

THE INFLUENCE OF ORGANIZATIONAL CULTURE ON PERFORMANCE OF ROAD CONSTRUCTION PROJECTS IN KENYA: A CASE STUDY OF KENYA NATIONAL HIGHWAY AUTHORITY (KeNHA)

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Abstract

The organizational culture has remained a major issue when it comes to interrogating the performance of road construction projects in Kenya by Kenya National Highways Authority. The objective of the study was therefore to investigate the effect of organizational culture on the performance of road construction projects, in Kenya. The study was supported by the Okumus's theory of strategy implementation and resource-based view theory. The case study targeted a population of 91 employees of KeNHA in Nairobi from which a sample of 74 participants were selected through a stratified random sampling technique. Questionnaires were used to collect data, both qualitative and quantitative. The study found evidence of a positive significant influence of organizational culture on the performance of road construction projects. Evidence showed significant effect of culture on performance of road construction ($\beta = 0.200$, $p < 0.5$). The study recommended that the Kenya National Highways Authority should ensure that organizational culture is embedded in the organization's strategy implementation to improve performance of road construction projects.

1.0 Introduction

According to Okumus (2003), strategy development, environmental uncertainty, organizational structure, leadership, operational planning, resource allocation, communication, people, control and outcomes are the variables that are affected by organizational culture. Higgins (2005) avers that, the systems, policies and procedures make it possible for the company or organization to carry out the functions successfully and that they are applied in resource allocations, budget processes, planning, human resource management, information technology and quality control. The construction industry is important for economic progress and can be measured through its contributions to the gross domestic product (GDP), investment, and the volume of labour employed. The construction industry's contribution to GDP is considered at 3% to 10%, in the international arena (Pamulu, 2010). It is lower in developing countries and higher in developed countries and as such the construction industry plays a major role in terms of economic, social and cultural development of a country (Pamulu, 2010). According to (Pamulu, 2010), the construction industry performs key roles ranging from economic, social and cultural developments of any nation. World Bank (2011) report observes that, infrastructure is key as well as a major path of transformation and is important in addressing some of the development challenges of the world today and that it is a precursor for social stability, swift urbanization, environmental change and management. World Bank (2011) further avers that without an infrastructure that facilitates green and inclusive expansion, nations and organizations will have challenges of achieving fundamental needs and meeting competition. According to the International Road Federation (IRF, 2017), the road sector is going through unprecedented period of restructuring and countries are improving management of their road networks by introducing sustainable development and setting up new style road funds as well as changing the methods of spending priorities and roads management.

1.1 Statement of the Problem

The public sector faces performance challenges from both internal and external factors, some of which have been highlighted by previous studies, Zamani et al., (2013). Such challenges include internal challenges such as roadway maintenance negligence, creating an internal traffic control plan, roadway safety arrangements and tips, visibility of workers and equipment, etc. The external factors are traffic interruptions and vehicles entering before finish, soil changes and issues, timing troubles, ground movements etc. The support for Miles and Snow's (1978) assumption that viable strategies perform equally well in the long-run is overwhelming (Parnell, 2010), however, there are evidences where inconsistent results are also found. However, providing good roads for a globally competitive and prosperous Kenya is an idea that faces a multitude of challenges, some of which are strategic in nature while others borders on the impact of organizational culture. Lack of empirical knowledge to inform the influence of organizational culture on strategy implementation, and barriers such as poor leadership, poor communication and poor systems and procedures are believed to be derailing KeNHA's strategic plans (GOK Report, 2019). This study sought to understand the influence of organizational culture on the performance of Road Construction in Kenya.

1.2 Objective of the Study

The influence of organizational culture on performance of road construction projects in Kenya. A case study of KenHA.

1.3 Research Hypothesis

Organizational culture has no significant influence on performance of road construction projects in Kenya.

2.0 Literature Review

2.1 Theoretical Framework

The following theories were adopted for the discussion of this study.

2.1.1 Okumus's Theory of strategy implementation

This was the theory at the cornerstone of this research since all its ten key variables determines the core of this study. Okumus (2001) theory talked about ten variables that were important to organization culture with regard to strategy implementation and they included: formulation of strategy, uncertainty of the environment, organization's structure, culture, operation's planning, communications, and allocation of resources, people, control and outcome. Okumus (2003), enhanced the Okumus (2001) theory after identifying the ten key implementation factors which he regrouped into 4 specific classes vis-a-vis: content of strategy, context of strategy, process and outcome. Okumus (2003) stated thus, various implementation conditions in the 4 classes need not be examined in isolation since a factor in a group may interfere with others.

2.1.2. Resource Based View Theory (RBV)

Resource Based View theory was the supporting theory of this study as it is developed on the premise that a firm uses resources to exploit the available opportunities and neutralize any threats to achieve a competitive advantage over others. Thus, this theory avers that performance by an organization or firm is determined by the resources that are available in that organization or firm. According to Selzinick & Recardo, (2007), the resources used by businesses or firms can be classified into physical, human and organizational, which classifications have culture as inherently inbuilt. This theory states that possession of rare and valuable resources that are difficult to copy such as tacit knowledge, complex work relationships can make a firm achieve competitive advantage over competition (Takeuchi, 2007; Koech 2018).

2.2 The Concept of Organization Culture and Performance of Road Construction Projects

Deshpande & Webster, (2014), defines culture as the shared values amongst groups of individuals which try to continue over a period of time regardless of whether membership changes. According to Deshpande et al., (2014), culture is about the behavioral patterns and systems of a firm which newly employed workers should automatically emulate and follow and it is amongst those conditions which are very difficult to express distinctly, but which is known by everybody through intuition. For instance, the culture of a large business corporate like a commercial bank is distinct

from one of a steel manufacturing firm or a hotel. It is easier explaining an organizational culture through how the furniture is arranged, the way the people talk, what they wear or brag about (Deshpande et al., 2014).

Lok & Crawford, (2014), avers that corporate culture is a technique, with additions including information received from; community, profession, law and issues about competition, product or service. According to Lok & Crawford, (2014), the process of culture is about assumptions, values and norms, such as, values for: money; time; facilities; space and people and that the effects of culture are: firm's behavior; technologies; strategies; image; products; services and appearances and yet some firms have very strong cultures, implying that the core values are widely shared within the firm.

Pinto (2010), while writing from India explained how organizational culture influences road projects including ways in which: sections should offer support to each other to achieve project goals; culture influences employee commitment; organizational culture affects planning processes for example how work is estimated and resources assigned to how managers evaluate team performance and their results. Pinto, (2010) further asserts that, managers consider making business-oriented decisions to enhance the performance of construction companies and since project management is central to operations in different projects, it addresses concerns within various successful business units, whether public, private, or non-profit. While Pinto (2010) concentrated on organizational culture, this research thesis looked into organizational culture with regard to organizational performance in Kenya.

According to Serkan, Andrew and Gokhan (2008), managing cultural diversity in construction projects is important for success in both local and international projects and can offer various pros for projects including organizational success. Serkan, Andrew and Gokhan (2008), notes that cultural differences and its challenges can lead to waste of resources and delay of projects construction. While Serkan et al. (2008) concentrated on cultural differences and their impact on management practices in construction industry, this study conceptualized culture with regard to construction projects and performance.

According to Pamulu, M. S. (2010), the Nigerian construction market is one of the most developed and biggest in Africa, yet they struggle to survive due to difficult business conditions occasioned by a very competitive environment and relatively poor incomes. Pamulu, M. S. (2010), explored the competitive strategies adopted by indigenous construction firms (ICFs) to enhance competitiveness due to stiff competition. Pamulu, M. S. (2010), in his findings asserts thus, quality, schedule and cost in construction projects were the most significant competitive strategy of ICFs and that, tradeoffs in either quality, schedule and cost can have a devastating effect on project performance. This study agreed with Pamulu, M. S. (2010), by concluding that ICFs should adopt innovative and inclusive competitive strategies focusing on quality, achieving on-schedule performance and cost reduction in construction operations. The study also agreed with Pheng, S.L. & Chuan, T.Q. (2006), who found out that experience, planning effort, adequacy of design and specification, cost progress monitoring and leadership skill of leader influence project performance.

2.3 Legislations and Regulations

According to Kenya Roads Act, 2007 which initiated the Kenya National Highways Authority (KeNHA) and inaugurated it in 2008 with its headquarters in Nairobi, Kenya, the authority is made up of 10 regional offices and 3 corridor management offices.

According to gazette notice No 4 (LN 2 of 2016) and CS - MOTIHUD&PW revision of the register in May 2020, KeNHA should develop; rehabilitate; manage and maintain of National Trunk Roads comprising Classes S; A and B, which is about 21,553 k.m. and the classes include:

- i) Class S: Have large traffic flow and connecting two cities and more
- ii) Class A: Connects to international boundaries and points including international airports and or seaports.
- iii) Class B: Forms a critical national route connecting national trading centers; economic hubs; county headquarters and capital city or Class A roads.

Under the Constitution of Kenya 2010, Public Works is responsible for providing an efficient road network system in Kenya. The Ministry gives the policy, regulatory frameworks, coordination, oversight, supervision, liaison, and other services for the smooth running of the roads sub-sector. Other players in the roads sub-sector are Nairobi Metropolitan Area Transport Authority (NaMATA); Kenya Rural Roads Authority (KeRRA); Kenya Urban Roads Authority (KURA); Kenya Roads Board (KRB); County Governments and Kenya Wildlife Services (KWS).

The Authority's functions as defined by the Kenya Roads Act of 2007 are to: construct; upgrade; rehabilitate; maintain roads under its control; control national roads, road reserves and access to roadside developments; implement road policies; adhere to the rules and guidelines on axle load control; ensure good quality of road works; collect and collate data related to the use of national roads; preparing road work programs; monitoring and evaluation; develop and maintain national roads; advise the Minister on all issues on national roads; liaison and coordination in planning and operations; perform all the other functions related to road implementation as may be directed by the Minister.

2.4 Conceptual Framework

The study investigated the effect of organizational culture on the performance of road construction projects. A case study of KeNHA. Figure 1, below shows the conceptual frame work consisting of, the independent variable, Organizational culture and the dependent variable namely the performance of road construction projects.

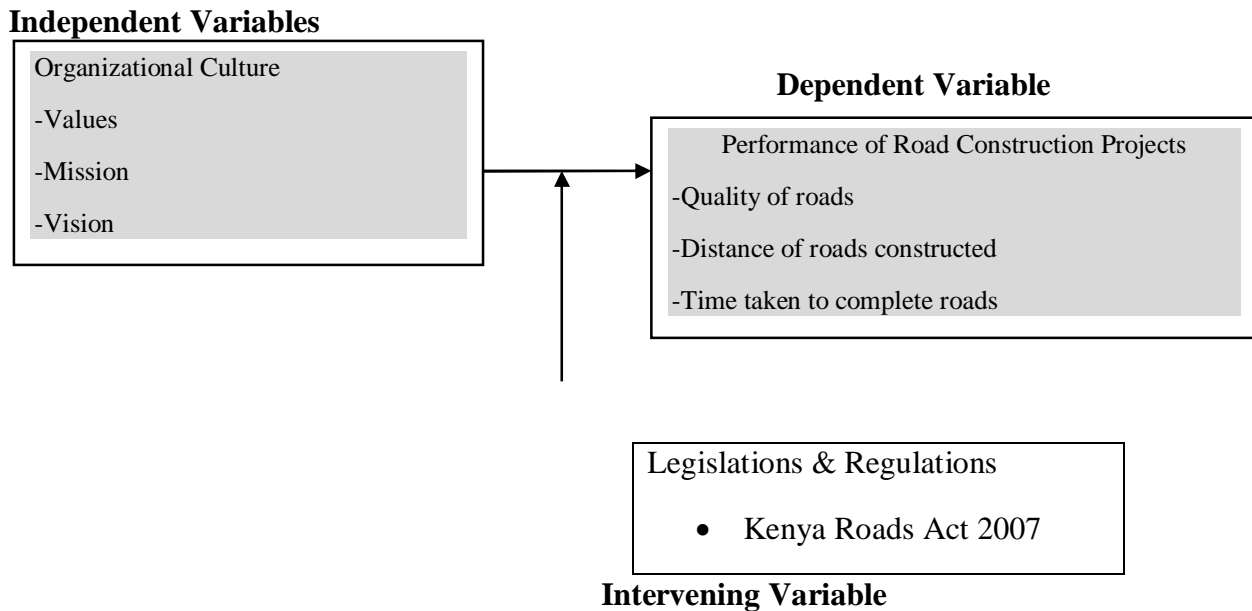


Figure 1. Own conceptual framework (2022)

3.0 Research Methodology

3.1 Research Design

The design presents a plan as well as the structure that was used to investigate the phenomenon of interest. The research was performed using a case study approach because it helps the research to answer questions such as “what, why, where and how” in respect of the study. A case study design provides a precise explanation to the qualities of sample, either an individual or a group, as they are in the natural environment (Kothari, 2004). In particular, the study design included a robust data collection method that will allow collection of vital and in-depth information from the field. The study also adopted explanatory research design which allows testing of hypothesis. The research adopted both qualitative and quantitative approaches in data analysis.

3.2 Study Area

The study was conducted at the Kenya National Highways Authority (KeNHA), headquartered at Barabara Plaza, Jomo Kenyatta International Airport (JKIA), Off Airport South Road, along Mazao Road Nairobi. Its GPS coordinates are $1^{\circ} 17' 11.0004''$ S and $36^{\circ} 49' 2.0028''$ E, with a latitude of -1.286389 and longitude of 36.817223. KeNHA is State Corporation, solely responsible for the management, development, rehabilitation and maintenance of international trunk roads in Kenya.

3.3 Target Population of the Study

Target population, is a universal set of study of all members of real or hypothetical set of people, events or objects to which an investigator wishes to generalize the result according to Kothari, (2004). The study population of this research consisted of Kenya National Highways Authority (KeNHA) employees from the departments of: human resource, finance, procurement, internal audit, marketing, planning and engineering.

Table 3.1. Target Population

| Department /Strata | Number of Employees |
|--------------------|---------------------|
| Senior Managers | 11 |
| Audit | 12 |
| Human resource | 14 |
| Planning | 15 |
| Engineering | 16 |
| Finance | 9 |
| Procurement | 14 |
| TOTAL | 91 |

Source: KeNHA (2019)

3.4 Sampling Design and Sample Size

The sample size was made of KeNHA employees selected through stratified random sampling technique. Stratified sampling begins with a purpose in mind and the sample selected includes people of interest while excluding individuals who do not suit the purpose according to Kothari (2004). This study focused on senior managers in human resource, finance, procurement, audit, marketing, planning, engineering departments and adopted stratified sampling technique where employees in each stratum were randomly selected. Sample size was drawn using the Yamane formula (1967) given below:

$$n = \frac{N}{1+N(e^2)}$$

Where:

n = Number of samples

N = Total population

e = Margin of error.

$$n = \frac{91}{1+91(0.05^2)}$$

$$n = 74$$

Table 3.2: Sampling Techniques and Sample Size

| Department | Target Population | Sample size | Percentage (%) |
|-----------------|-------------------|-------------|----------------|
| Senior Managers | 11 | 9 | 12 |
| Audit | 12 | 10 | 14 |
| Human resource | 14 | 11 | 15 |
| Planning | 15 | 12 | 16 |
| Engineering | 16 | 13 | 18 |
| Finance | 9 | 8 | 10 |
| Procurement | 14 | 11 | 15 |
| TOTAL | 91 | 74 | 100 |

Source: Researcher (2022)

When the study population is less than 10,000, a sample size of 10%-30% is a good representation of the target population according to Mugenda and Mugenda (2013). For purposes of this study, the target population stood at 91 against which a sample of 74 was selected representing 81% of the target population as indicated in the above table.

3.5 Piloting of the Research Instrument

Piloting was done to establish both the validity and reliability of the research instrument before commencement of the actual research work. Piloting was done at the Kenya Rural Roads Authority (KeRRA), which is accountable for the management, rehabilitation, maintenance and development of national roads that have been categorized as classes D, E, and the unclassified rural roads in Kenya. Similarity in mandate with KeNHA made it a more convenient institution to pilot the study. A total of 10 respondents from Headquarters (Nairobi) representing 11% of the total population were given questionnaires. This agrees with Mugenda and Mugenda (2013). The results from the respondents that were obtained in the pilot study and expert comments were used to revise the research instrument to improve its reliability and validity.

3.6 Reliability of the Research Instrument

Reliability is the extent to which an experiment, test, or any measuring procedure provides the same results if repeated severally. Cronbach's alpha method (Cronbach, 1951), was used to determine the reliability of the research instrument and it yielded a score of +0.761. According to Sekaran (2001), for each variable under study alpha values should be more than 0.7 for the statements in the instruments to be deemed reliable. Thus, the data collected and subjected to Cronbach's alpha test established its reliability index.

3.7 Validity of the Research Instrument

Validity of the instruments was applied using experts' opinion where some areas of study were edited to remove any ambiguity in order to improve on the content. It was improved and refined through piloting which according to Mugenda and Mugenda (1999), can be administered on at least 10% of the total population in the unit of analysis and the responses obtained helps to confirm validity level of the research instrument. These respondents who participated in the pilot test were not part of the final study analysis. According to Oluwatayo, (2012), validity refers to the extent to which a test, measurement instrument provides a valid or sound results. The content validity was achieved through adequate coverage of the study construct variables to achieve the study objectives.

3.8 Data Collection and Procedure

Questionnaires were used to collect data from the sample population. The type of data collected from this study was primary data. Semi-structured questionnaires consisting of structured, closed and open-ended questions were applied for purposes of data collection in this research and structured questions were designed on a five-point Likert scale. The questions developed included section one, which focused on information related to the demographics of the respondents. Section two consisted of information related to organizational culture and project performance respectively.

The administration of questionnaires was done through the drop and pick method. The purpose of using a questionnaire for collecting primary data was that it helped to collect standard responses from all the interviewees.

3.8.1 Data Analysis

The process of data analysis commenced once a thorough check on the data contained in the returned questionnaires was done to ascertain completeness and consistency levels. The process included cross-checking questionnaire data for purposes of identifying incompleteness and any errors. Data collected was analyzed through descriptive and inferential statistics aided by SPSS software. In order to actually be usable in practice, the model conformed to the linear regression assumptions.

The following is the regression model, which the study adopted.

$$Y = \beta_0 + B_1X_1 + \epsilon$$

Y represents the dependent variable firm performance

β_0 is a constant

B_1 , B_2 and B_3 are the coefficients of the model

X_1 is organizational structure

ϵ is the error term³

The diagnostic (Linear regression assumption) tests were conducted to ensure non-violation according to according to Brooks, (2008) who explained that analyzing and estimating equations when the regression assumptions are violated may lead to the risk of getting biased, inefficient, and inconsistent results. Consequently, linearity test, the multi collinearity, autocorrelation and heteroscedasticity were carried out to ensure proper specification of equations.

3.8.1.1 Linearity Test

Linearity is where two variables, x and y, are related such that $y = a + bx$ where a is a constant b is a coefficient. Thus, the test for linearity was conducted for each variable before any linear regression was done. SPSS statistical software tool using scatter graph and graphical methods were applied to observe the possibility of the data arriving at a linear population.

3.8.1.2 Normality Tests

The normality test was done to test whether and if the sample score were normally distributed with the same mean and standard deviation and the test was found to be significant ($P < 0.05$) thus there was a normal distribution of the variables.

3.8.1.3 Multi collinearity Test

The test for multi collinearity was done to ascertain non-existence inter-correlation amongst the variables. Multi collinearity may cause several problems such as increase in the size of standard errors and the coefficient of determination (R^2).

3.8.1.4 Heteroscedasticity Test

The Classical Linear Regression Models (CLRM) assume that the error term is homoscedastic, and that it has a constant variance. If the error variance is not constant, then there is heteroscedasticity in the data. Running a regression model without checking on the existence of heteroscedasticity may cause biased parameter estimates. In testing for heteroscedasticity, the Breusch-Pagan/Godfrey test (1979) was applied. The null hypothesis of this study suggested that the error variance is homoscedastic.

3.9 Ethical Considerations

A letter of consent from Jaramogi Oginga Odinga University of Science and Technology (JOUST), was sent (personally hand delivered) to KeNHA to request for participation of staff in the research. The purpose of the study and the research topic was introduced and the staff invited to participate on voluntary basis while assuring them of confidentiality. Each respondent was notified that the research is purely for academic purposes and that his or her confidentiality was assured. The researcher proceeded with the interview after the respondents' confirmation of being ready and willing to participate in the research. This research valued the persons that provided and from whom information was collected; the knowledge gained and indeed the tenets of social research.

4.0 Result and Discussions

4.1 Descriptive Results

4.1.1 Demographic information

This study collected data from 74 respondents. The demographic information that was collected included age, sex, education and experience of respondents. The following were the findings of data collected.

Table 4.1: Demographic Information

| Age of Respondents | | |
|---------------------------|------------------|--------------------|
| Age Category | Frequency | Percent (%) |
| <20 | 4 | 5.5 |
| 20-29 | 28 | 37.8 |
| 30-39 | 20 | 27.0 |
| 40-49 | 12 | 16.2 |
| >50 | 10 | 13.5 |
| Total | 74 | 100.0 |

| Level of Education | | |
|---------------------------|------------------|--------------------|
| Education | Frequency | Percent (%) |
| <20 | 4 | 5.5 |
| 20-29 | 28 | 37.8 |
| 30-39 | 20 | 27.0 |

| | | |
|------------------------|------------------|----------------|
| 40-49 | 12 | 16.2 |
| >50 | 10 | 13.5 |
| Total | 74 | 100.0 |
| Work Experience | | |
| Years | Frequency | Percent |
| < 5 Years | 11 | 14.9 |
| 5-10 Years | 33 | 44.6 |
| 11- 15 years | 20 | 27.0 |
| > 15years | 10 | 13.5 |
| Total | 74 | 100.0 |

Table 4.1 shows the findings on age of respondents. 5.5% of those who responded were below 20 years old, 37.8% were in the 20-29 age category, 27% in the 30-39, 16.2% in the 40-49 and 13.5% were above 50 years of age. Most of those who responded, based on analysis of the data, were 20 to 29 years of age although those from 30-39 years old were equally large in number, however, the less than 20 age brackets were least among the sample of respondents that participated in the study. Age was an important aspect of this study as it depicted maturity, innovation, mentorship, speed and experience. Between 20-39 years is a very fast and innovative age in the construction industry, while 40 years and above depicts maturity, mentorship and experience.

4.1.1.1 Level of Education

Table 4.1 shows the education levels among those who responded. Those respondents who had only reached primary level of education accounted for 4.1%, those that had attained Secondary level of education accounted for 18.9% while 24.3% had certificate level education, 25.7% had diploma, 21.6% university degree, 2.7% masters, equally 2.7% had PhD. Majority of those who responded had attained Diploma, however, 77% of those who responded had certificate, diploma, university, masters or PhD level of education, an indication that the degree of understanding amongst respondents, was reasonable other factors being constant.

4.1.1.2 Work Experience

Table 4.1 shows how many years that those who responded had served in the organization. Those that had served for less than 5 years accounted for 14.9% while those that had served for between 5-10 years accounted for 44.6% and 27% had 11-15 years of service with 13.5% of those who responded having served for over 15 years. The findings show that most of those who responded had put in service 5-10 years while 71.6% had put in service 5 and 15 years inclusive. This indicates that the respondents were highly experienced in the work of the organization and could respond substantively and reliably to the issues that they were asked to respond to in the study.

4.1.2 Descriptive Analysis for Organizational Culture

Table 4.2 shows the average scores for the statements on organizational culture, based on 74 respondents, measured on a scale of 1 (strongly Disagree), 2 (Disagree), 3 (Neutral), 4 (Agree) to 5

(Strongly Agree). Standard deviation measures the amount of variation or dispersion of a set of values in statistics, and thus, a low standard deviation shows that the values tend to be close to the mean or the expected value, whereas a high standard deviation shows that the values are wide spread over a range. For the purposes of the analysis, the average score of those who responded was worked out. An average score of zero implies that it doesn't matter, between 1 to 1.8 means that respondents strongly disagree, an average score of 1.81 to 2.6 implies that they disagree, an average score of 2.61 to 3.4 implies those who responded had neutral perception, 3.41 to 4.2 implies that they agree and a mean score of 4.21 to 5 implies that they strongly agree. A standard deviation of above 1.0 means there is no consensus where as a standard deviation of 1.0 and below implies a consensus.

Table 4.2 Responses to Organizational Culture

| B | Culture Statements | Mean | S.D. |
|----------|--|-------------|---------------|
| B1 | In my organization there is a mission and vision statement | 4.12 | 0.8458 |
| B2 | My organization allows employee participation in decision making and it exhibits respect for varied opinions and ideas. | 3.03 | 0.9657 |
| B3 | In my organization we have a risk tolerance culture | 3.16 | 0.5681 |
| B4 | The organizational powers of the upper cadre and the lower cadres in my organization are distant apart | 4.04 | 0.6854 |
| B5 | In my organization new ideas are tolerated | 3.05 | 0.1567 |
| B6 | Risk tolerance contributes a great deal in the strategy implementation with regard to my organization | 4.04 | 0.9458 |
| B7 | In my organization power distance is a major bottleneck to strategy implementation | 4.35 | 0.8657 |
| B8 | Strategy implementation is enhanced when and if new ideas are tolerated in an organization. | 4.09 | 0.6681 |
| B9 | In my organization all employees are motivated | 3.93 | 0.8066 |
| B10 | In my organization the management and junior staff relate fairly well | 2.86 | 0.8458 |
| B11 | In my organization, customers and staff have a fun and friendly environment | 3.86 | 0.9657 |
| B12 | In my organization, there exist clarity of vision, mission and values amongst employees due to training and accessibility of information | 4.07 | 0.5681 |
| B13 | All the employees of the organization understand fairly well their roles in achieving the corporate vision | 4.16 | 0.6854 |
| B14 | In my organization, employee attitudes, strategic goals and objectives are strongly aligned | 4.78 | 0.7567 |
| B15 | My organization aligns itself to its mission, vision and values always | 3.69 | 0.9458 |
| | Average Score | 3.82 | 0.8657 |

It shows the mode, mean and standard deviation: for whether there existed within the organization a mission and vision statement the mean score and standard deviation were 4.12 and 0.8458

respectively. As to whether there existed a diverse range of opinions and ideas amongst the people, the mean score was 3.03 with a standard deviation of 0.9657; culture of tolerating risks were 3.16 and 0.5681; whether the upper and lower cadres were distant apart in the organization were 4.04 and 0.6854; tolerance for new ideas was 3.05 and 0.1567; risk tolerance helps in strategy implementation: 4.04 and 0.9458; the power distance is a hindrance to strategy implementation: 4.35 and 0.8657; on whether new ideas when and if tolerated enhanced strategy implementation: 4.09 and 0.6681; employees were motivated was 2.93 and 0.8066; the management related well with juniors was 2.86 and 0.8458; on whether customers and staff have a fun and friendly environment in the organization it was 3.86 and 0.9657; if there existed clarity of vision, mission and values amongst employees due to training and accessibility of information stood at 4.07 and 0.5681; and on if all the employees of the organization understood fairly well their roles in achieving the corporate vision was 4.16 and 0.6854; and if employee attitudes, strategic goals and objectives were strongly aligned to the organization stood at 4.78 and 0.7567; if the organization aligns itself to its mission, vision and values always the mean score and standard deviation were 3.69 and 0.9458 respectively. The average mode score, mean score and the average standard deviation for organizational culture is 3.82 and 0.8657. The findings indicate, according to the mode, mean and standard deviation, that most of those who responded agreed organizational culture influences the organization.

4.2.5 Descriptive Analysis for Performance of Road Construction Projects

Table 4.3 Responses to Performance of Road Construction Projects Statements

| E | Statements | Mean | S.D. |
|----------|--|-------------|-------------|
| E1 | My organization minimizes risk, injury or loss of property | 3.95 | 0.482 |
| E2 | My organization achieves its goals relatively easy, in a timely manner and at a fair cost with fairly good choices | 4.27 | 0.393 |
| E3 | Providing reasonable and dependable levels of service | 4.32 | 0.938 |
| E4 | My organization maximizes its overall benefits from both the public and private transport companies | 4.72 | 0.985 |
| E5 | Helping to maintain and enhance the quality of the natural and human environment | 3.28 | 0.722 |
| E6 | My organization Maintains physical assets in the transportation system | 4.32 | 0.704 |
| E7 | The project managers are committed to meeting cost, schedule, safety, and quality standards | 3.91 | 0.482 |
| E8 | All the project personnel, particularly the supervisors, foremen, and field construction staff are motivated and committed to the organization's goals | 3.95 | 0.393 |
| E9 | In my organization, the scope and work definition of the project are clear | 3.53 | 0.938 |
| E10 | The project managers are experienced and capable in terms of | 3.01 | 0.985 |

| | | | |
|-----|--|-------------|--------------|
| | technical, administrative, human relations and communication skills | | |
| E11 | Project work is linked to safety programs, safety monitoring, safety regulations | 3.86 | 0.722 |
| E12 | Procedures are implemented to track project progress relative to goals established in the planning phase | 3.11 | 0.704 |
| | Average Score | 3.85 | 0.845 |

Table 4.3 shows the average scores for the statements on the performance of road construction projects in Kenya with specific regard to KeNHA, based on 74 interviewees, measured on a scale of 1 (strongly Disagree), 2 (Disagree), 3 (Neutral), 4 (Agree) to 5 (Strongly Agree). It showed mean and standard deviations for the statements: “on whether the organization minimizes risk, injury or loss of property the mean score and the standard deviations stood at 3.95 and 0.482 respectively; as to whether the organization achieved its goals relatively easy, in a timely manner and at a fair cost with fairly good choices: 4.27 and 0.393; whether the organization provided reasonable and dependable service levels: 4.32 and 0.938; whether the organization maximizes its overall benefits from both the public and private transport companies: 4.72 and 0.985; whether the organization, helps in maintaining and enhancing the quality of the natural and human environment: 3.28 and 0.722; on whether the organization, maintains the physical assets of the transportation systems: 4.32 and 0.985; if the project managers are committed to cost measures, schedule, safety, and quality standards: 3.91 and 0.482; on whether, the personnel including the supervisors, foremen, and field construction workers are motivated and committed to the goals of the project and 3.95 and 0.393; there is clarity on the scope of the project and work definition: 3.53 and 0.938; the project managers are experienced and capable in terms of technical, administrative, human relations and communication skills: 3.01 and 0.985; project work is linked to safety programs, safety monitoring, safety regulations: 3.86 and 0.722; on whether, the procedures are followed to check on the project progress relative to goals set in the planning stage: 3.11 and 0.704. The average mode score, mean score and average standard deviation score for the performance of construction projects in Kenya were 3.85 and 0.845, which indicated that most of the interviewees agreed that the performance of construction projects in Kenya affects the organizations.

4.3 Regression results

This section includes regression assumption and simple regression analysis conducted. It assessed the existing relationship between organizational culture, (independent variable) and performance of road construction projects (dependent variable) as reflected in table 4.4, 4.5 and 4.6, which includes the model summary, ANOVA and Coefficients.

4.3.1 Hypothesis Testing

Table 4.4: Coefficients ^a

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|-------|------|
| | | β | Std. Error | Beta | | |
| 1 | (Constant) | 2.905 | 1.323 | | 2.196 | .031 |
| | Culture | .200 | .073 | .241 | 2.742 | .008 |

a. Dependent Variable: Performance

The hypothesis states that organizational culture adopted by the organization has no influence on the performance of road construction projects in Kenya. The outcomes in table 4.4 indicate that there is significant effect of culture on performance of road construction ($\beta = 0.200$, $p < 0.5$). Hence, rejecting the stated null hypothesis with 95% confidence level. The research concluded thus, there is a significant effect of culture on performance of road construction projects in Kenya National Highways Authority. The result supports the findings according Fakhar S, Rana, L, Ayesha K, & Lalarukh S. (2012).

The final model for the multiple regression is:

$$Y = 2.905 + 0.200X_1 + \epsilon.$$

Where:

Y represents the dependent variable (Performance of Road Construction Projects) and the independent variables are:

X_1 is organizational culture

ϵ is the error term

Table 4.5: Model Summary ^b

| Model Summary ^b | | | | | | | | |
|----------------------------|-------------------|----------|-------------------|----------------------------|-----------------|----------|----|---------------|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | R Square Change | F Change | Df | Sig. F Change |
| 1 | .965 ^a | .931 | .928 | 4.82545 | .931 | 314.440 | 3 | .000 |

a. Predictors: (Constant), Culture

b. Dependent Variable: Performance

The findings show that the R square ($R = 0.931$) is significantly different from zero, and 93.10% ($R^2 = 0.931$) of the variations in the dependent variable (Performance of Road Construction Projects), is explained by the set of independent variable, the organizational culture, while only 7.20% of the variations in Performance of Road Construction Projects is explained by other independent variables. This table provides the R and R^2 values, where R value represents the simple correlation

and is 0.965 (the "R" Column), indicating a high degree of correlation and the R² value (the "R Square" column) shows how much of the total variations (93.1%) in the dependent variable (performance) can be explained by the independent variables.

Table 4.6: ANOVA ^a

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|--|------------|----------------|----|-------------|---------|-------------------|
| 1 | Regression | 21965.147 | 3 | 7321.716 | 314.440 | .000 ^b |
| | Residual | 1629.947 | 70 | 23.285 | | |
| | Total | 23595.095 | 73 | | | |
| a. Dependent Variable: Performance | | | | | | |
| b. Predictors: (Constant):, Organizational Culture | | | | | | |

The ANOVA analysis for the dependent variable, performance of road construction project, and predictor, organizational culture indicates that ANOVA was significant ($F = 314.44$, $p = 0.005$). This table shows a regression model that is able to predict the dependent variable significantly. Since, $p < 0.005$, the regression model statistically significantly predicts the outcome variable (i.e., it is a good fit for the data).

4.5 Chapter Summary

This chapter began with preliminary analysis of data presented in the form of questionnaires from the respondents. The analysis included general information such as Age of respondents, level of education and work experience. The second part of the analysis included analysis of descriptive data on responses to organizational culture and responses to performance of road construction project statements. The third part of the analysis was regression analysis with SPSS 24 to test the relationship between the independent variables (organizational culture) and the dependent variable (performance of road construction projects).

Table 4.7 Summary of Hypotheses Testing

| Hypothesis | Findings | Conclusion |
|--|---|--|
| Hypothesis one (H_{01}): Organizational culture adopted by the organization has no influence on the performance of road construction projects. | There is significant effect of culture on performance of road construction projects in Kenya National Highways Authority ($\beta = 0.200$, $p < 0.5$) | There is evidence of a positive significant influence of organizational culture on performance of road construction projects therefore the null hypothesis is REJECTED |

5.1 Summary of findings

This study examined influence of organizational culture and the performance of road construction projects in Kenya with regard to KeNHA. The study realized $p=0.008$ which was significant. It found a significant effect of culture on performance of road construction ($\beta = 0.200$, $p < 0.5$), leading to the rejection of the stated null hypothesis with 95% confidence level. The regression equation for this objective was: $Y = 2.905 + 0.200X_1 + \epsilon$.

5.2 Conclusions

According to the study, organizational culture, require combined process of both decisions making and action (Pina, Torres and Yetano, 2011). According to Pina, Torres and Yetano, (2011), the institutional theory states that competing institutional models of action and level of strategic choice for organization respond to environmental factors, yet conversely the upper echelon theory looks at the collective behavior of top management, that is imagined to produce greater performance indicators than personal efforts. Organizational culture, face incremental and discontinuous change factors which may influence the organizational performance.

5.3 Recommendations

This research recommended that firms seeking enhanced performance of road construction projects need to improve their organizational culture. The other recommendations of the study include: KeNHA ensure that organizational culture factors are put in place to create job satisfaction, since job satisfaction relates positively with Basic pay and government should provide an enabling ground for factors to thrive as all stakeholders' benefit; telecommunication sector to examine job satisfaction factors. Both private and public Sectors should put more emphasis on basic pay as the research findings indicated greatest positive influence on job satisfaction.

5.3 New Knowledge generated from the research

The new knowledge was about not just confirming but also providing a framework to be adopted by the influencers and decision makers on the Performance of Road Construction Projects by the Kenya National Highway Roads Authority. The influencers of strategy implementation are the government, the directors, the managers and other senior staff cadres. This study has established a basic structure that underlines the concept and system of operations on road constructions in Kenya.

5.6 Suggestion for further research

This research found out that future study is considered necessary, in further analysis of the organizational culture. This research, had a case study as its main focus, and this may have limitations. It would be more enriching to sample a broad-based population of organization to see if the findings obtain. This research therefore recommends a follow up study with a wider and broader population to provide a higher level of confidence in extrapolation of findings in the construction companies in Kenya.

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