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Influence of the Moderating Effect of Government Regulations on Performance of Government Construction Projects in Kenya

David Onyango Ogogo
Ph.D. Student, Department of Project Management,
Jomo Kenyatta University of Agriculture and Technology, Kenya
Jane Queen Omwenga
Senior Lecturer, Department of Entrepreneurship Leadership and Management,
Jomo Kenyatta University of Agriculture and Technology, Kenya
Samson Nyangau Paul
Senior Lecturer, Department of Entrepreneurship Leadership and Management,
Jomo Kenyatta University of Agriculture and Technology, Kenya

Abstract:
Government regulations are like blue prints through which construction projects are implemented. They define the boundaries and circumstances under which construction projects are implemented sustainably. Regulations ensures that construction projects coexist with the environment with minimal effects. The construction industry requires progressive government regulations and continuous review to reflect the changing times and needs of society. Involvement and sensitization of stakeholders enhances effectiveness of these regulations. The objective of the study was to examine the influence of the moderating effect of government regulations on performance of government construction projects in Kenya. The study adopted a descriptive research design and used simple random sampling to select a sample from the registered Architects/projects managers practicing in Nairobi Kenya and involved with government projects. The unit of analysis therefore was government construction projects while unit of observation was 728 Registered Architects/projects managers within Nairobi. A sample size of 251 was used. The study generated both qualitative and quantitative data. Data was collected using questionnaires and analysed using SPSS. The findings of the study showed a significant and positive relationship between the moderating effect of government regulations on performance of government construction projects in Kenya. The study concluded that Government regulations had statistically significant moderation effect on the performance of government construction projects in Kenya.

Keywords: Project, regulations, performance, Kenya

1. Introduction

Government policies and investments are a pervasive, important, and often positive influence on the business environment and economic development of any industrialized nation. (U.S.A Department of Transportation, 2016)

1.1. Statement of the Problem

Government agencies in Kenyasuch as the National Construction Authority and National Environmental Management Authority still lack the full capacity in terms of manpower, devolved structures and financial resources to oversee all the construction projects within the republic of Kenya. Often, some projects are implemented without compliance to the laid down government regulations. This has led to construction of structures which sometimes do not meet design and other regulatory parameters. The result has been loss of lives when buildings collapse, flooding in urban areas where buildings have been put up on riparian lands and prolonged court cases when infringements to certain legislations are sited in courts. The overall results in most cases are delays or total collapse of projects which flout government regulations.

1.2. Objective of Study

The purpose of this study was to examine the influence of the moderating effect of government regulations on performance of government construction projects in Kenya.

1.3. Research Hypothesis

- H0: Government regulations has no significant influence on performance of government construction projects in Kenya.

2. Theoretical Review

2.1. Theory of Critical Success Factors

Key success factors can be distinguished on two dimensions which have implications for the attainment of competitive advantage. These are their changeability and whether they are con-junctive or compensatory. Conjunctive key success factors refer to skills and resources which are necessary conditions for superior performance in a market. The performance of a business will always be related to the degree to which it has these skills and resources, and a lack of skills and resources here cannot be compensated for by superior skills and resources in other areas. Compensatory key success factors refer to a set of skills and resources, where businesses can choose to emphasize one or several of these. Lower scores with regard to some of these factors can be compensated for by higher scores on other factors. Critical success factors in projects failure are; budget, time, specification and client satisfaction. (Chan et al., 2004).The requirement for contractors and construction workers to be registered by the National Construction Authority is a step towards having a pool of contractors and construction workers with the right validated set of skills to successfully operate in the construction industry. Government regulations therefore support the theory of critical success factors.

2.2. Empirical Review

To protect public safety and welfare, legislatures and various government agencies periodically issue regulations which influence the construction process, the operation of constructed facilities, and their ultimate disposal. (PMI, 2016) Policy instruments of education, regulation, fines and inspection have all been utilised by Australian jurisdictions as they attempt to improve the poor performance of occupational health and safety (OH&S) in the construction industry. (Furneaux et al., 2007).

3. Methodology

The study adopted a descriptive research design and used simple random sampling to select a sample from the registered Architects/projects managers practicing in Nairobi Kenya and involved with government projects. The unit of analysis therefore was government construction projects while unit of observation was 728 Registered Architects/projects managers within Nairobi. A sample size of 251 was used. The study generated both qualitative and quantitative data. Data was collected using questionnaires and analysed using SPSS. Analysed data was presented using tables and charts.

3.1. Sampling Techniques and Sample Size

The study was limited to an industry expert survey group consisting of Architects/Construction projects managers. There are 728 registered Architects in Nairobi County where the study was focused on for the investigation. A sample size of 251 was utilized for the study by applying n = (z2pq)/d2 and an adjusting formula, nf = n/(1+n/N) by Mugenda and Mugenda, (2003). The study adopted a simple random sampling technique. According to, Starnes (2008) a simple random sample is a subset of individuals (a sample) chosen from a larger set (a population). Each individual is chosen randomly and entirely by chance, such that each individual has the same probability of being chosen at any stage during the sampling process, and each subset of k individuals has the same probability of being chosen for the sample as any other subset of k individuals. A simple random sample is an unbiased surveying technique. This technique is free of classification error, and requires minimum advance knowledge of the population other than the frame. Its simplicity also makes it relatively easy to interpret data collected in this manner.

Sample calculation formula:

n = (z2pq)/d2

Where:

n = the desired sample size when the target population is greater than 10,000

z = standardized normal deviations at a chosen confidence level, for this study, confidence level is 95%, and z =1.96.

p = the proportion in the target population that assumes the characteristics being sought.

q = The balance from p to add up to 100%. That is 1- p, which in this case yield 1- 50% (0.5)

d = Appropriate significance level, for this study at 95%, the significance level is 0.05.

Using this procedure, the sample size is found to be n= (1.962 x 0.5 x 0.5)/0.052 = 384. Since the population is less than 10,000, an adjusting formula, nf = n/(1+n/N) is used where: nf = the desired sample size after adjustment.

n = the desired sample size

N = an estimate of the population size

The adjusted sample size is therefore nf = 384/ (1+384/728) = 250.9, taken as 251

3.2. Measurement of the Variables

The study conducted a statistical analysis of the variables to establish the influence of the moderating effect of government regulations on performance of government construction projects in Kenya.

3.3. Sample Description

The study adopted a simple random sampling technique for the unit of observation since the population drawn from the construction industry was homogenous.

4. Findings

The study results show that government regulations statistically significantly influences the performance of government construction projects in Kenya. This is shown by the regression analysis value $F_{(1, 209)}$ = 3.548, p< .001, R^2=0.344. Correlation analysis revealed that there is a statistically significant positive correlation between government regulations X5 and the performance of government construction projects in Kenya (r =0. 129, p< 0.05)

The descriptive analysis revealed that, the requirement for contractors to meet statutory qualifications influences success or failure of government construction projects in Kenya to a less extent at 14%, to a moderate extent at 29%, to a large extent at 25% and to a very large extent at 24%. The requirement for contractors to be registered by the National Construction Authority influences success to a high extent at 37% and very high extent at 15%.The requirement for construction workers to be registered by the National Construction Authority significantly influences the performance of government construction projects to a moderate extent rate of 40% and 8% rate to a very large extent. The findings of this study resonates with those of Furneaux et al.,(2007) which found that even though policy instruments are utilized in an attempt to improve the poor performance in the construction industry, the policy frameworks have been largely uncoordinated resulting in differing policy systems with differing requirements and compliance systems.

4.1. Results of Correlation Analysis

The Pearson correlation coefficient was used to analyse the relationship between government regulations and performance of government construction projects in Kenya. The results indicate that government regulations has a positive significant relationship with performance of government construction projects in Kenya at a ά =0.01. The relationship was represented by a correlation coefficient of 0. 129. The number of respondents considered was 211. The study relates with the findings by Ndumia, (2015) which found that a regulatory framework in which regulators challenge firms to improve based on constructive and active engagement can be effective in ensuring compliance before a serious problem emerges.

4.2. Results of Regression Analysis

The coefficient of determination R-Square is 0.344 at 0.05 significance level. The coefficient of determination indicating that 34.4% of the changes in the performance of government construction projects can be explained by changes in the predictor variable Government Regulations, while 65.6% of the changes in the model can be explained by other factors. The analysis of variance (ANOVA) results also confirms the appropriateness of the model fit at p-value of 0.001 which is less than 0.05 the significance level. The degree of freedom is 209.This implies that there is a significant positive relationship between government regulations and performance of government construction projects in Kenya. The fitted model is Y =5.458+0.112X5+ Ɛ .This implies than there is a linear relationship between government regulations and performance of government construction projects in Kenya. Government Regulations constant (at zero) the expected performance of government construction projects is rated at 5.458. Besides, one unit increase in Government Regulations will lead to an increase of 0.112 in the performance of government construction projects (p<0.05). This primarily indicates that Government Regulations statistically significantly influenced the prediction or performance of government construction projects in Kenya.

4.3. Hypothesis Testing

The hypothesis of the study stated that government regulations have no significant influence on performance of government construction projects in Kenya. The findings of the study showed a significant and positive relationship between the moderating effect of government regulations and performance of government construction projects in Kenya

5. Discussions

The Cronbach's alpha was 0.774, which indicates a high level of internal consistency of the study instrument and data. The statistical analysis and findings showed a linear relationship between the moderating effect of government regulations and performance of government construction projects in Kenya.

The objective of the study was to examine the influence of the moderating effect of government regulations on performance of government construction projects in Kenya and to test the hypothesis that government regulations has no significant influence on performance of government construction projects in Kenya.

6. Conclusions

It can be concluded that Government regulations had statistically significant moderation effect on the performance of government construction projects in Kenya. The regression results revealed statistically significant positive linear relationship between moderating effect of Government regulations and the performance of government construction projects in Kenya. The study therefore concludes that government regulations create an orderly environment through which government construction projects can achieve positive performances on the success parameters.

7. Recommendations

The study recommends that government regulations should be regularly updated to conform to the changing needs of the industry. Responsible authorities should also conduct sensitization on the regulations. Stakeholders in the construction industry should also be involved at the formulation stage of the regulations.

8. Areas of Further Research

Further studies can be undertaken on best approaches to introduction and implementation of government regulations in the Kenyan construction industry.

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