

## Social-Cultural Factors and Performance of Roads Construction Projects in Nairobi City County, Kenya



Akuto Musaeh BP Kamarkor<sup>1</sup>, Dr. Paul K. Sang (PhD)<sup>2</sup>, Dr. David Nzuki (PhD)<sup>3</sup>

<sup>1</sup>Doctor of Philosophy in Business (Project Management) of Kenyatta University

<sup>2,3</sup>Department of Management Science, School of Business, Economics and Tourism, Kenyatta University

**ABSTRACT:** The Kenyan Government is on the spot over stalled and poorly done roads construction projects especially in the Nairobi City County. Successful road construction is an impetus to economic development for Kenya as enumerated in the Kenya Vision 2030. However, there has been need for these road construction projects to update their systems due to the ever changing environment factors. This study therefore sought to determine the relationship between social-cultural factors and the performance of roads construction projects in Nairobi City County, Kenya. The underpinning theory was the open system theory. This study used a positivist research philosophy. This study used the descriptive and explanatory research design. In this study, Nairobi City County refers to the five counties in the Nairobi Metropolitan Area namely, Nairobi County, Kiambu County, Kajiado County, Machakos County and Murang'a County. The target population of this research was the 176 completed roads construction projects in Nairobi City County by Kenya Rural Roads Authority (KERRA). The unit of observation was the road engineers, project planners and directors (KERRA), road supervisors, road inspectors, road surveyors, contractors, and project implementation teams' members (KERRA). The unit of analysis was the completed roads construction projects in Nairobi City County. Proportional stratified sampling was used to derive a sample size of 253 respondents. A structured questionnaire was used to collect primary data. Data that was collected from the field was filtered, sorted and cleaned in line with research objectives. This study adopted both descriptive and inferential statistics. Descriptive statistics including frequencies, percentages, mean scores, and standard deviation was produced for all the quantitative data. The results were presented using tables. Inferential statistics were done using the multiple linear regression. The study established a positive significant relationship between socio-cultural factors ( $t=2.417$ ,  $p<0.05$ ) and project performance. The study concludes that human relationship influences project performance since projects operate within the society. Project culture is developed by communicating priority, status, and the alignment of official and operational rules. The study recommends that project leaders should be sensitive and aware of multicultural preferences guided by individual identity and role within the project versus family of origin and community, verbal and emotional expressiveness, relationship expectations, style of communication, language, personal priorities, values, and beliefs and time orientation.

**KEYWORDS:** Social-cultural factors, Project performance, Human relationship, Project culture

### INTRODUCTION

Performance is referred as the achievement of goals put forth before engaging in a specific activity (Moses, 2019). Poor performance results in insufficient financial inflows, client dissatisfaction, and a negative impact on the corporate image as quality and timeliness of project completion are jeopardized. Delays cause initiatives to fail to benefit the intended beneficiaries and, as a result, increase the cost and time required to complete the project. Surroundings of projects influence performance and the decision making processes during a project's development of strategic goals and these can either be internal factors relating to plans, policies, human resources, financial resources, corporate image, plant, or machinery or external factors which can either be political, economic, social, technological, environmental, and legal environments (An, Razzaq, Nawaz, Noman & Khan, 2021).

The external factors form the PESTEL (political, economic, social, technological, environmental and legal) framework which is used in strategic management to group macro-environmental elements to help strategists look for sources of general opportunity and risk in which fundamental changes in them may lead to the transformation of organizations (Lu, Ren, Zhang, Liang, Abrahám & Streimikis, 2020). The response to the macro environment and the strategic positioning of an organization are paramount as this determines the survival and competitiveness of a project. This therefore calls for scanning of the macro environment so as to identify the requisite opportunities and the risks. This study considered the macro environment, which includes political, economic, technological and legal environments and government policies as a moderator. These elements of the macro environment may influence project performance favorably or unfavorably.

## Social-Cultural Factors and Performance of Roads Construction Projects in Nairobi City County, Kenya

There is an increasing prominence in literature tending to link performance and macro environment in projects globally (Sabahi & Parast, 2020). However, in as much as organizations acknowledge the importance of macro environment on performance, it is similarly important to understand how other variables such as government policies and project stakeholders' involvement may influence this relationship (Olawale & Sun, 2018). Contingency theory, open systems theory, the upper echelons theory, and stakeholder theory suggests a framework that anchors the relationship between macro environment, government policies and project stakeholders' involvement and project performance.

The contingency theory postulates that management of risks is most effective when a 'fit' is established between the contingent factors of the firm's macro environment, establishing propositions that will result in desired organizational outcomes (Kaplan & Norton, 2015). The upper echelons theory associates how government policies relate to a variety of organizational processes, choice of strategy and influence performance (Hambrick & Mason, 1984). The open systems theory advances that an organization is a system that keeps interacting with its external environment and responding of the environmental forces depending on the nature of the organization and the prevailing external environment factors (Bertalanffy, 1968). Whereas, the stakeholders theory views the performance of the organization as a function of how effectively the organization creates value for its different stakeholders (Freeman, 1984).

In roads construction projects, the most performance problems are brought about by delays in completing the projects due to hierarchal bureaucracy in government projects. According to a report issued at Boston, Massachusetts in USA by the chairman of Standish Group about how some roads construction projects have been failing to meet the owner's satisfaction (Chaouk, Pagliari & Moxon, 2020). According to the report, 32 percent of roads construction projects were successful because they were able to be delivered within the stipulated timeframe, financial plan and quality that were anticipated, 44 percent of them were not delivered on time, exceeded financial estimates and were rated below expectations and 24 percent of projects were also cancelled off before they were delivered because they failed. In Sri Lanka, roads construction projects that are funded by donors have faced deliverability challenges hence a compromise in the usability of the money donated by the donors. The performance in most of roads construction projects funded by donors in Sri Lanka is affected (San Santoso & Gallage, 2019). Performance shortfalls are experienced in road construction projects which results into high cost of implementation and may result into cancellation of the contract.

In Europe, Ahmed (2021) indicated that improved road construction technology and methodologies can help execute projects more efficiently and in lesser time. In China, construction technologies such as fabricated and modular construction and innovative construction materials further helped to execute roads construction projects with reduced resources (Opawole *et al.*, 2019). The construction of roads in China had generated jobs for the poor and thus raises living standards. Masovic (2018) reinforced this view and confirmed that road construction generates local income during construction but also facilitates expanded movement of trading and enables easier access to health care services.

The Nigerian assembling industry faces project performance is characterized with lack of completion of projects on time. The amounts of money involved in implementing the road projects is more than that the one budgeted for is the major problem in Nigeria (Mahmud, Ogunlana & Hong, 2021). Uganda is experiencing delay and/or high donor funded projects non completion rates. Elong, Muhwezi and Acai (2019) attribute this scenario to political insurgency and instability which has negatively affected project implementation as well as the absorptive capacity as is the case of construction projects in some selected districts of Uganda. The researcher further reveals that closure of special account stalled procurements and expiry of special commitments which totally disrupted road project activities between March and July 2019.

The docket of roads and infrastructure plays a vital part in accomplishing the Sustainable Development Goals, which are aligned with the realization of the Kenya Vision 2030 goals, by providing infrastructural facilities to the general public. These infrastructure facilities are provided through the construction, repair, and/or maintenance of roads, as well as road rehabilitation. The government has increased the amount allocated to the road sub-sector in order to achieve the big four agenda, the success of which will be realized through infrastructure development. In Kenya, there is a high rate of delayed completion of road construction, as well as stalled projects (Odhiambo, 2021). Time and cost performance of projects in Kenya is unacceptable with more than 70 percent of established projects are probable to reach time overruns of over 50 percent. Further, it is reported that 50 percent of the projects are expected to have a cost overrun of more than 20 percent (Muriithi & Kiiru, 2021). For example, the Thika Road and Langata Road projects were completed late and were over-budgeted, just to mention a few. These reports contradict the inverse proportionality between time and cost as envisioned by the 'iron triangle' and the direct proportionality between scope and time and cost.

The Kenyan Government has been aggressively supporting and implementing various infrastructural development projects, with a major focus on the transport sector with the key beneficiaries being road construction. This is evident in the country's road network coverage which is currently at 161,45 Km and valued at over Kshs 3.5 trillion as at 2021, signifying heavy investment towards the sector, according to Kenya Roads Board's Annual Public Roads Programme 2021/2022. In the Nairobi City County, there are 939.6Km road construction and rehabilitation projects valued at Kshs 162.4billion, whereas 99.7 Km road projects worth Kshs 4.3 billion have been completed so far in 202 (Cytton, 2021).

Omondi and Kinoti (2020) reported that over the last few decades cost overruns especially in the government funded construction projects have remained common with some projects recording up to 60 percent increase from the original contract sum. Of even more

## Social-Cultural Factors and Performance of Roads Construction Projects in Nairobi City County, Kenya

concern is the fact that historical data shows no improvement in cost performance in the last few decades indicating that no significant learning has occurred in this area (Flyvbjerg *et al.*, 2019). According to Kanyeria and Karugu (2020), the political, technological, economic and social environments are external elements for project environment.

The business environments within which construction firms operate in keep changing. Firms that are reluctant to respond and cope with environmental dynamism hardly survive (Chileshe, Njau, Kibichii, Macharia & Kavishe, 2022). The length of time it takes to complete road projects is highly becoming a source of concern among stakeholders. Due to factors such as increased rate of interest by commercial banks, cost overruns, inflation, sponsor pressures, and the likelihood of disputes and claims leading to litigation or arbitration, these leads to stress in road construction projects (Ahmed, 2021). Delays in project completion are the most common cause of performance issues in the construction industry. In Kenya, corruption, political interference and non-streamlined reporting structures are the major reasons for negative performance of roads construction projects. Other reasons negatively influencing how roads construction projects perform in Kenya are like bad political leadership and management, poor relations and lack of employees' motivation, lack of adequate infrastructure, political and issues to do with culture and also economic conditions.

### STATEMENT OF THE PROBLEM

Successful road construction is an impetus to economic development for Kenya as enumerated in the Kenya Vision 2030. However, there has been need for these road construction projects to update their systems due to the ever changing environment factors (Zhanglan, Awino & Ogolla, 2019). The Kenyan Government has been aggressively supporting and implementing various infrastructural development projects, with a major focus on the transport sector with the key beneficiaries being road construction. In the Nairobi City County, there are 939.6 Km road construction and rehabilitation projects valued at Kshs 162.4 billion, whereas 99.7 Km road projects worth Kshs 4.3 billion have been completed so far in 202 (Kenya Roads Board, 2021). NMA is chosen as the locale of the study since it has got the highest value of roads compared to other areas due to the presence of high net worth ongoing projects such as the Nairobi Expressway project.

Kenya Rural Roads Authority is a State Corporation within the State Department of Infrastructure under the Ministry of Transport, Infrastructure, Housing, Urban Development and Public Works (MoTIHUDPW). It is concerned with management, development, rehabilitation, and maintenance of roads in rural Kenya. However, the authority has not been consistent in meeting its objectives due to challenges such as inadequate resource allocation, inadequate contractor experience, delayed certification and payment of works, project cost and time overrun, political interference, poor quality control, lack of contractor motivation and increased agency risks (World Bank, 2017).

Between 2016 and 2020, the Authority planned and procured 8,841.6 kms of roads to be upgraded to bitumen standards (KeRRA, 2018). By close of the 2020/2022 Financial Year only 4208 kms of bitumen standard roads had been achieved with revised completion dates (KeRRA, 2021). This has caused delayed completion, cost escalation from claims on idle human and physical resources, and interest on delayed payment. KeRRA's Strategic Plan 2018 – 2022 provided for expansion of citizen contracting capacity through provision of 12 supervision consultants by 2020, adopting performance-based road maintenance (PBRM) strategy and construction using Public Private Partnership Model to achieve 700 kms and 68 kms respectively by 202 and provision of Infrastructure Bonds. These strategies are yet to be implemented.

Despite the presence of stakeholders in the Nairobi City County, who are supposed to help mitigate on risks from the macro environment and push the project top management, their influence on the relationship between macro environment and performance of roads construction projects in Nairobi City County still remained unclear, thus signifying gaps which necessitated an examination of relationship between these variables (Mwangi, 2020). In the course of construction, developers have had to halt operations due to challenges such as moving water pipes, power lines and also traders settled along the road. A good case example is the 9.8Km Ngong Road whose works stalled midway due to such irregularities. The same road also experienced engineering challenges in road markings, landscaping and abrupt end of lanes which caused KERRA to get back to the drawing board and take time to sort the issues out. Safety challenges such as theft and vandalism of infrastructural equipment like fiber cables, petroleum, and electric cables, have impeded the sector's growth overtime. Moreover, tribal clashes have also caused various infrastructure road projects to be stalled. Road projects require massive capital in order to plan and execute, and therefore, the lack of it has caused stalling of road projects such as the Lironi-Mau Summit Expressway. If the situation is not looked into and rectified, it will be challenging for the devolved governments to make huge and proper development.

Various studies have been conducted in line with macro environment and the performance of projects. They include Wambui and Kisimbii (2020) examined the influence of social-cultural factors on the performance of community-based projects in Kilifi County in Kenya, Owuze (2018) examined the socio-cultural environment and performance of manufacturing enterprises in Nigeria, Maina and Gathenya (2014) investigated the influence of economic factors on performance of project management among petroleum marketing firms in Kenya, Musyoka, Gakuu and Kyalo (2017) assessed the influence of technological factors on performance of gated community housing projects in Nairobi County, Kenya and Kigera (2016) assessed the influence of political factors on the performance of International Hotel Chains in Nairobi, Kenya. However, these studies presented various gaps including a lack focus

## **Social-Cultural Factors and Performance of Roads Construction Projects in Nairobi City County, Kenya**

on the aspects of performance, roads construction projects, methodology and location. The study therefore sought to establish the relationship between social-cultural factors and the performance of roads construction projects in Nairobi City County, Kenya.

### **THEORETICAL REVIEW**

The study was anchored on the Open system theory which was initially developed by Ludwig von Bertalanffy (1956). It defines the concept of a system, where "all systems are characterized by an assemblage or combination of parts whose relations make them interdependent. It is therefore necessary that organizations adapt or create a strategic fit with their environment if they are to sustain superior organizational performance. Roth (2019) while advancing on the original views of organization as an open system advanced that an organization is a system with boundaries that separate it from its environment. The international business atmosphere consists of turbulence and organizations find themselves exerting numerous forces which are either of economic, political, legal, technological or of social nature. It was this atmosphere that accords firms the ability to obtain necessary resources and strategies to sustain their survival and improve on their performance thus resulting in change.

According to Scott (2019), macro environment factors are outside the physical confines of an organization and firms do not have control over them. These factors cause turbulence and uncertainty but also provide resources that sustain the organization to survival, thereby requiring organizations to consider strategic risk management as a means to mitigate the impact of environmental uncertainties while exploring available resources for survival. The environments that organizations operate in have been found to consist of forces that are political, economic, social, technological and legal in nature (Van Assche, Verschraegen, Valentinov & Gruezmacher, 2019). This means that as top managers develop strategies, they will be subject to macro environment influences and will need to continuously ensure that strategic decisions take cognizance of risks being span by its environment.

Proponents of open systems theory share the perspective that an organization's survival is dependent upon its relationship with the environment. However, opposing view against the open systems perspective advances that organizations on their own are relatively stable entities and that on the contrary, dominant organizations at times influence the environment within which they exist (Fernandes, Camerino, Garganta, Pereira & Barreira, 2019). The theory has further been criticized for its deficiency in adopting an integrated, interactional approach using multiple resource dependence strategies thus little is known about interaction of different strategic management practices. This creates the need to explore multiple resource dependency including the influence of organizational leadership and various strategy relationships (Van Assche et al., 2019).

This theory considers all aspects of macro-environment to a project that affects how the roads construction projects in Nairobi City County interact with all manner of environmental factors that have been explained by this theory and therefore this theory is relevant for this study as it is used to explain the macro environment that influences the performance of roads construction projects in Nairobi City County.

### **EMPIRICAL REVIEW**

Wambui and Kisimbii (2020) examined the influence of social-cultural factors on the performance of community-based projects in Kilifi County in Kenya. The study established the influence of cultural belief, social division, community governance, and community resources on the performance of community-based projects in Kilifi County. The study adopted the descriptive survey design where 285 community-based projects in Kaloleni Ward which has population of 50,050 were examined. Quantitative data was analyzed using descriptive and inferential statistics. Inferential data analysis was done using regression analysis. The study found that belief system influenced the performance of community-based projects in Kilifi county Kenya to a great extent. The research found that registered unemployment rate in the project area; religion division; age division and composition; ethnic/tribal profiling in project area; disparity in infrastructure; and gender division influenced the performance of Community-based projects in Kilifi County to a great extent. The study also found that power politics in the community influence the performance of Community-based projects to a moderate extent. Further, the research found that human capital influences the performance of Community-based project to a moderate extent. The study concluded that organizational cultural belief strategy had the greatest effect on performance of community-based projects followed by community governance strategy then social division strategy while community resources strategy had the least effect on the performance of community-based projects. The study however focused on community-based projects when the current research was on roads construction projects thus presenting a conceptual gap.

Owuzo (2018) examined the socio-cultural environment and performance of manufacturing enterprises in Nigeria. This survey study used the correlational research design to ascertain the degree of the magnitude of the relationship between the studied variables. A structured questionnaire was administered amongst the six geopolitical sectors of the country. The study found a significant negative relationship between lifestyle change of the society and the performance, a significant negative relationship between attitude of the society and the performance, a significant positive relationship between consumerism and the performance, a significant negative relationship between the values and norms of the society and performance, and a significant negative relationship between authority relationship and the performance of manufacturing enterprises. For these manufacturing enterprises to improve their performance, there must be a proactive effort to understand and consciously appreciate the interplay of the socio-cultural environmental factors. The study was however done in Nigeria thus presenting a contextual gap.

## Social-Cultural Factors and Performance of Roads Construction Projects in Nairobi City County, Kenya

Mobegi, James and Sang (2020) provided an empirical investigation on the effect of the social cultural attributes; local community literacy levels, support from local communities, language, and corruption levels on the performance of donor-funded health projects in Kenya. Empirical evidence indicates that most donor-funded health projects in Kenya experience time and cost overruns as well as quality issues. This study investigated a population of 69 donor-funded health projects that were initiated between 2008 and 2018 and were ongoing during the study period. A census study was conducted to ensure efficiency, representativeness, reliability, and flexibility since the population was small. The study adopted explanatory and descriptive research designs. Regression results indicated that language, support from the local communities, and the level of literacy in the local communities had positive relationships with the performance of donor-funded health projects in Kenya. Corruption levels had a negative relationship with the performance of donor-funded health projects in Kenya. The study however was limited to donor-funded health projects which was very different from the roads construction projects which was the focus of the current study.

Masovic (2018) dealt with the concepts of socio-cultural factors and performance of multinational companies. The study adopted an empirical review approach. The study found that due to the strong interaction that exists between them, it is very difficult to assess their separate influence on the business operation of multinational companies. The socio-cultural factors are one of the main environmental factors that significantly affect the economic activity of multinational companies and their performance as well. Moreover, socio-cultural factors are beyond the control of foreign subsidiaries' managers. The study was based on secondary data as compared to the current study which adopted a quantitative approach, thus presenting a methodological gap.

### RESEARCH METHODOLOGY

This study used a positivist research philosophy. Positivist research philosophy is based on quantitative information collected from respondents. Positivism is an epistemological philosophy that claims that observation is based on an objective criterion rather than a subjective one, and also that the observer is independent from what is being studied (Creswell & Clark, 2017). This study used the descriptive and explanatory research design. A combination of explanatory and descriptive research designs provided more insights into the subject of investigation and captured information that could have been left out when using only one study design.

The target population of this research was the 176 completed roads construction projects in Nairobi City County by Kenya Rural Roads Authority (KERRA). The unit of observation was 692 respondents including Road engineers (17), Project planners and Directors (KERRA) (16), Road supervisors (81), Road inspectors (98), Road surveyors (194), Contractors (119), and Project Implementation teams members (KERRA) (167). The sample size was determined using Yamane (1967) model, and the study sought to use a sample size of 253 respondents. This study mainly used stratified random sampling method. Then simple random sampling was used to pick respondents from each stratum.

Structured questionnaires were employed to get primary data. Data that was collected from the field was filtered, sorted and cleaned in line with research objectives. The data was coded, and entered into and analyzed using statistics software (SPSS, Version 27.0). This study adopted both descriptive and inferential statistics. Descriptive statistics including frequencies, percentages, mean scores, and standard deviation were produced for all the quantitative data. The results were presented using tables. Inferential statistics were done using the multiple linear regression which showed the significance of each independent variable.

### RESEARCH FINDINGS AND DISCUSSIONS

The study sought to establish the relationship between social-cultural factors and the performance of roads construction projects in Nairobi City County, Kenya. The descriptive results of social-cultural factors are presented in Table 1.

**Table 1: Social-Cultural Factors**

Statement	Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree	Mean	Standard Deviation
	f (%)	f (%)	f (%)	f (%)	f (%)	M	SD
Local land customs have acted as an impediment against road construction projects	68(32.9)	119(57.5)	20(9.7)	0(0.0)	0(0.0)	4.23	.611
Community engagement helps in mitigating adverse attitudes towards road construction projects	80(38.6)	108(52.2)	18(8.7)	1(0.5)	0(0.0)	4.29	.641

## Social-Cultural Factors and Performance of Roads Construction Projects in Nairobi City County, Kenya

Non-compliance with community beliefs can lead to project conflicts and resistance	87(42.0)	100(48.3)	20(9.7)	0(0.0)	0(0.0)	4.32	.644
The literacy levels of the local community contribute to the success of road construction projects in Nairobi City County	78(37.7)	106(51.2)	20(9.7)	2(1.0)	1(0.5)	4.25	0.705
The local community's awareness of road construction safety measures is adequate	85(41.1)	104(50.2)	16(7.7)	1(0.5)	1(0.5)	4.31	.676
Local lifestyle patterns, such as working hours and cultural practices, impact the efficiency of road construction projects in Nairobi City County	98(47.3)	97(46.9)	12(5.8)	0(0.0)	0(0.0)	4.42	.600

The results presented in Table 1 indicate that the respondents agreed that local land customs have acted as an impediment against road construction projects ( $M=4.23$ ,  $SD=0.611$ ) with 68(32.9%) of the respondents strongly agreeing with the statement, 119(57.5%) agreed and 20(9.7%) not sure. The finding agree with Buditiawan, Irawan, Setyawan, Rinawati, Yolarita, Khasanah and Dananjaya (2022) study which investigated mitigation of social impacts of alternative road development plans based on local wisdom in West Sumatra, Indonesia and found that the success of road construction depends on the government's mitigation strategy in adopting local values that live in the community which is then followed by the existence of a foundation and expansion of the fulfilment of community interests.

The respondents agreed on the statement that community engagement helps in mitigating adverse attitudes towards road construction projects ( $M=4.29$ ,  $SD=0.641$ ) with 80(38.6%) of the respondents strongly agreeing with the statement, 18(8.7%) agreed and 1(0.5%) not sure. The finding agree with Adams and Sherar (2018) who observe that using community engagement approaches can lead to perceived improvements in the physical and social environment resulting in better project performance, which may also lead to positive attitudes of community members who directly benefits from the project.

The respondents agreed that non-compliance with community beliefs can lead to project conflicts and resistance ( $M=4.32$ ,  $SD=0.644$ ) with 87(42.0%) of the respondents strongly agreeing with the statement, 100(48.3%) agreed and 20(9.7%) not sure. The finding concurs with Ahmed, Mohamed and Ahmed (2014) who suggest that beliefs, values, and lifestyle patterns of a society are influenced by socio-cultural forces. They further expound that socio-cultural forces such as local community literacy levels and land customs influence success of any project.

The respondents agreed that the literacy levels of the local community contribute to the success of road construction projects in Nairobi City County ( $M=4.25$ ,  $SD=0.705$ ) with 78(37.7%) of the respondents strongly agreeing with the statement, 106(51.2%) agreed, 20(9.7%) not sure, 2(1.0%) disagreed and 1(0.5%) strongly disagreed. The finding concur with Mobegi, James and Sang (2020) who provided an empirical investigation on the effect of the social cultural attributes; local community literacy levels, support from local communities, language, and corruption levels on the performance of donor-funded health projects in Kenya and regression results indicated that language, support from the local communities, and the level of literacy in the local communities had positive relationships with the performance of donor-funded health projects in Kenya.

The respondents agreed that the local community's awareness of road construction safety measures is adequate ( $M=4.31$ ,  $SD=0.676$ ) with 85(41.1%) of the respondents strongly agreeing with the statement, 104(50.2%) agreed, 16(7.7%) not sure, 1(1.0%) disagreed strongly disagreed respectively. The finding agrees with Babaei, Locatelli and Sainati (2023) study which investigated the local community engagement as a practice: an investigation of local community engagement issues and their impact on transport megaprojects' social value and found that local communities are engaged in the early planning stages to build awareness and to ensure full participation. This includes discussing restoration objectives, protection plans, and co-management principles.

The respondents agreed that the local lifestyle patterns, such as working hours and cultural practices, impact the efficiency of road construction projects in Nairobi City County ( $M=4.42$ ,  $SD=0.600$ ) with 98(47.3%) of the respondents strongly agreeing with the statement, 97(46.9%) agreed and 12(5.8%) not sure. The finding disagree with Owuze (2018) study which examined the socio-cultural environment and performance of manufacturing enterprises in Nigeria and The study found a significant negative relationship between lifestyle change of the society and the performance,

### Hypothesis Testing

Regression analysis was done to determine the effect of one variable to the other. This was realized by regressing socio-cultural factors on project performance. The results of the regression analysis are displayed in Tables 2, 3 and 4 respectively.

## Social-Cultural Factors and Performance of Roads Construction Projects in Nairobi City County, Kenya

**Table 2: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.769 <sup>a</sup>	.806	.799	1.105

The results in Table 2 show that the value of adjusted R square was 0.799(79.9%) which shows that the extent to which the performance of roads construction projects in Nairobi City County, Kenya was determined by the socio-cultural factors. Therefore, the remaining percentage (20.1%) account for other variables not studied.

**Table 3: Analysis of Variance**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	112.017	1	28.004	80.443	.001
	Residual	70.321	205	.348		
	Total	182.338	206			

The findings presented in Table 3 show that the significance value is less than 0.05 at 0.001. In addition, the statistical f value is 80.443 which is greater than the statistical mean value of 28.004. Therefore, this confirms the model was significant.

**Table 4: Regression Coefficient**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	.704	.218		3.229	.000
	Socio-cultural factors	.812	.336	4.130	2.417	.001

The findings in Table 4 revealed that a constant value at 0.704 represents the amount by which performance of roads construction projects in Nairobi City County, Kenya would be when aspects of socio-cultural factors are kept constant.

The established regression equation was as follows;

Project performance = 0.704 + 0.812 (socio-cultural factors)

The study observed that a regression coefficient of 0.812 represents the amount by which performance of roads construction projects in Nairobi City County, Kenya changes when socio-cultural factors are changed by one unit keeping economic factors, technological factors and political factors constant.

**H<sub>01</sub>:** There is no significant relationship between social-cultural factors and the performance of Roads construction projects in Nairobi City County, Kenya.

The study found that social-cultural factors had a t value of 2.417 and significance value of 0.001. This indicated that socio-cultural factors were positively and significantly related with the performance of roads construction projects in Nairobi City County, Kenya. Therefore, the hypothesis was rejected and the study concluded that there was a significant relationship between social-cultural factors and the performance of Roads construction projects in Nairobi City County, Kenya. The finding agree with Wambui and Kisimbii (2020) study which examined the influence of social-cultural factors on the performance of community-based projects in Kilifi County in Kenya and the study concluded that organizational cultural belief strategy had the greatest effect on performance of community-based projects followed by community governance strategy.

### CONCLUSIONS AND RECOMMENDATIONS

The study concludes that human relationship influences project performance since projects operate within the society. Social factors such as demographics, social institutions, pressure groups and social change influence the practices and activities of projects. The demographic forces that affect labor availability in projects. Project culture is developed by communicating priority, status, and the alignment of official and operational rules. Differences in culture between stakeholders can affect communications, negotiations, and decision making. Projects too have a specific culture, work norms, and social conventions.

The study therefore recommends that project leaders should be sensitive and aware of multicultural preferences guided by individual identity and role within the project versus family of origin and community, verbal and emotional expressiveness, relationship expectations, style of communication, language, personal priorities, values, and beliefs and time orientation.

### REFERENCES

- 1) Adams, E. J., & Sherar, L. B. (2018). Community perceptions of the implementation and impact of an intervention to improve the neighbourhood physical environment to promote walking for transport: a qualitative study. *BMC public health*, 18(1), 1-14.
- 2) Afande, O. F. (2013). Factors Affecting Use of Donor Aid by International Non-Governmental Organizations in Kenya: A Case of USAID. *International Journal of Business Management and Administration*, 1(3), 89 - 116.
- 3) Ahmed, M. (2021). *Assessing the Performance of Public-Private Partnership Highway Projects: From Anecdotes to Comprehensive Evidence* [Doctoral dissertation, Virginia Tech]. <https://vtechworks.lib.vt.edu/handle/10919/104104>
- 4) Ahmed, R., Mohamed, N.A. & Ahmed, M.S. (2014). *Effect of Multidimensional Top Government policies on Project success: An Empirical Investigation*. Retrieved from: <https://www.researchgate.net/publication/269468314>
- 5) An, H., Razaq, A., Nawaz, A., Noman, S. M., & Khan, S. A. R. (2021). Nexus between green logistic operations and triple bottom line: evidence from infrastructure-led Chinese outward foreign direct investment in Belt and Road host countries. *Environmental Science and Pollution Research*, 28(37), 51022-51045.
- 6) Babaei, A., Locatelli, G., & Sainati, T. (2023). Local community engagement as a practice: an investigation of local community engagement issues and their impact on transport megaprojects' social value. *International Journal of Managing Projects in Business*, 16(3), 448-474.
- 7) Bertalanffy, L. V. (1968). General systems theory as integrating factor in contemporary science. *Akten des XIV. Internationalen Kongresses für Philosophie*, 2(2), 335-340.
- 8) Von Bertalanffy, L. (1956). A biologist looks at human nature. *The Scientific Monthly*, 82(1), 33-41.
- 9) Buditiawan, K., Irawan, A. B., Setyawan, D., Rinawati, H. S., Yolarita, E., Khasanah Masbiran, V. U., & Dananjaya, I. (2022). Mitigation of social impacts of alternative road development plans based on local wisdom in West Sumatra, Indonesia. *The Scientific World Journal*, 2022.
- 10) Chaouk, M., Pagliari, R., & Moxon, R. (2020). The impact of national macro-environment exogenous variables on airport efficiency. *Journal of Air Transport Management*, 82(10), 17-40.
- 11) Chileshe, N., Njau, C. W., Kibichii, B. K., Macharia, L. N., & Kavishe, N. (2022). Critical success factors for Public-Private Partnership (PPP) infrastructure and housing projects in Kenya. *International Journal of Construction Management*, 22(9), 1606-1617.
- 12) Creswell, J. W. & Clark, V. L. P. (2017). *Designing and conducting mixed methods research*. New York: Sage publications.
- 13) Cytonn (2021). *Nairobi Metropolitan Area (NMA) Infrastructure Report 2021*. Retrieved at <https://www.cytonn.com/topicals/nairobi-metropolitan-area-infrastructure-report>
- 14) Elong, S., Muhwezi, L., & Acai, J. (2019). Assessment of the Challenges and Effects of Delays in Compulsory Land Acquisition on the Performance of Road Construction Projects in Uganda. *International Journal of Scientific & Engineering Research*, 10(9), 1409- 1426.
- 15) Fernandes, T., Camerino, O., Garganta, J., Pereira, R., & Barreira, D. (2019). Design and validation of an observational instrument for defence in soccer based on the Dynamical Systems Theory. *International Journal of Sports Science & Coaching*, 14(2), 138-152.
- 16) Flyvbjerg, B., Ansar, A., Budzier, A., Buhl, S., Cantarelli, C., Garbuio, M., ... & van Wee, B. (2019). On De-Bunking 'Fake News' in the Post-Truth Era: How to Reduce Statistical Error in Research. *Transportation Research Part A: Policy and Practice*, 126(3), 409-411.
- 17) Freeman, R. E. (1984). The politics of stakeholder theory: Some future directions. *Business ethics quarterly*, 3(1), 409-421.
- 18) Hambrick, D. C., & Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of management review*, 9(2), 193-206.
- 19) Kanyeria, R. N., & Karugu, J. (2020). Influence of External Business Environment on the Success of Health Projects in Nyandarua County, Kenya. *International Journal of Business Management, Entrepreneurship and Innovation*, 2(1), 1-16.
- 20) Kaplan, R. S., & Norton, D. P. (2015). *Balanced Scorecard Success: The Kaplan-Norton Collection (4 Books)*. Boston: Harvard Business Review Press.
- 21) Kenya Roads Board (KRB). (2021). *Annual Public Roads Programme (APRP) 2021/2022*. Nairobi: KRB.
- 22) Kenya Rural Roads Authority (KeRRA) (2018). *Nairobi-Region*. Retrieved from <https://www.kerra.go.ke/index.php/kerra-regions/26-maintenance-region-tenders/259-nairobi09>
- 23) Kenya Rural Roads Authority (KeRRA) (2021). *Nairobi Region - 22% RMLF FY 2021-2022*. Retrieved from <https://kerra.go.ke/index.php/vision-2030-goals/21-expired-tenders/1324-nairobi-region-22-rmlf-fy-2021-22>
- 24) Kigera, P. M. (2016). *Influence of Political Environment on Performance of International Hotel Chains Operating in Nairobi, Kenya* [Doctoral dissertation, University of Nairobi]. <http://erepository.uonbi.ac.ke/handle/11295/98571>

## Social-Cultural Factors and Performance of Roads Construction Projects in Nairobi City County, Kenya

- 25) Lu, J., Ren, L., Zhang, C., Liang, M., Abrhám, J., & Streimikis, J. (2020). Assessment of Corporate Social Responsibility performance and state promotion policies: a case study of The Baltic States. *Journal of Business Economics and Management*, 21(4), 1203-1224.
- 26) Mahmud, A. T., Ogunlana, S. O., & Hong, W. T. (2021). Key driving factors of cost overrun in highway infrastructure projects in Nigeria: a context-based perspective. *Journal of Engineering, Design and Technology*, 19(6), 1530-1555.
- 27) Maina, C., & Gathenya, J. (2014). Influence of economic factors on performance of project management among petroleum marketing firms in Kenya. *International Journal of Academic Research in Business and Social Sciences*, 4(6), 146-152.
- 28) Masovic, A. (2018). Socio-cultural factors and their impact on the performance of multinational companies. *Ecoforum Journal*, 7(1) 1-6.
- 29) Mobegi, J. O. E., James, R., & Sang, P. (2020). Social cultural attributes and Performance of Donor Funded Health Projects in Kenya. *European Scientific Journal*, 16(19), 558-578.
- 30) Moses, K. B. (2019). *Micro and Macro Environments and Implementation of Public Private Partnership Infrastructure Development in Kenya* [Doctoral dissertation, University of Embu]. <http://41.89.240.73/handle/embuni/2204>
- 31) Muriithi, W. Z., & Kiiru, D. (2021). Learning organization and performance of Kenya Urban Roads Authority. *International Academic Journal of Human Resource and Business Administration*, 3(10), 29-45.
- 32) Musyoka, M. C., Gakuu, C., & Kyalo, D. N. (2017). Influence of Technological Environment on Performance of Gated Community Housing Projects in Nairobi County, Kenya. *European Scientific Journal, ESJ*, 13(3), 11-43.
- 33) Mwangi, D. N. (2020). *The Critical Role Of Participatory Approaches On Performance Of Major Infrastructure Projects: A Case of Selected Government (World Bank Funded) Projects in Nairobi, Kenya* [Doctoral dissertation, United States International University-Africa]. <https://erepo.usiu.ac.ke/handle/11732/6092>
- 34) Odhiambo, S. D. (2021). *Project Management and Implementation of Community-Based Projects in Siaya County, Kenya* [MBA Project, Kenyatta University]. <https://ir-library.ku.ac.ke/handle/123456789/23658>
- 35) Olawale, Y. A., & Sun, M. (2018). Cost and time control of construction projects: inhibiting factors and mitigating measures in practice. *Construction management and economics*, 28(5), 509-526.
- 36) Omondi, K., & Kinoti, K. (2020). Stakeholder participation and performance of road construction projects in Kilifi County, Kenya. *International Academic Journal of Information Sciences and Project Management*, 3(6), 274-292.
- 37) Opawole, A., Jagboro, G. O., Kajimo-Shakantu, K., & Olojede, B. O. (2019). Critical performance factors of public sector organizations in concession-based public-private partnership projects. *Property Management*, 37(1), 17-37.
- 38) Owuze, C. A. (2018). Original Paper an Analysis of the Socio-Cultural Environment and Performance Influences on Manufacturing Enterprises in Nigeria. *Research in Economics and Management*, 3(4), 322-343.
- 39) Roth, S. (2019). The open theory and its enemy: Implicit moralisation as epistemological obstacle for general systems theory. *Systems Research and Behavioral Science*, 36(3), 281-288.
- 40) Sabahi, S., & Parast, M. M. (2020). The impact of entrepreneurship orientation on project performance: A machine learning approach. *International Journal of Production Economics*, 226, 107-121.
- 41) San Santoso, D., & Gallage, P. G. M. P. (2019). Critical factors affecting the performance of large construction projects in developing countries: A case study of Sri Lanka. *Journal of Engineering, Design and Technology*, 18(3), 531-556.
- 42) Scott, P. (2019). General system theory and the use of process mining to improve care pathways. *Applied Interdisciplinary Theory in Health Informatics: A Knowledge Base for Practitioners*, 263(11).
- 43) Van Assche, K., Verschraegen, G., Valentinov, V., & Gruezmacher, M. (2019). The social, the ecological, and the adaptive. Von Bertalanffy's general systems theory and the adaptive governance of social-ecological systems. *Systems Research and Behavioral Science*, 36(3), 308-321.
- 44) Wambui, G. A., & Kisimbii, J. M. (2020). Social-Cultural Determinants Influencing the Performance of Community Based Projects in Kenya: A Case of Kilifi County. *Journal of Entrepreneurship & Project management*, 4(5), 17-34.
- 45) World Bank. (2017). *World development report 2018: The changing nature of work*. The World Bank.
- 46) Zhanglan, Y., Awino, Z. B., & Ogolla, K. (2019). Top management team, macro environment, managerial discretion and competitive advantage. *International Academic Journal of Human Resource and Business Administration*, 3(6), 282-298.



There is an Open Access article, distributed under the term of the Creative Commons Attribution – Non Commercial 4.0 International (CC BY-NC 4.0) (<https://creativecommons.org/licenses/by-nc/4.0/>), which permits remixing, adapting and building upon the work for non-commercial use, provided the original work is properly cited.