Average Mean Score		4.93	0.290

As presented in Table 3, the mean for cash in bank was 4.98 (SD = 0,140), this item was rated the highest. The item on whether Access to credit and finance affects performance had the lowest mean of 4.88 (SD =0.382). That of Operational resources had mean of 4.90 (SD = 0.280) and contractors assets had mean of 4.90 (SD =0.361). As shown on table 3 all the four items had mean score greater than 3.00 which implies that the respondents were in agreement that contractor's financial capacities influenced performance of their firms.

4.4 Analysis of contractor's technological capabilities

The respondents were also asked to determine how technological capacities influence the performance of building construction companies in Kilifi County, where four indicators were studied: Ability of modern technology to promote good image of the firm to policies and regulative bodies (measured by firms image); its capacity to do large volume of work thus hastening progress of work (measured by time frame and quantity of work done; its nature in boosting employees morale (measured by individual performance). Ability of technology to reduce waste associated with time, materials and labor. Project performance was measured by contractor's volume of work done on a specified time frame. This time respondents were asked to rate how the following factors related to contractor's technological capacities on performance of construction firms in Kilifi county using a scale of 1-5; where: strongly disagree = 1, disagree = 2, undecided =3, agree =4, Strongly agree =5 and the results of the four items of contractor's technological capabilities are presented in the table 4. The respondents were asked to rate the degree to which the item of firm's strategy in boosting employees morale as to whether they affects performance of building construction companies. The mean for this item was rated the highest at 4.92 (SD = 0.377). The item on whether modern technology capabilities to reduces waste affect performance had the lowest mean of 4.76 (SD = 0.513) .item on Promoting good image of a firm had mean of 4.92 (SD = 0.337) and that of executing large volume of work had a mean of 4.82 (SD = 0.478). All the four items had mean score greater than 3.00 which implies

that the respondents were in agreement that contractor's technological capabilities affected performance of their firms.

Table 4: Means and standard deviation for contractor's technological capabilities

Descriptive Statistics			
	N	**Mean**	**Std. Deviation**
Promoting good image of a firm	51	4.92	.337
Executing large volume of work	51	4.82	.478
Boost employees morale	51	4.96	.196
Reduces waste	51	4.76	.513
Valid N (listwise)	51		
Average Mean Score		**4.915**	**0.381**

Results from Table 4 shows that the mean for this item was rated the highest at 4.92 (SD = 0.377). The item on whether modern technology capabilities to reduces waste affect performance had the lowest mean of 4.76 (SD = 0.513) .item on Promoting good image of a firm had mean of 4.92 (SD = 0.337) and that of executing large volume of work had a mean of 4.82 (SD = 0.478). All the four items had mean score greater than 3.00 which implies that the respondents were in agreement that contractor's technological capabilities affected performance of their firms.

4.5 Analysis of contractor's performance

Second analysis was performed to determine the significance and magnitude of the effects of the four independent variables (Contractor's competence, Contractor's compliance with government policies and regulations, Contractors financial capacities and technological capabilities variables) on the dependent variable (performance of building construction companies) in Kilifi. Respondents were asked (as shown on table 5) to rate how these factors related to performance of construction firms using a scale of 1-5; where: strongly disagree = 1, disagree = 2, undecided =3, agree =4, strongly agree =5 and the following results were obtained as presented in the table 5.

Table 5: Means and standard deviation for contractor's performance

Descriptive Statistics			
	N	**Mean**	**Std. Deviation**
Competency	51	4.88	.431
Regulations	51	4.90	.361
Financial	51	4.92	.337
Technological	51	4.90	.361
Valid N (list wise)	51		
Average Mean Score		**4.90**	**.3725**

Results from Table 5 establishes that mean for contractors financial capacities was 4.92 (SD = 0,361), this item was rated the highest. The item on competency had the lowest mean of 4.88 (SD =0.431). That of regulations and technology had mean of 4.90 (SD = 0.361). As shown on table 5 all the four items had mean score greater than 3.00 meaning that contractor's technological capabilities influenced performance of their firms.

4.6 Regression analysis

Since the study revealed existence of statistically significant relationships, a multiple regression was conducted to establish the level of the relationships.

Table 6: Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.850[a]	.723	.699	.19796

a. Predictors: (Constant), Technological Capabilities, Goverment_Policies, Contractors Competency, Financial Capacities

Table 6 presentation meant, R=0.850 represents the simple correlation; therefore there existed a moderate positive linear relationship between independent variables and performance of building construction firms. From the results on table 6, R2 = 0.723 which indicates how much of the total variation in the dependent variable can be explained by the independent variables. In this case, the four independent variables explained 72.3% of the variability in performance of building firms and 27.7% variation in sustainable implementation being explained by other factors not captured in this study.

Table 7: ANOVA Summary

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.707	4	1.177	30.030	.000[b]
	Residual	1.803	46	.039		
	Total	6.510	50			

a. Dependent Variable: Performance
b. Predictors: (Constant), technological Capabilities, Goverment_Policies, Contractors Competency, Financial Capacities
Results from Table 7 shows that F (4) =30.030; P value = 0.000, the F value was above 2 and P value less than 0.05 therefore meaning the variables were statistically significant.

Table 8: Regression Coefficients

Coefficients[a]						
Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
		B	**Std. Error**	**Beta**		
1	(Constant)	7.653	2.233		3.427	.001
	Contractors Competency	-.851	.224	-.491	-3.808	.000
	Goverment_Policies	-1.535	.387	-.359	-3.963	.000
	Financial Capacities	.987	.240	.531	4.117	.000
	Technological Capabilities	.867	.209	.744	4.140	.000

a. Dependent Variable: Performance

Results from Table 8 shows that Contractors Competency was negatively and significantly related to performance (β=-851, p=0.000). Government policies was negatively and significantly related to performance (β=-1.535, p=0.000). Financial capacities was positively and significantly related to performance ((β=0.987, p=0.000). Further, technological capabilities was positively and significantly related to performance ((β=0.867, p=0.000).

The regression model equation can be represented by the equation

$Y=7.653 -851 (X_1) -1.535(X_2) + 0.907(X_3) + 0.86(X_4)$

5.1 Conclusion

The study concluded that Contractors competences influence performance of building construction firms in Kilifi County. Stakeholder's participation created the perception of project ownership. Firms Tax compliance certificate and a registered business name creates good image of a firm with regulatory bodies thus promotes a firm chance of qualifying for future projects. Cash in bank enables firms to frequently procure large quantities of goods and services at a discounted rate and utilize automated machineries to produce high quality standard works within a short period to outsmart those firms with out-dated equipment's.

6.1 recommendations

The study recommended that: Contractor's to prepare financial and technical plan of their works before project implementation stage; Contractor's to involve main stakeholders in the planning process; Contractors to utilize works schedule; Contractor's advised to utilize work break down structure ; Contractors to honor government policies and regulations by; complying with Tax regulations; renewing or applying for prerequisite NCA class according to project under consideration; contractor's business name must be registered for purpose of building construction works and nothing else except where bylaws permit. Firms must also ensure license and work permit are obtained on time ; Contractors encouraged to regularly save money for financing future projects to ensure adequate cash in bank and be in possession of funding for operational resources; Firms must be encouraged to own asset such as construction plants, land and buildings which can be utilized as collateral in loan financing of projects; Contractors were also encouraged to venture into capital share in stock exchange in order to boost their financial

status; It was finally recommended that all building contractors be updated with the latest technological plant, machinery and equipment's in the market.

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