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Influence of Organizational Structure on the Performance of Electrical Installation Works in Kapenguria Sub-County, Kenya

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Abstract:

The determination of this study was to investigate influence of organizational structure on performance of electrical installation works in Kapenguria Sub-County, West Pokot County. The study was necessitated by the need to understand why most electrical installation projects either stall or are completed without meeting the set time and budget requirements. The objective of this study was to determine the influence of organizational structure on performance of electrical installation works. The study adopted descriptive survey research design. Population census was applied to have all the 137 officials working at the Ministry of Public Works Transport and Infrastructure participate in the study. On the other hand, simple random sampling technique was employed to select 9 contractors from a population of 46 building and construction contractors, specifically electrical installation contractors prequalified by the Ministry of Public Works, Transport and Infrastructure. Questionnaires were administered to the ministry officials whereas; interview guides were used to gather data from construction contractors. A pilot study was conducted on a few selected but similar respondents to pre-test the research instruments for validity and accuracy. Cronbach alpha coefficient of 0.80 was obtained indicating that the questionnaire was highly reliable. Quantitative data was analyzed using SPSS software and content analysis used to analyze qualitative data. The finding revealed that there is a significant influence, at $P < 0.05$, of organizational structure indicators on electrical installations except for the indicator stating that there is a clear and well-established chain of command in the ministry at 0.368. The study concludes that organizational structure to greatly impact the performance of electrical installation works. Furthermore, organizational structure is important on performance of electrical installation works. Therefore, there should be introduction of decision-making processes that is all inclusive and does not sideline any party. The researcher recommends that organizations should invest in proper forms of organization structure that meet set objectives and most importantly, that there should be proper communication between the workers, the ministry and top management of the organization for easy changes when needed and proper monitoring and evaluation done on communication channels. Finally, a similar study should be done on other infrastructural projects such as roads construction, water and sanitation projects.

Keywords: Contractor, organizational structure, project, performance

1. Background

Business conditions under which construction firms operate throughout the world are so dynamic and continue to change steadily. With increasing client demands, need for environmental sustainability, scarce resources and stiff competition in winning tenders, contractors should be able to continuously enhance their performance (Hasmori, Ismail, & Said, 2012). Construction firms' operational performance is controlled by organizational factors. A firm is a structure that is made of several related elements. These elements provide a platform on which a firm realizes its goals and objectives. Organizational factors that directly influence firm's operational performance include organization culture, audits, staffing, management, governance and structure (Sheaff, Schofield, Mannion, Dowling, Marsha, & McNally, 2003). A study by Faridi and El-Sayegh (2006) showed that poor supervision, shortage of skills of manpower, poor site management, breakdown of equipment and unsuitable firm leadership heavily contributed to failure of construction projects in the United Arab Emirates. Furthermore, Hanson, Mbachu and Nkando (2003) investigated the factors leading to dissatisfaction among clients in South African construction sector and found that incompetence of contractors, poor workmanship and persistent conflicts are the main factors that negatively influenced the performance of projects and ultimate launch of complains by the clients.

Electrical installations firms in Kenya contracted by companies or county governments will have to live by challenges of evolving consumer expectations, globalization and technology, and clients' increased demands for better services. Ogoro and Simiyu (2015) emphasises that organizational factors are firm's aspects that regulate its activities and performance. Organizational factors are perceived as firm's ability to coordinate processes and manage of its resources efficiently to improve performance. These abilities are within the organization's routines, rules and procedures. More importantly, a firm's ability is a product of its processes, structure, controls and recruitment systems. These capabilities

specify how and when a firm's decisions are made (Hill & Jones, 2007). Like any other type of project, electrical installation projects in Kenya have had its challenges. Such challenges have either stalled electrical power connection projects or have been overcome depending on how they were planned and managed. In light of this revelation, the current study sought to investigate the influence of organizational structure on the performance of electrical installation works in Kapenguria Sub-County, Kenya.

1.1. Statement of the Problem

Despite the contribution of electrical installation projects on the Kenyan economy in terms of infrastructural development, creation of employment and income generation, there have been past concerns over the manner in which these projects have been managed in West Pokot County resulting in stalled installations, delays, high installation costs and waste of public resources. Consequently, according to data from Kenya National Bureau of Statistics (2017), only 25% of homes, businesses and government premises in West Pokot County are connected to the National Grid System. Further, preliminary data from Ministry of Public Works, Transport and Infrastructure MOPWTI, West Pokot County confirmed that less than 40% of planned electrical installation projects in each financial year were completed on time and within budget. This left more than 60% of electrical installation projects stalled in every financial year leaving many government buildings without power (Kenya Urban Support Programme, 2017). This slow installation of electricity is against the attainment Vision 2030 in which the government of Kenya appreciated that access to electricity is a key contributor. As argued by Aftab (2012) delays in completion of projects in building and construction industry has been a major indicator of poor performance. The performance of all stakeholders and project output is determined by the regularity and promptness of payment (Ramachandra, 2013). According to Tawil (2013) delays in project delivery in Malaysia is the common denominator especially government related projects. Such delays can be attributed to poor site management and supervision, financial challenges faced by contractors and fluctuations in the cost of materials. Nyika (2012) also noted that major causes of project failure are poor project management, insufficient financial capacity, political interference and poor project design. Therefore, factors affecting performance of projects are so critical to any building and construction industry. Several studies have been conducted on the factors influencing the performance of projects; however, none has looked at organizational factors influencing performance of electrical installation works particularly in Kenya's county settings. This study, therefore, investigated the influence of organizational factors on the performance of electrical installation works in Kapenguria sub-county, West Pokot.

1.2. Objective of the Study

- To determine the influence of organizational structure on the performance of electrical installation works in Kapenguria Sub-County.

2. Literature Review

2.1. Conceptual Framework

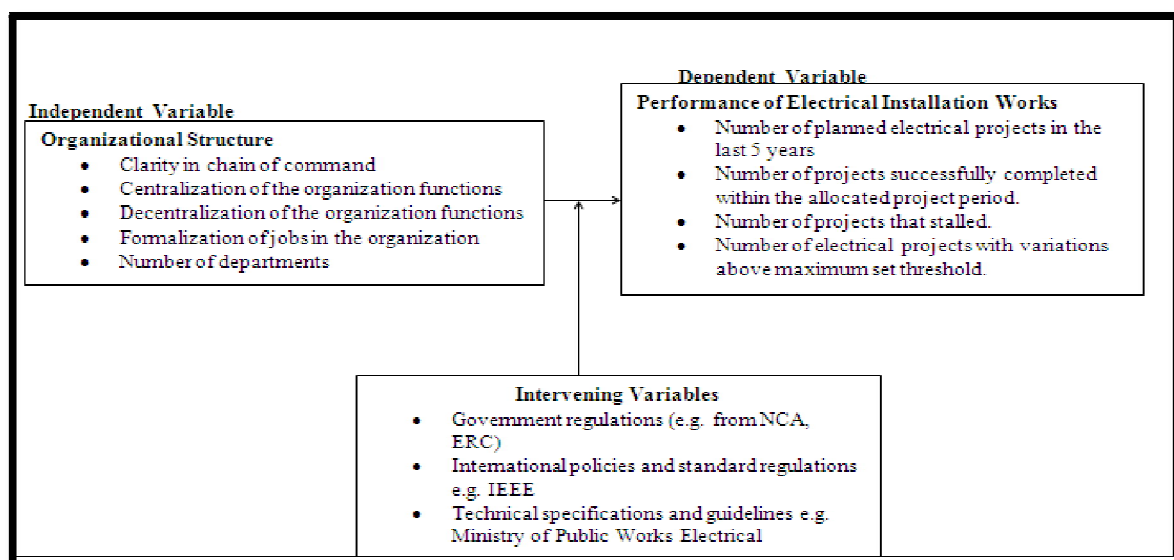


Figure 1: Conceptual Framework

This study conceptualized that the independent variable of organizational structure as measured by Clarity in chain of command Centralization of the organization functions, Decentralization of the organization functions, Formalization of jobs in the organization and Number of departments will influence the electrical installation works performance in Kapenguria Sub-County herein, the dependent variable. The electrical installation works performance was evaluated in terms of planned electrical projects in the last 5 years; number of projects successfully completed; number on projects stalled; number of electrical projects with variations above maximum set threshold.

3. Research Design

Cresswell and Clark (2011) maintain that a research design is a mastery of circumstances for gathering and analysis of data in a manner that balances the research procedure and costs. Whereas Mugenda and Mugenda (2003) states that the role of research design is to study and report the way things are. The current study used a descriptive survey research design. This is due to the fact that people' views and opinions will be sought and described appropriately; and determine how organizational factors influence performance of electrical installation works. Both quantitative and qualitative methods were used to complement each other. The quantitative approaches helped in producing arithmetical data, which were statistically analyzed through descriptive statistics and inferential statistics to better address study objectives.

3.1. Target Population

Target population is a common set of objects, people or events to which a researcher wants to generalize findings. The target population should have observable characteristics to define the study (Mugenda & Mugenda, 2003). The target population was 183 consisting of both contractors in building and electrical installation projects, and employees in the MOPWTI. There were 46 prequalified contractors who had been selected to carry out building and electrical installation projects. The Ministry has 137 officers consisting of low level, middle level and top management distributed across different departments.

3.2. Sample Size and Sampling Procedure

A sample is the number of units selected from a study population to act as a representative of that population while sampling procedure is the method followed to obtain a sample from the population. In all times, sample size must be representative (Kombo & Tromp, 2006). A simple random sampling technique was used to select 9 contractors which was equivalent to 20% of their population. These contractors were selected using correspondent serial number selected from the table of random numbers. This sample size was consistent with Cresswell and Clark (2011) who aver that for a population that is less than 3000, a ratio of 10% and above is enough to give a representative sample, depending on the topic under research. Simple random sampling technique was deemed a fair way of choosing a sample from a given population since gave every contractor an opportunity of being selected for the study (Mugenda & Mugenda, 2003).

On the other hand, census population method was employed to consider all the 137 employees attached to the MOPWTI. A population census method was adopted since the population size was small. According to Mugenda and Mugenda (2003), there is no need of applying sampling techniques if all the elements of the population can be considered without consuming much time and resources. A population census was also employed in this study due to the type of data required to meet each objective of the study. The researcher felt all employees irrespective of their positions in the ministry have the knowledge and insight of the activities surrounding the electrical installation projects processes and organizational factors affecting them.

Target Groups	Population Size	Sample Size	%	Sampling Technique
Ministry Staff	137	137	100	Census Method
Contractors	46	9	20	Simple Random Sampling
Total	183	146		

Table 1: Study Sample Size

4. Research Findings and Discussion

The performance of organizations is by large extent influenced by its structure. The purpose of this study was to investigate influence of organizational structure on the performance of electrical installation works in kapenguria sub-county, Kenya. The findings are presented subsequently.

4.1. Organizational Structure and Performance of Electrical Installation Works

Indicators	Mean	Std. Dev
There is a clear and well-established chain of command in the ministry	4.39	0.839
Centralization of some functions has negatively affected performance of electrical installation projects and the ministry in general	3.76	0.947
Decentralization of ministry functions can help speed up the process of delivery of services in the ministry	4.03	1.067
Specialization and division of labour can be helpful in improving the performance of ministry especially in electrical installation projects	4.06	1.007
Division into clearly defined departments can be the best strategy to improve performance and meet target requirements in the ministry	3.99	0.995
The ministry should formalize all the job positions in that there's a clear definition of roles and responsibilities relating to a specific job cadre so as to improve its performance	4.17	1.061

Table 2: The Means on Extent of the Influence of Organizational Structure Indicators on Electrical Installation Works

The mean response score of the extent to which each indicator under organizational structure affected the electrical installation is shown in Table 2. Analysis showed that the mean score of all variables was between 3 to 4, indicating that the extent of influence of these indicators is between moderately high extent to high extent. This implies that the organizational indicators have a great influence on the performance of electrical installation works. Respondents mean score on there is a clear and well-established chain of command in the ministry scored the highest with 4.39 while on centralization of some functions has negatively affected performance of electrical installation projects and the ministry in general scored the lowest with 3.76.

4.2. ANOVA on Organizational Structure Indicators and Performance of Electrical Installation Works

It was necessary to establish the significance of the relationship between organizational structure and performance of electrical installation works for the causal and effect relationship between the two variables to be brought out clearly.

Indicator	F	Sig.
There is a clear and well-established chain of command in the ministry	1.062	0.368
Centralization of some functions has negatively affected performance of electrical installation projects and the ministry in general	5.104	0.001
Decentralization of ministry functions can help speed up the process of delivery of services in the ministry	6.860	0.000
Specialization and division of labour can be helpful in improving the performance of ministry especially in electrical installation projects	3.453	0.011
Division into clearly defined departments can be the best strategy to improve performance and meet target requirements in the ministry	2.696	0.035
The ministry should formalize all the job positions so that there's a clear definition of roles and responsibilities relating to a specific job cadre so as to improve its performance	7.662	0.000

Table 3: Analysis of Variance (ANOVA) of Influence of Organizational Structure Indicators on Performance of Electrical Installation works

The results indicated that there is a significant influence, at $P < 0.05$, of organizational structure indicators on electrical installations in Kapenguria Sub-County as shown in Table xx, except for the indicator stating that there is a clear and well-established chain of command in the ministry at 0.368. Furthermore, the most significant indicators stated that decentralization of ministry functions can help speed up the process of delivery of services in the ministry as well as that the ministry should formalize all the job positions so that there's a clear definition of roles and responsibilities relating to a specific job cadre so as to improve its performance as indicated by p value of 0.000 respectively. The least significant indicator stated that division into clearly defined departments can be the best strategy to improve performance and meet target requirements in the ministry at 0.035, at $P < 0.05$ significance. There is a clear and well-established chain of command in the ministry was not significant at 0.368, at $P < 0.05$ significance. This implies that decentralization of functions and formalization of jobs at the organization are very critical and essential for performance to improve.

4.3. Regression Analysis

Model	Unstandardized Coefficients		t	Sig.
	B	Std. Error		
Constant	0.172	0.732	0.235	0.815
There is a clear and well-established chain of command in the ministry	0.076	0.101	0.755	0.452
Centralization of some functions has negatively affected performance of electrical installation projects and the ministry in general	0.177	0.092	1.914	0.059
Decentralization of ministry functions can help speed up the process of delivery of services in the ministry	0.167	0.085	1.972	0.051
Specialization and division of labour can be helpful in improving the performance of ministry especially in electrical installation projects	0.182	0.100	1.820	0.072
Division into clearly defined departments can be the best strategy to improve performance and meet target requirements in the ministry	0.024	0.110	0.219	0.827
The ministry should formalize all the job positions in that there's a clear definition of roles and responsibilities relating to a specific job cadre so as to improve its performance	0.292	0.093	3.152	0.002

Table 4: Coefficients of Organizational Structure and the Performance of Electrical Installation Works

From the regression analysis the results indicated that a unit increase in centralization of some functions negatively affects performance of electrical installation projects and the ministry in general by 0.177 (17.7%). A unit

increase in decentralization of ministry functions can help speed up the process of delivery of services in the ministry by 0.167 (16.7%) and a unit increase on ministry to formalize all the job positions, in that there's a clear definition of roles and responsibilities relating to a specific job cadre will significantly improve performance of electrical installation projects by 0.292 (29.2%). These findings concur with those by Volla (2016) which indicate that there's a significant relationship between organizational structures and project performance at 99% level of confidence. It should be noted that, the indicator stating that there is a clear and well-established chain of command in the ministry had the least significance on performance at 0.076 (7.6%). These findings are inconsistent with Matu (2016) who found out that coordination among departmental heads in a construction firm improve firm productivity. He further affirmed that a strong organizational structure has a well-established management plan that is easier to create and execute to help maintain a strong managerial core and assists the project organization team to achieve high performance in the project through gains in efficiency and effectiveness. Equally, Grewal and Tansuhaj (2011) established that more successful firms have properly defined organizational structures as compared to non-performing ones.

5. Conclusions

The study established that organizational structure to greatly impact the performance of electrical installation works. Furthermore, organizational structure is important on performance of electrical installation works. Therefore, there should be introduction of decision-making processes that is all inclusive and does not sideline any party.

5.1. Recommendations

The study recommends the following concerns for the Organization Management:

- There should be proper communication between the workers, the ministry and top management of the organization for easy changes when needed and proper monitoring and evaluation done on communication channels.
- Employees should be fairly remunerated and incentives provided so as to motivate them for better performance of the organization.
- Any changes should be communicated early and through well-established communication channels for all stakeholders to be on board from the beginning.
- Training and availability of workshops and seminars for the staff are key tools for improving performance in the organization.
- The top management should consider implementing further division of sections into clearly defined departments, so as to further decentralize roles and responsibilities. This can be the best strategy to improve performance and meet target requirements.

5.2. Areas for Further Research

A similar study should be done on other infrastructural projects such as roads construction, water and sanitation projects

A research on the influence of factors such as (political, economic or technical) on the performance of electrical installation works.

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