



STRATEGIC ALIGNMENT ON THE PERFORMANCE OF ROAD CONSTRUCTION PROJECTS IN KENYA

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ABSTRACT

The study aimed to investigate the impact of strategic alignment on the performance of road construction projects in Kenya and to examine how organizational culture moderates this relationship. It adopted a cross-sectional research design and utilized a positivist research paradigm. The unit of analysis comprised road construction projects implemented by National Government Road agencies in Kenya, while the unit of observation was management employees involved in these projects. The study's target population consisted of 695 respondents, including director generals, directors, project engineers, resident engineers, site engineers, and surveyors. Using a formula by Krejcie and Morgan, the overall sample size was determined to be 248 respondents, selected via stratified random sampling. Primary data was collected through a semi-structured questionnaire, which was pilot-tested with 24 respondents to ensure reliability and validity. Data analysis was conducted using the Statistical Package for Social Sciences (SPSS) version 25 software. Qualitative data was analyzed through thematic analysis and presented descriptively, while quantitative data was analyzed using descriptive statistics and presented in tables and figures. Additionally, correlation and regression analysis were performed to assess the relationships between variables and test the research hypothesis. The findings of the study indicated a positive and significant relationship between strategic alignment and the performance of road construction projects in Kenya. Moreover, organizational culture was found to have a positive and significant moderating effect on this relationship. Based on these findings, the study recommended that organizations involved in road construction projects in Kenya prioritize project strategic alignment and organizational culture to enhance project performance. This suggests that aligning project objectives with organizational goals and fostering a supportive organizational culture can positively influence project outcomes in the context of road construction projects in Kenya.

Key Words: Strategic Alignment, Performance of Road Construction Projects, Organizational Culture

Background of the Study

In recent years, Kenya has experienced significant infrastructural development, particularly in the road construction sector, as part of its broader economic growth agenda (Mwaura, 2019). The efficient execution of road construction projects is pivotal for sustaining this momentum and fostering socio-economic development across the nation. However, the successful completion of such projects often hinges on the strategic alignment of various factors, including project goals, resources, stakeholders' interests, and governmental policies (Ochieng et al., 2016).

Road infrastructure plays a critical role in facilitating trade, commerce, and mobility, thereby enhancing economic productivity and fostering regional integration (Kikwasi & Mwakalongo, 2020). In Kenya, a country with diverse geographical landscapes and burgeoning urbanization, the development of a robust road network is indispensable for connecting remote areas, stimulating rural development, and bolstering national competitiveness.

Despite the significance of road infrastructure, the execution of road construction projects in Kenya often encounters multifaceted challenges (Makokha et al., 2018). These challenges encompass technical complexities, budgetary constraints, regulatory hurdles, environmental considerations, and socio-political dynamics. Moreover, inadequate project planning, inefficient resource allocation, and fragmented stakeholder coordination further exacerbate the difficulties faced in implementing road construction initiatives.

Strategic alignment, as a concept rooted in contingency theory, emphasizes the harmonization of project objectives, organizational strategies, and operational processes to achieve desired outcomes effectively (Ouma et al., 2017). In the context of road construction projects, strategic alignment entails aligning project goals with national development agendas, ensuring coherence between project design and execution strategies, and synchronizing the efforts of various stakeholders involved in project implementation.

While existing literature offers insights into the performance determinants of construction projects, there is a dearth of comprehensive studies specifically focusing on the strategic alignment aspects in the context of road construction projects in Kenya (Mwangi & Oluoch, 2019). Understanding how strategic alignment influences project performance is imperative for policymakers, project managers, and stakeholders to enhance project efficiency, mitigate risks, and maximize socio-economic benefits.

This study focused on the strategic alignment within national government road agencies in Kenya. The study aimed to shed light on how strategic alignment influences project performance, moderated by organizational culture, within the specific context of road construction projects in Kenya.

Statement of the Problem

In Kenya, the construction and maintenance of roads are critical for economic development, trade facilitation, and improving the overall quality of life for citizens (World Bank, 2021). However, despite significant investments in road infrastructure, the country continues to face challenges in achieving optimal project performance. One of the primary issues plaguing road construction projects is the lack of strategic alignment among key stakeholders involved in the planning, execution, and management of these projects (Kenyan National Highways, 2022).

Strategic alignment plays a pivotal role in ensuring that the goals, objectives, and actions of various stakeholders are harmonized to achieve the desired outcomes (Ghonim et al., 2022). Unfortunately, in Kenya, there is often a disconnect between government agencies, contractors, suppliers, and local communities involved in road construction projects (Atibu, 2015). This lack of alignment leads to a myriad of problems that undermine the effectiveness and efficiency of project delivery.

For instance, the KeNHA Annual Report for the Financial Year 2020-2021 revealed that 42% of projects exceeded budgeted costs (Kenyan National Highways, 2022). Similarly, KURA failed to meet its target for Low Volume Seal road implementation in FY 2019-2020, and accountability ratings for road authorities varied significantly, as highlighted by an end-of-year review audit by KRB (Office of the Auditor General, 2021; Kenya Roads Board, 2022).

While previous research has emphasized the importance of strategic alignment such as Vundi (2020), the study was limited to Constituency Development Projects in Kitui County while the current study focused on road construction projects in Kenya hence the study findings cannot be generalized to the current study. In addition, the study failed to show how information technology alignment, operations alignment and employees alignment influences project performance. The research by Eliwa et al. (2018) contextually failed to show how operations alignment and employee alignment influences projects performance. Geographically, this study was conducted in New Zealand which is a developed country hence the study findings cannot be generalized to a developing country like Kenya due to variation in geographical boundaries, institutional framework and legal framework. In UK, Haniff and Galloway (2022) conducted a study on modeling strategic alignment in construction projects. Nevertheless, the study failed to show how information technology alignment, operations alignment and employees alignment influences project performance hence the study findings cannot be generalized to the current study. In addition, the study was conducted in UK which is a developed country hence the study findings cannot be generalized to a developing country like Kenya.

Given the scarcity of research systematically examining the influence of strategic alignment on road construction project performance in Kenya, this study aims to address these gaps. It sought to explore the moderating influence of organizational culture on strategic alignment and its impact on project performance, thereby contributing to a deeper understanding of how governance dynamics affect road construction projects in Kenya.

Objectives of the Study

- i. To determine the influence of strategic alignment on the performance of road construction projects in Kenya
- ii. To examine the moderating effect of organization culture on the relationship between strategic alignment and performance of road construction projects in Kenya

Research Hypothesis

The study sought to test the following research hypothesis;

H₀₁: There is no significant influence of strategic alignment on performance of road construction projects in Kenya.

H₀₂: There is no significant moderating effect of organizational culture on the relationship between strategic alignment and performance of road construction projects in Kenya

LITERATURE REVIEW

Theoretical Review

Contingency Theory

Fiedler (1964) advanced the contingency theory which postulates that the functionality of an institution is linked to the alignment of contingent factors that include technology, organizational culture and the surrounding business environment. The theory argues that contingent elements comprising technology, organization culture and external business environment are critical in and impact the provision of services in an institution (Bastian & Andreas, 2012). The contingent factors are thus relevant in aligning organization goals towards achieving desired service delivery and organizational growth. The development of the contingency theory was premised on the socio

functionalities and institutional structures with aim of promoting service efficiency of organizations (Chenhall, 2003; Reid & Smith, 2000; Woods, 2009).

Organizational performance is a product of the strategic process and contingency elements, according to contingency theory that deals with structural contingency strategies (Donaldson & Davis, 1991). According to the theory, a well-aligned organizational structure is one that is well suited to unforeseen circumstances (Pfeffer, 2005). An organization performs better when its structures are strategically matched to the current situations. Greater organizational expansion results from the alignment, which produces surplus resources (Hamilton & Shergill, 1992). This is in line with Scott's (2004) claim that the most successful organizations are those whose internal characteristics most closely fit the requirements of their environments.

The criticisms leveled against contingency theory fall under two areas (Tosi & Slocum, 1984). First, it is argued that the concepts of the contingency theory are not clearly defined. This is very important because the lack of clear definition of concepts in the theory may render it inapplicable to social research and measurement of variables. In addition, contingency theory is not dynamic and fails to adapt to dynamics in the business environment. Secondly, the linkages between the concepts are not sufficiently defined (Galunic & Eisenhardt, 1994).

The concept of "fit" has emerged as an important topic in the literature on strategic management. The general concept of fit, which serves as the foundational idea of contingency theory (Lawrence & Lorsch, 1967) that contends that organizations perform better when individual components are compatible with the requirements, goals, objectives, and structure of other organizational components (Tushman & Nadler, 1986). On the other hand, if organizational parts "fit poorly," the organization won't work well (Louis & Smith, 1987). The contingency theory is helpful in this study as it seeks to clarify how organizations seek to improve their performance by enhancing fit and alignment with their defined set of contingency variables and, hence, the external environment (Rodney, Kristel & Carmel, 2019).

Conceptual Framework

In a conceptual framework, descriptive categories are systematically placed in a broad structure of explicit propositions, statements of relationships between two or more empirical properties to be accepted or rejected (Rodman, 2018). It comprises independent variables and dependent variables. An independent variable (IV) or the exploratory variable is the presumed cause of changes in the dependent variable (DV). Dependent variable(s) is the variable the researcher wishes to explain. It is also called criterion or predictor variable (Jaworski, Stathakopoulos, & Krishnan, 2019).

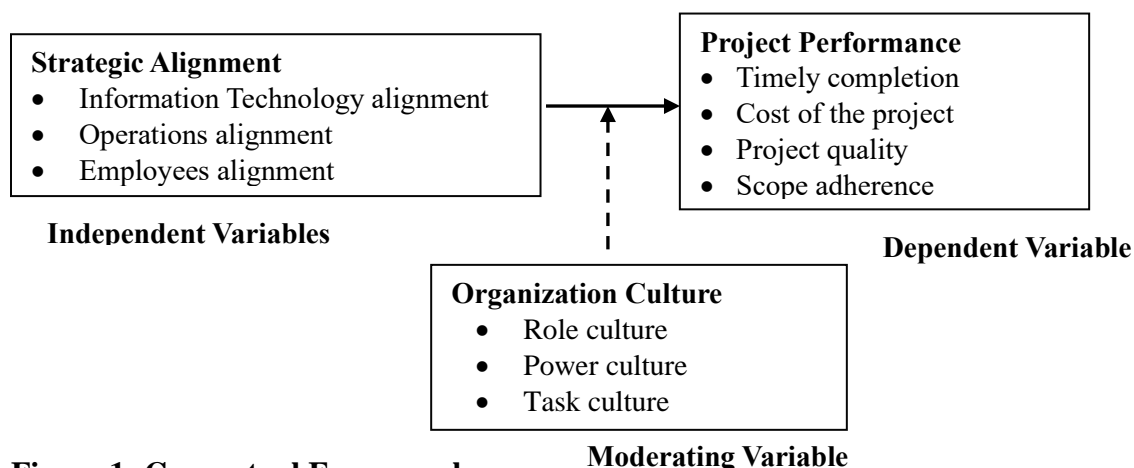


Figure 1: Conceptual Framework

Strategic Alignment

Strategic alignment is a fundamental concept in Project Portfolio Management (PPM) that focuses on ensuring that projects and programs within the portfolio are closely aligned with the strategic goals and objectives of the organization (Ghonim, *et al*, 2022). According to Padovani, Carvalho, and Muscat (2016) strategic alignment is fundamental to transform strategies into actions. Strategic alignment refers to the process of ensuring that the projects and programs within a portfolio are directly linked to the overall strategic direction and objectives of the organization (An, Qiang, Wen, Jiang, & Xia, 2018). It involves assessing the strategic fit of projects, evaluating their contribution to organizational goals, and aligning resources and efforts accordingly (Unger, 2015). To ensure strategic alignment, projects are evaluated based on specific criteria that align with the organization's strategic goals. These criteria may include factors such as market demand, competitive advantage, financial viability, strategic fit, resource requirements, and risk assessment (Haniff & Galloway, 2022). By using these criteria, organizations can prioritize and select projects that have the highest potential to advance the strategic objectives (Abubakar *et al.*, 2018). Strategic alignment entails; information technology alignment, operations alignment and employee alignment (Eliwa *et al.* 2018).

Information technology (IT) alignment is a critical component of strategic alignment within organizations (Haniff & Galloway, 2022). According to Eliwa, Babaeian Jelodar, and Poshdar (2018) strategic alignment refers to the harmonization of an organization's business objectives and activities with its IT capabilities and initiatives. It ensures that IT investments and initiatives are aligned with the overall strategic goals of the organization, enabling it to effectively leverage technology to achieve its desired outcomes. Kibe and Wanyoike (2016) argues that IT alignment involves several key aspects, and one of them is the alignment of IT strategy with the business strategy. This means that the IT strategy should be developed in close collaboration with business leaders to ensure that it supports and enables the organization's strategic objectives (Vundi, 2020). The IT strategy should align with the organization's mission, vision, and long-term goals, guiding the selection, deployment, and management of technology resources (McCardle, Rousseau, & Krumwiede, 2019). Additionally, IT alignment includes aligning IT operations and processes with business processes. IT systems and applications should be designed and implemented to support and streamline business operations, enhance efficiency, and enable effective information flow across different functions and departments. This alignment helps to eliminate redundancies, improve collaboration, and enhance overall organizational performance (Yung-Chang & Wu, 2019). Achieving effective IT alignment requires ongoing communication, collaboration, and coordination between business leaders, IT leaders, and other stakeholders. It involves regular strategic planning sessions, cross-functional teams, and governance structures that facilitate collaboration and decision-making (Yung-Chang & Wu, 2019).

Operational alignment involves aligning the operational activities and processes of an organization with its strategic objectives and goals (Vundi, 2020). McCardle *et al.* (2019) argue that operational alignment ensures that day-to-day operations are carried out in a manner that supports the overall strategic direction of the organization, enabling it to effectively execute its strategy and achieve desired outcomes. Operational alignment includes several key aspects that are essential for aligning operational activities with strategic objectives. Among these key aspects is process alignment which involves aligning business processes with strategic goals (Yung-Chang & Wu, 2019). According to Suh *et al.* (2012) organizations need to identify and streamline key processes to ensure they are efficient, effective, and support the achievement of strategic objectives. By mapping out and optimizing processes, organizations can improve operational efficiency, reduce costs, and enhance overall performance (Vundi, 2020).

Employee alignment focuses on aligning the attitudes, behaviors, and actions of employees with the strategic objectives and goals of the organization Suh et al. (2012). According to Yung-Chang and Wu (2019) employee alignment ensures that individuals at all levels of the organization understand and are actively working towards the achievement of the organization's strategic vision. McCardle et al. (2019) argue that employee alignment as a component of strategic alignment focuses on ensuring that employees understand and actively contribute to the organization's strategic objectives. By effectively ensuring clarity in the strategic vision, setting aligned goals, providing necessary training and development, recognizing and rewarding aligned behaviors, and fostering employee engagement, organizations can enhance employee alignment and drive the successful execution of their strategic initiatives (Eliwa et al., 2018).

Organizational Culture

The influence of different organizational cultures are usually reflected in numerous factors including style, structure, competence, shared values, norms and beliefs, policies and procedures, the view of relationships with authority, and work ethics, to mention but a few (Mugo & Moronge, 2018). In addition, organizational culture influences organizational performance through shaping the behavior of organization members (Ochiel, Iravo, Wandera, 2016). Obeidat, (2016) points out that, an organization's culture is considered to be an important factor affecting organizational success or failure. Tam, *et al*, (2020) argue that organizational culture has a strong association with the organization's sense of uniqueness, its values, mission, aims, goals and ways of building shared values. Therefore, ignoring organizational culture in plans for any changes within the organization would yield unforeseen and negative consequences (Naeem *et al*, 2018). This study focuses on role culture, power culture and task culture.

Power culture, also known as a centralization culture, is an organizational culture where power and decision-making authority are concentrated in a few individuals or a central figure within the organization (Obeidat, 2016). In a power culture, key decisions and control are held by a select few who wield significant influence and have the ability to shape the organization's direction (Nguyen Luong & Watanabe, 2017). Power culture is characterized by a centralized decision-making process. A small group or an individual at the top of the hierarchy holds the authority to make key decisions without significant input or consultation from others (Naeem *et al*, 2018). Power culture often revolves around a dominant leader or a small group of influential individuals who exert a significant influence on the organization. The leader's personality, vision, and preferences play a crucial role in shaping the organization's culture and direction (Ackon, Kheni, & Mensah, 2022).

Project Performance

Project management is an art and a science; an art because it requires the skills, tact and finesse to plan, lead, coordinate, and communicate with various departments and personnel and, a science because of the use of specific knowledge, skills, tools, and techniques to achieve project objectives (Xian & Bakhtnia, 2022). According to Alade et al. (2016) timely delivery of projects within budget and to the level of quality standard specified by the client is an index of successful project delivery. This involves balancing competing demands among: scope, time, cost and quality; stakeholders with different needs and expectations; identified requirements and expectations (Pieter, 2018). Citing the Project Management Body of Knowledge [PMBOK] (2011) Mandy and Immerwahr, (2018) argued that a project is considered underperforming when it has not delivered what was required, in line with expectations of cost, quality and time. Consistent with this argument, Pinto and Winch, (2016) submits that one of the biggest problems of project managers is to harmonize project cost, time and quality. However, it is difficult to achieve this because cost, time and quality are related in the way that a change of one influence on the other two. In this

study, project performance is measured in terms of timely completion, cost of the project, project quality and scope adherence.

Project cost focuses on evaluating whether the project is completed within the approved budget and managing costs effectively throughout the project lifecycle (Mohindra, & Srivastava, 2019). Effective cost management ensures optimal allocation of resources. By controlling project costs, resources such as funds, personnel, equipment, and materials can be efficiently allocated to meet project requirements and priorities (Pinto & Winch, 2016). Cost management mitigates financial risks associated with the project. It involves identifying potential cost risks, such as budget overruns, and implementing strategies to mitigate those risks before they impact the project's financial health. To effectively manage project costs, project managers should develop accurate and comprehensive cost estimates, establish a robust cost tracking and reporting system, monitor costs regularly, and proactively address cost deviations. Collaboration between project managers, finance teams, and stakeholders is crucial for successful cost management throughout the project lifecycle (Pieter, 2018).

Scope adherence refers to the degree to which a project stays within the defined scope boundaries throughout its lifecycle (Pinto & Winch, 2016). Scope adherence measures the project team's ability to deliver the agreed-upon scope of work without unnecessary additions, changes, or omissions. Adhering to the project scope helps manage stakeholder expectations. When the project team delivers within the agreed-upon scope, it minimizes the risk of stakeholders expecting additional work or deliverables that were not initially planned (Mohindra, & Srivastava, 2019). Scope adherence contributes to effective time and cost management. When the project team sticks to the defined scope, it minimizes the likelihood of scope creep, which can result in schedule delays, cost overruns, and resource inefficiencies (Pieter, 2018).

Empirical Review

Strategic Alignment and Project Performance

In UK, Haniff and Galloway (2022) conducted a study on modeling strategic alignment in construction projects. The study explored the challenges that occur when collaborating organizations seek to align multiple strategic objectives through a single construction project and examined those factors that influence the strategy of a project network. Unlike intra-organizational projects that operate in the boundaries of a single organization, a project network operates in an environment of overlapping boundaries whereby multiple organizations simultaneously seek to ensure their strategic objectives are realized through a single strategic project. A model presenting a hierarchy of inter-organizational strategic objectives was developed. From the empirical findings of a study of four construction projects, internal and external tensions influencing the project strategy of the network were identified. The study found that effective strategic alignment, leadership and taking account of client complexity are important in the strategic alignment of inter-organizational projects

In New Zealand, Eliwa et al. (2018) researched on the influence of strategic alignment on project performance in the construction industry. Empirical data was obtained through interviews conducted with senior engineers from different construction projects in New Zealand construction companies. The study adopted descriptive research design. Study findings established that strategic alignment significantly influences performance of projects in the construction industry. In Korea, Zaman, Nadeem, and Shahid (2020) researched on effects of strategic alignment on project portfolio success in the Asia-Pacific region. Based on samples drawn from the information and communications technology (ICT) industry in the Republic of Korea (an advanced economy) and Pakistan (an emerging economy), the hypothesized relationships were empirically tested using

partial least squares structural equation modeling (PLS-SEM). The study used the contingency theory to discover the mediation effect of IS investment on strategic alignment and project success. The results from 273 business executives in Korea indicated that strategy integration with IT is positively related to IT investment, and IT investment is a critical antecedent of project success. Thus, the implications of the findings are that right-directional IT investment has played an important role in the success of IT companies in Korea.

In China, Yung-Chang and Wu (2019) conducted a study on strategic alignment and project success. Regression analysis was used to test the hypotheses in a sample of 80 cases drawn from a population of the top 5,000 Taiwanese firms listed in the yearbook published by the China Credit Information Service Incorporation. The empirical results indicate that formalization is positively related to new product performance while decentralization has an inverse U-shaped curvilinear effect on new product performance. Furthermore, the regression findings also indicate that market-oriented strategy negatively moderates the relationship between formalization and new product performance, while technology-oriented strategy positively moderates the curvilinear relationship between decentralization and new product performance

McCardle et al. (2019) conducted a study on the effects of strategic alignment and competitive priorities on operational performance. This study compared the effects of strategic alignment and competitive priorities on operational exploitation and exploration, across three cultural clusters. The results show that the cultural characteristics of low power distance and high individualism enhance the efficacy of competitive priorities aimed at explorative performance outcomes, and cultures characterized by high power distance and low individualism strengthen the link between strategic alignment and exploitative performance

Vundi (2020) focused on the influence of strategic alignment on the performance of CDF sponsored projects in Kitui County, Kenya. This study was a census as the targeted population was small and thus it was reasonable to engage the whole population. Data collection was done by use of semi structured questionnaires which were administered on a “drop and pick later” method. The data collected was analyzed using both qualitative and quantitative techniques. Qualitative data was analyzed by arranging responses according to the research questions and objectives. According to the findings of the data analysis, strategic alignment ranked lowest in the influence it has on the performance of CDF sponsored projects in Kitui County. A unit increase in strategic alignment would lead to 0.073-unit increase in CDF projects performance all other factors held constant. Nevertheless, this could have been as a result of lack of understanding of what strategic alignment is and its with leadership and performance of CDF sponsored projects.

Kibe and Wanyoike (2016) conducted a study on the influence of Strategic Alignment Practices on Project Selection Performance of Hotels in Nakuru Town, Kenya. The aim of the study was to examine the extent to which strategic alignment practices influence project selection performance of hotels in Nakuru town. Specifically, the study sought to examine the influence of objective alignment practices, core value alignment practices, and capability alignment practices on project selection performance of hotel establishments within Nakuru town. The study utilized the descriptive-explanatory research design where cross-sectional data was collected from a sample of 73 participants using structured questionnaires. Results showed that objective alignment practices ($p=0.00$ and $Beta= 0.611$), core value alignment ($p=0.001$ and $Beta=0.411$) and capability alignment practices ($p=0.00$ and $Beta= 0.465$) have significant and positive influence on project selection performance. However, regulatory practices were found to have no significant moderating effect on the relationship between strategic alignment practices and project selection performance

Organizational Culture on Project Performance

Nguyen, Luong and Watanabe (2017) researched on the impact of project organizational culture on the performance of construction projects. A total of 199 completed construction projects in Vietnam were analyzed with data gathering through questionnaires. The findings revealed that contractor commitment to contract agreements is the most significant cultural factor affecting project performance. In addition, the study established that goal alignment and reliance, contractor commitment, and worker orientation (i.e., commitment to workers) contribute to improved overall performance and participant satisfaction. Contractor commitment and cooperative orientation enhance labor productivity, whereas goal alignment and trust and contractor commitment ensure learning from experience.

Ekung et al. (2017) studied the influence of strategic alignment on project performance: Evidence from Nigerian case studies. Data were collected using structured questionnaire and examination of project archives. The study data were analyzed to determine the level of adherence to strategic alignment essentials and the protracted implications on project performance. Respondents' assessment of the projects' performance using Kerzner's criteria, cost and time overrun were analyzed using the mean score and the test of hypothesis involved Spearman Correlation test. The result indicated that strategic alignment structure must be improved and such improvement will increase the performance of mega projects. To improve strategic alignment in mega projects therefore, the study suggests the need for stakeholders to ensure effective implementation and selection of strategic alignment structure using industry's established principles and based on prioritized needs. The study provides useful insight into the problem inhibiting mega project performance and efficient use of strategic alignment in the public sector in developing countries.

Abdullahi and Luketero (2018) examined the influence of organisational culture on project performance in Waso Trust Land Project Organisation in Isiolo County, Kenya. The study used descriptive survey design. The target population consisted of all the 65 employees of Waso Trust land Project. The sample was 65 respondents. The study used questionnaires to collect data. Findings revealed that diversity influenced project performance. There was a significant and positive relationship between diversity and project performance. (r , is 0.765, $n=62$). It was also revealed that employee recognition influenced project performance (r , is 0.711, $n=62$). Findings also revealed that leadership influenced project performance (r , was 0.71, $n=62$, $p=0.01$). Lastly it was revealed that communication system influenced project performance ($r = .774$, $N = 62$). Based on the findings of the study it was concluded that there was a significant and positive relationship between diversity and project performance. Diversity influenced project performance in Waso Trust land Project. The organization acknowledges, understands, accepts and values differences among people with respect to age, class, race, ethnicity, gender, disabilities. The organization had the potential to yield greater work productivity and competitive advantages. The organization recognized that each individual as unique and does not represent or speak for a particular group, while managers and associated in the organization were aware of their personal biases and also agreed that managers in the organization understood that fairness was not necessarily equality.

RESEARCH METHODOLOGY

The research methodology employed in this study adheres to the positivist research paradigm as outlined by Cooper and Schindler (2018), which emphasizes objectivity, impartiality, measurement, and the validity of results. This paradigm offers a highly structured methodology conducive to generalizing quantifiable observations and evaluating results using statistical methods. Thus, the current study is anchored on positivism to facilitate the analysis of cause-effect relationships between variables. Cross-sectional research design was chosen as it allows for the examination of these relationships across a single point in time (Cooper & Schindler, 2018).

The unit of analysis for this study was road construction projects executed by National Government road agencies in Kenya, namely KURA, KeRRA, and KeNHA, while the unit of observation comprised management employees involved in these projects. This includes top managers (director general and directors), middle managers (project engineers and resident engineers), and low-level managers (site engineers and surveyors). The selection of these participants was based on their expertise and familiarity with road project management in Kenya, particularly within the context of the three road agencies.

The target population for the research comprised 695 respondents, encompassing various management roles within the road agencies. Utilizing the Krejcie and Morgan (1970) formula, a sample size of 248 respondents was determined for the study. Stratified random sampling was employed to ensure representation across different management levels within each agency.

Data collection was conducted through the use of web-based questionnaires administered via Google Forms. Prior to the main data collection, a pilot test was conducted with 24 respondents to ensure the questionnaire's reliability and validity. According to Lütfti (2020), a sample size for pilot studies should range between 1% and 10% of the total population, aligning with the sample size chosen for the pilot test in this study.

Data analysis was carried out using the Statistical Package for Social Sciences (SPSS) version 25 software. Descriptive analysis techniques such as frequency, percentages, and means were employed to summarize the data. Additionally, inferential statistics, including correlation analysis and multiple regression modeling, were utilized to explore the relationships between variables. A significance level of 0.05 was set, indicating that a p-value below this threshold would signify a significant relationship between variables, while a p-value above 0.05 would indicate non-significance.

RESEARCH FINDINGS AND DISCUSSION

A total of 248 grade 1 to 6 employees engaged in road construction projects were selected as the sample for this study. Upon receipt, the returned questionnaires underwent rigorous verification to ensure accuracy and completeness. Subsequently, 222 questionnaires were deemed valid and reliable, meeting the criteria for further analysis and reporting. This validation process yielded a response rate of 89.7%, which is considered excellent according to the criteria outlined by Sekaran and Bougie (2017). They suggest that response rates of 50% or above are adequate, 60% or above are good, and 70% or above are excellent for analysis purposes. Hence, the achieved response rate of 89.7% is deemed excellent and provides a robust foundation for the subsequent analysis and reporting of findings.

Descriptive Analysis

In this section the study presents findings on Likert scale questions where respondents were asked to indicate their level of agreement with various statements that relate with the influence of strategic alignment on performance of road construction projects in Kenya and the moderating effect of organization culture. They used a 5-point Likert scale where 1-strongly disagree, 2-disagree, 3-moderate, 4-agree, 5-strongly agree. The means and standard deviations were used to interpret the findings where a mean value of 1-1.4 was strongly disagree, 1.5-2.4 disagree, 2.5-3.4 neutral, 3.5-4.4 agree and 4.5-5 strongly agree. Standard deviation greater than 2 was considered large meaning responses were widely spread out and not tightly clustered around the mean. In other words, there was a lot of variability in the responses, which may suggest that participants had different interpretations or perceptions of the questions being asked.

Strategic Alignment

The first objective of the study was to determine the influence of strategic alignment on the performance of road construction projects in Kenya. Respondents were therefore requested to

indicate their level of agreement with statements on strategic alignment and the performance of road construction projects. Table 1 presents summary of the findings obtained. On information technology alignment, the respondents agreed that use of information technology supports the overall strategic objectives of road projects ($M= 4.218$, $SD= 0.703$). In addition, the respondents agreed that the Authority ensures adoption of the right IT infrastructure to enhance performance of road projects ($M= 3.981$, $SD= 0.905$). It was also agreed that the IT architecture of road projects accommodates future scalability and adaptability requirements ($M= 3.788$, $SD= 0.957$). The respondents agreed that they are satisfied with the level of IT alignment with the set goals in road projects ($M= 3.654$, $SD= 1.013$). These findings are consistent with those of Haniff and Galloway (2022) that information technology alignment is critical for achieving project success, as it ensures that project goals and objectives are aligned with the organization's overall IT objectives. In the context of road construction projects in Kenya, the findings suggest that the authority has taken steps to ensure that its road projects are aligned with organizational objectives.

Regarding operations alignment, the study found that the respondents agreed that operations alignment facilitates performance of road projects ($M= 4.237$, $SD= 0.771$); that their organization ensures all operations are in line with the set goals in the road projects ($M= 4.135$, $SD= 0.843$). In addition, the respondents agreed that their organization ensures flexibility in operations to accommodate any changes during implementation of road projects ($M= 4.103$, $SD= 0.903$). The respondents also agreed that the operational plans and strategies are adaptable to address unforeseen challenges and changes in road construction ($M= 3.897$, $SD= 0.836$). The study findings align with Zaman, Nadeem, and Shahid (2020) results that, operations alignment is a critical component of strategic alignment, which helps in aligning the operational activities and processes of an organization with its strategic objectives and goals. It is also important to ensure that the projects align with the strategic focus of the organization.

The study further established on employee alignment that the respondents agreed that project team members are aware of their specific roles, responsibilities, and deliverables in the road construction projects ($M= 4.417$, $SD= 0.718$). In addition, the respondents agreed that project team members understand the overall goals and objectives of the road projects they are involved in ($M= 4.346$, $SD= 0.669$). Further, they agreed that the authority ensures project teams are operating in their area of specialization to improve their productivity hence project success ($M= 4.244$, $SD= 0.838$). The respondents also agreed that project team members feel empowered and encouraged to contribute their ideas and suggestions for process improvement in road projects ($M= 4.045$, $SD= 0.814$). The study findings agree with those of Haniff and Galloway (2022) that employee alignment is essential to ensuring that projects are executed by qualified staff who are well informed and aligned with projects being implemented. It also agrees with Eliwa *et al.* (2018) who emphasized on the importance of employee alignment to enhance quality of projects being implemented.

Table 1: Descriptive Statistics on Strategic Alignment

Statements.	Mean	Std. Dev.
Information Technology alignment		
Use of information technology support the overall strategic objectives of road projects	4.218	0.703
The Authority ensures adoption of the right IT infrastructure to enhance performance of road projects	3.981	0.905
Am satisfied with the level of IT alignment with the set goals in road projects	3.654	1.013
The IT architecture of road projects accommodates future scalability and adaptability requirements	3.788	0.957
Operations alignment		
Our organization ensures all operations are in line with the set goals in the road projects	4.135	0.843
Operations alignment facilitates performance of road projects	4.237	0.771
The operational plans and strategies are adaptable to address unforeseen challenges and changes in road construction projects	3.897	0.836
Our organization ensures flexibility in operations to accommodate any changes during implementation of road projects	4.103	0.903
Employees alignment		
Project team members understand the overall goals and objectives of the road projects they are involved in	4.346	0.669
Project team members are aware of their specific roles, responsibilities, and deliverables in the road construction projects	4.417	0.718
Project team members feel empowered and encouraged to contribute their ideas and suggestions for process improvement in road projects	4.045	0.814
The authority ensures project teams are operating in their area of specialization to improve their productivity hence project success	4.244	0.838
Aggregate Score	4.088	0.831

The study also sought to establish other ways in which strategic alignment affect performance of road construction projects in Kenya. The respondents revealed that alignment with external factors such as the political environment and global economy affects performance of road construction projects in Kenya. They also added that strategic alignment assists in achieving the expected output. Further, it was revealed that a good strategic alignment enhances team collaboration, harmony and team coherence which results in improved quality of constructed product. The respondents revealed that strategic alignment achieves organization unity, effective use of resources and improves planning.

From the results, it was found that effective strategic alignment ensures delivery of projects within specified time frame when well financed. Further, the respondents revealed that strategic planning ensures that projects are planned properly and well-funded in line with fundamentals of project management to ensure that specific and overall goals are achieved. Results showed that strategic alignment allows tethering of projects to meet primary objectives. Diverse teams must however be versatile enough to identify operational deadlocks and innovate solutions outside the prescribed parameters. The respondents revealed that strategic alignment ensures that projects are driven by a clear vision and are supported by relevant stakeholders so as to achieve long-term strategic objective.

Organizational Culture

The two objectives of the study were to examine the moderating effect of organization culture on the relationship between projects governance projects governance and performance of road construction projects in Kenya. Respondents gave their level of agreement on statements on organizational culture on performance of road construction projects. Table 4.7 presents summary of the findings obtained. From the findings on role culture, the study found that respondents agreed that in their organization, roles are delegated according to individual education qualification and specialization ($M= 3.846$, $SD= 1.008$); that individuals have authority in positions they occupy ($M= 3.885$, $SD= 0.909$); and that when assigning tasks, individual educational qualification and interests are considered ($M= 3.500$, $SD= 1.030$). The findings agree with those of Nguyen, Luong and Watanabe (2017) that assigning tasks based on individual education qualification and interests was critical for project success in the construction industry. It also agrees with Yosinta (2016) that giving individuals authority in positions they occupy was important for job satisfaction and employee performance. Also, Ekung *et al.* (2017) emphasized the importance of assessing individual educational qualification and specialization when delegating tasks in construction project management. The authors suggest that project managers should prioritize assessing individual skills and expertise to ensure that the right person is assigned to the right task, which can improve project outcomes and reduce the risk of errors and delays.

On power culture, respondents agreed that subordinates in their organization have to strictly follow their superior's instructions ($M= 3.769$, $SD= 0.765$). This is consistent with Weber (1947) concept of authority which argues that legitimate power is based on a belief in the legitimacy of the rules and the individuals who enforce them. In this view, power is not inherently negative or oppressive, but rather it is a necessary aspect of organizational functioning. Therefore, subordinates may agree that they have to strictly follow their superiors' instructions because they believe in the legitimacy of their superiors' authority. The findings further showed that the respondents were neutral on the statement that in their organization, power remains in the hands of few individuals ($M= 3.308$, $SD= 1.258$); and that decision making in their organization is made by few individuals who have power ($M= 3.231$, $SD= 1.177$). This is consistent with Abdullahi and Luketero (2018) observations on organizational power and decision-making, which suggests that power can be both centralized and decentralized in organizations.

Further, the study found on task culture that respondents were in agreement that in their organization, teams are formed to achieve set targets ($M= 3.923$, $SD= 0.796$) and that critical problems are solved in teams ($M= 3.731$, $SD= 0.874$). Findings also showed that respondents also agreed that their organization depends on teamwork to produce results ($M= 3.615$, $SD= 0.983$). This agrees with Ingosi and Juma (2020) on the importance of teamwork and collaboration has been highlighted in the literature on organizational culture, where it is argued that a task-oriented culture can enhance organizational effectiveness and performance. Respondents were however neutral on the idea that team members in their organization have to contribute equally to accomplish tasks ($M= 2.923$, $SD= 1.129$). This could suggest that there may be some uneven distribution of work or contributions in the team. This is consistent with Abdullahi and Luketero (2018) who suggested that issues such as free-riding, social loafing, and unequal contributions can be detrimental to team effectiveness.

Table 2: Descriptive Statistics on Organizational Culture

	Mean	Std. Dev.
Role culture		
In my organization, roles are delegated according to individual education qualification and specialization	3.846	1.008
When assigning tasks, individual educational qualification and interests are considered	3.500	1.030
Individuals have authority in positions they occupy	3.885	0.909
Power culture		
In my organization, power remains in the hands of few individuals	3.308	1.258
Decision making in my organization is made by few individuals who have power	3.231	1.177
Subordinates in my organization have to strictly follow their superior's instructions	3.769	0.765
Task culture		
In my organization, teams are formed to achieve set targets	3.923	0.796
In my organization, critical problems are solved in teams	3.731	0.874
Team members in my organization have to contribute equally to accomplish tasks	2.923	1.129
My organization depends on teamwork to produce results	3.615	0.983
Aggregate Score	3.573	0.993

The study also sought to establish other ways in which organizational culture can affect projects governance on performance of road construction projects in Kenya. The study found that a culture that values innovation, risk-taking, and continuous improvement may encourage project teams to take calculated risks and explore new approaches to improve project outcomes. In contrast, a culture that is bureaucratic, hierarchical, and risk-averse may hinder innovation and limit project team creativity. Moreover, organizational culture can also influence the projects governance by shaping the decision-making processes and practices within the organization. For example, a culture that values transparency, accountability, and stakeholder engagement may encourage more open and participatory decision-making processes, which can improve strategic alignment and reduce the risk of corruption or unethical behavior. On the other hand, a culture that prioritizes individual interests, political influence, and favoritism may lead to opaque and exclusive decision-making processes that undermine strategic alignment and performance.

Performance of Road Projects

The main objective of the study was to examine the influence of projects governance on performance of road construction projects in Kenya. Respondents were therefore requested to indicate their level of agreement with statements on performance of road construction projects. Table 3 presents summary of the findings obtained. The findings show the mean values and standard deviations for various aspects of project performance, including timely completion, cost of the project, project quality, scope adherence, and stakeholder satisfaction. The mean values for most of the performance aspects were below the neutral range of 2.5-3.4, indicating a negative perception of project performance by the respondents. The standard deviations were within an acceptable range, indicating a moderate level of agreement among the respondents.

The results suggest that there is room for improvement in various aspects of project performance in road construction projects in Kenya. For instance, the mean values for timely completion and cost of the project were below the neutral range, indicating that the projects are not being completed on time or within budget. This finding is consistent with those of Abdullahi and

Luketero (2018) that identified time and cost overruns as major challenges in road construction projects. On the other hand, project quality had means above 3.5 meaning the project quality was satisfactory (M= 3.539, SD= 1.029); and that stakeholders are satisfied with completed projects (M= 3.654, SD= 0.797). This finding aligns with Ekung *et al.* (2017) that emphasized the importance of project quality and stakeholder satisfaction as key measures of project success. Further, scope adherence had means below 3.5, meaning some projects are completed as per the defined scope while others are not (M= 3.385, SD= 1.023); and in some cases projects execution adheres to all of a project's key elements and in other cases projects execution does not adhere (M= 3.346, SD= 0.977). Pinto and Winch, (2016) argued that a project is considered underperforming when it has not delivered what was required, in line with expectations of cost, scope adherence, quality and time. Consistent with this argument, Mohindra, and Srivastava, (2019) submits that one of the biggest problems of project managers is to harmonize project cost, time, scope and quality

The findings suggest that there is a need to improve project performance in various aspects, particularly timely completion and cost management. These findings are consistent with previous research (Mohindra, & Srivastava, 2019) that has identified time and cost management as critical challenges in road construction projects. Therefore, efforts should be made to address these challenges to improve the overall performance of road construction projects in Kenya.

Table 3: Descriptive Statistics on Performance of Road Projects

	Mean	Std. Dev.
Timely completion		
Projects are finished on time.	2.350	0.689
Projects activities were carried out as scheduled.	2.423	0.857
Cost of project		
The projects are finished within budget.	2.423	0.758
There are no project cost overrun incurred	1.885	0.766
Project quality		
The project quality was satisfactory	3.539	1.029
Stakeholders are satisfied with completed projects	3.654	0.797
Scope adherence		
The projects was completed as per the defined scope	3.385	1.023
Project execution adheres to all of a project's key elements.	3.346	0.977
Aggregate Score	2.875	0.862

Correlation Analysis

The findings show a strong positive correlation between strategic alignment and the performance of road construction projects ($r = 0.783$, $p = 0.011$). This implies higher strategic alignment can lead to improved project performance. This finding is supported by the literature, which suggests that effective strategic alignment through IT alignment, operations alignment and employee alignment can enhance project success. For instance, Padovani *et al.* (2016) argue that strategic alignment is a critical success factor in construction projects and that its effective implementation can lead to project success.

Table 4: Correlation Analysis

		Performance	Strategic Alignment
Performance of road construction projects	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	222	
Strategic alignment	Pearson Correlation	.783**	1
	Sig. (2-tailed)	.011	
	N	222	222

Test for Hypothesis One

The first objective of the study was to determine the influence of strategic alignment on the performance of road construction projects in Kenya. The associated null hypothesis was that there is no significant influence of strategic alignment on performance of road construction projects in Kenya. A univariate analysis was conducted to test the null hypothesis.

R is the correlation coefficient, which indicates the strength and direction of the relationship between the predictor and outcome variables. In this case, $R = .489$ suggests a moderate positive relationship between strategic alignment and the outcome variable (performance of road construction projects in Kenya). R Square is the coefficient of determination, which indicates the proportion of variance in the outcome variable that can be explained by the predictor variable. In this case, R Square = .239 which suggests that 23.9% of the variation in the performance of road construction projects in Kenya can be explained by strategic alignment.

The low R Square and Adjusted R Square values suggest that there are other important factors that influence the outcome variable, and further research may be needed to identify these factors and improve the predictive accuracy of the model. The finding that strategic alignment has a moderate positive relationship with the outcome variable is consistent with Lappi, Aaltonen, and Kujala (2019) that effective strategic alignment is often cited as a critical factor in achieving successful project outcomes and can lead to improved alignment of projects.

Table 5: Model Summary for Strategic Alignment

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.489 ^a	.239	.233	.51618

a. Predictors: (Constant), Strategic Alignment

The analysis of variance was used to determine whether the regression model is a good fit for the data. From the analysis of variance (ANOVA) findings in Table 5, the study found out that $\text{Prob}>F(1, 220) = 0.012$ was less than the selected 0.05 level of significance. This suggests that the model as constituted was fit to predict performance of road construction projects in Kenya. Further, the F-calculated, from the table (7.349) was greater than the F-critical, from F-distribution tables (3.884) supporting the findings that strategic alignment can be used to predict performance of road construction projects in Kenya.

Table 6: Analysis of Variance for Strategic Alignment

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	2.44	1	2.44	7.349	.012 ^b
1 Residual	73.04	220	0.332		
Total	75.48	221			

a. Dependent Variable: Performance of road construction projects

b. Predictors: (Constant), Strategic Alignment

From the results in Table 7, the following regression model was fitted.

$$Y = 1.021 + 0.508 X_1$$

(X_1 is Strategic Alignment)

The coefficient results showed that the constant had a coefficient of 1.021, suggesting that if strategic alignment was held constant at zero, performance of road construction projects in Kenya would be 1.021 units. In addition, results showed that the strategic alignment coefficient was 0.508, indicating that a unit increase in strategic alignment would result in a 50.8% improvement in performance of road construction projects in Kenya. It was also noted that the P-value for strategic alignment coefficient was 0.012, which is less than the set 0.05 significance level, indicating that strategic alignment was significant.

Based on these results, the study rejected the null hypothesis and accepted the alternative that there is positive significant influence of strategic alignment on performance of road construction projects in Kenya. This agrees with Zaman, Nadeem, and Shahid (2020) who found that strategic alignment significantly influenced project success in the construction industry. The study found that effective strategic alignment practices, such as IT alignment, operations alignment and employee alignment, were positively associated with project success. Similarly, a study by Yung-Chang and Wu (2019) found that strategic alignment practices significantly influenced project performance.

Table 7: Beta Coefficients for Strategic Alignment

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.021	.693		1.472	.154
1 Strategic alignment	.508	.187	.484	2.711	.012

a. Dependent Variable: Performance of road construction projects

Hierarchical Regression Model

Hierarchical regression model was done to test for the moderating effect. This helped to test the fifth research hypothesis. The fifth objective of the study was to examine the moderating effect of organization culture on the relationship between strategic alignment and performance of road construction projects in Kenya. The study therefore computed moderating effect regression analysis.

Ho2: There is no significant moderating effect of organizational culture on the relationship between strategic alignment and performance of road construction projects in Kenya.

The study combined all the four strategic alignment variables (strategic alignment) effect of organizational culture (M) on the relationship between strategic alignment (X) and performance of road construction projects in Kenya (Y).

From the model summary findings in Table 8, the first model for which is the regression between strategic alignment (X) without moderator and interaction, the value of R-squared was 0.693 which suggests that 69.3% change in performance of road construction projects in Kenya can be explained by changes in strategic alignment. The p-value for the first model (0.000) was less than the selected level of significance (0.05) suggesting that the model was significant.

The findings in the second model which strategic alignment, organization culture and interaction term ($X*M$) as predictors, the r-squared was 0.711. This implies that the introduction of organization culture in the second model led to a 0.100 increase in r-squared, showing that

organization culture positively moderates the relationship between strategic alignment and performance of road construction projects in Kenya. This agrees with Yosinta (2016) who found that a positive organizational culture, characterized by teamwork, trust, and openness, moderated the relationship between strategic alignment and project performance, such that effective governance practices had a greater impact on project success in organizations with positive cultures. Similarly, a study by Ahmed and Noor (2018) found that effective strategic alignment, including project planning, monitoring, and control, had a positive significant influence on project success, and that this relationship was moderated by organizational culture, such that organizations with positive cultures achieved greater project success.

Table 8: Model Summary for Moderation Effect

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.832 ^a	.693	.634	.39019	.612	37.814	1	24	.000
2	.844 ^b	.711	.672	.36941	.100	18.085	2	22	.038

a. Predictors: (Constant), strategic alignment
b. Predictors: (Constant), strategic alignment, organization culture, X*M

From the model summary findings in Table 9, the F-calculated for the first model, was 37.814 and for the second model was 18.085. Since the F-calculated for the two models were more than the F-critical, 3.884 (first model) and 2.650 (second model), the two models were good fit for the data. Also, the p-values for both models were less than 0.05 an indication that they were significant. Therefore, the model could be used in predicting the moderating effect of organizational culture on the relationship between strategic alignment and performance of road construction projects in Kenya.

Table 9: ANOVA for Moderation Effect

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	6.366	1	6.366	37.814	.000 ^b
	Residual	36.96	220	.168		
	Total	43.326	221			
2	Regression	7.404	3	2.468	18.085	.000 ^c
	Residual	26.928	198	.136		
	Total	34.332	221			

a. Dependent Variable: Performance of road construction projects
b. Predictors: (Constant), strategic alignment
c. Predictors: (Constant), strategic alignment, organization culture, X*M

Further, by substituting the beta values as well as the constant term from the coefficient's findings in Table 9 for the first step regression modelling, the following regression model will be fitted:

$$Y = 1.435 + 0.884 X$$

By substituting the beta values as well as the constant term from model 2 emanating from the second step in regression modelling the following regression model was fitted:

$$Y = 1.861 + 3.986 X + 3.209 M + 0.868 X*M$$

Where X is strategic alignment M is organization culture, X*M is the interaction term between strategic alignment and organization culture and Y is Performance of road construction projects

In Model 1, the results indicate that strategic alignment has a significant positive influence on the performance of road construction projects (Beta = .884, $p < .05$). In Model 2, the results show that strategic alignment (Beta = 3.989, $p = .002$) and organizational culture (Beta = 3.209, $p = .012$) have significant positive effects on the performance of road construction projects. Additionally, the interaction effect between strategic alignment and organizational culture (X*M) is also significant and positive (Beta = .868, $p = .012$).

These findings suggest that effective strategic alignment and a positive organizational culture are important factors in enhancing the performance of road construction projects in Kenya. The positive interaction effect between strategic alignment and organizational culture indicates that a positive organizational culture can amplify the positive effects of effective strategic alignment practices on project performance. These findings are consistent with previous research in project management (Ahmeda, Hussain, & Philbin, 2021) which has emphasized the importance of effective strategic alignment and a positive organizational culture in achieving project success.

Table 4.1: Beta Coefficients for Moderation Effect

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.435	.544		2.638	.002
	Strategic alignment	.884	.144	.782	6.149	.000
2	(Constant)	1.861	.379		4.910	.010
	Strategic alignment	3.989	1.139	3.530	3.502	.002
	Organization culture	3.209	1.168	2.066	2.746	.012
	X*M	.868	.315	3.878	2.752	.012

a. Dependent Variable: Performance of road construction projects

Conclusions

The null hypothesis for this variable was ‘There is no significant influence of strategic alignment on performance of road construction projects in Kenya.’ However, the study found that strategic alignment is statistically significant in explaining performance of road construction projects in Kenya. The influence was found to be positive, indicating that an increase in strategic alignment would lead to an increase in project performance. Therefore, the study concluded that strategic alignment has a positive and significant relationship with performance of road construction projects in Kenya.

The second research hypothesis tested was that ‘There is no significant moderating effect of organizational culture on the relationship between strategic alignment and performance of road construction projects in Kenya. However, the study found that organizational culture is statistically significant in explaining the strategic alignment and project performance in road construction projects in Kenya. The influence was found to be positive, indicating that an organization culture that values innovation, risk-taking, and continuous improvement would lead to better project outcomes. Conversely, an organizational culture that is bureaucratic, hierarchical, and risk-averse would hinder innovation and limit project team creativity. Therefore, the study concluded that organizational culture has positive significant moderating effect on the relationship between strategic alignment and performance of road construction projects in Kenya.

Recommendations

Based on the findings of this study, it is recommended that road construction industry in Kenya should implement a systematic approach to strategic alignment. This would involve aligning the road construction projects with the organization's strategic objectives, ensuring that there is effect information technology alignment, operations alignment and employee alignment with the organizational objectives. This would enable organizations to prioritize their projects based on their strategic importance and ensure that resources are allocated efficiently.

The study found that organizational culture can have a significant impact on the success of road construction projects in Kenya. Therefore, it is recommended that organizations should introduce shared governance models where decisions are made collectively by representatives from different departments or units. This ensures that decisions are more representative of the organization as a whole and not limited to a select few. In addition, the organization should rotate leadership roles and decision-making responsibilities periodically among qualified individuals. This not only prevents power from being concentrated but also provides individuals with a broader perspective on the organization. Organizations should also avoid favoritism in allocation of duties which instead should be based on individual's level of education, interest and experience.

Recommendations for Further Studies

Based on the findings and limitations of the current study, there are several areas that could be explored in further research:

The current study focused on the immediate impact of the variables on project performance. Further research could investigate the long-term impact of these variables on project performance and outcomes.

The study did not explore the mediating variables that could be influencing the relationship between the variables and project performance. Future studies could examine the mediating variables that affect project performance, such as team dynamics, motivation, and organizational structure. The study examined the moderating effect of organization culture. Future studies could explore the moderating variables that affect project performance, such as project complexity, size, and scope.

The current study used a cross-sectional research approach to explore the impact of the variables on project performance. Future studies could use mixed-methods research to gain a deeper understanding of the impact of the variables on project performance, including qualitative data collection methods such as interviews, focus groups, and case studies.

REFERENCES

- Abdullahi, R. I. & Luketero, S. W. (2018). Influence of organisational culture on project performance in Waso Trust Land Project Organisation Isiolo County, Kenya. *International Academic Journal of Information Sciences and Project Management*, 3(2), 472-497
- Abubakar, S. G., Feng, J., Dalib, S. G., Li, X., Zheng, C., & Cao, L. (2018). Project Portfolio Management Strategies in Housing Estate Development Organizations in Nigeria's Built Environment *Journal of Risk Analysis and Crisis Response*, 8(2), 63-74.
- Ackon, F., Kheni, N. A., & Mensah, J. V. (2022). Influence of organizational culture on project planning: a competing values perspective in Ghanaian context. *African Journal of Applied Research*, 8(2), 344-355.
- Adek, R.T (2016). *Determinants of Successful Projects Implementation of Infrastructure Projects In Devolved Units; A Case Study Of Mombasa County, Kenya*. Retrieved from <http://erepository.uonbi.ac.ke/bitstream/handle/11295/97650/>

- Ahmed, R., & Noor, N. B. M. (2018). Exploring the Relationship Between Multi-Dimensional Top Management Support and Project Success: An International Study. *Engineering Management Journal*, 1(28), 211-239.
- Ahmeda, R., Hussain, A., & Philbin, S. P. (2021). Moderating Effect of Senior Management Support on the Relationship Between Schedule Delay Factors and Project Performance. *Engineering Management Journal*, 3(24), 218-238.
- Alade, K. T., Lawal, A. F., Omonori, A. A., & Olowokere, E. N. (2016). Causes And Effects Of Delays In Construction Projects In Akure, Ondo State, Nigeria. *FUTA Journal of Management and Technology, Maiden Edition*, 29-38.
- An, N., Qiang, M., Wen, Q., Jiang, H., & Xia, B. (2018). Contribution of project managers' capability to project ending performance under stressful conditions. *European Management Journal*. doi: 37.10.1016/j.emj.2018.04.001
- APM. (2018). *Directing Change: A Guide to Governance of Project Management*. Ibis House, Regent Park, UK: Association for Project Management.
- Asadullah, A. B. M., Juhdi, N. B., Nazrul, I., Abdullah, A (2018). *The Effect of Reinforcement and Punishment on Poject Performance*. https://www.researchgate.net/publication/336665080_
- Atibu, M. (2015). An investigation into factors causing delays in road construction projects in Kenya.
- Bastian, H., & Andreas, W. (2012). A Bibliometric View on the Use of Contingency Theory in Project Management Research. *Project Management Journal*, 43(3), 4-23.
- Batalla, E. V. C.; Torneo, A.R.; Magno, F. A. (2018). A Survey of Political Interference Patterns and Modalities in National Roadworks in the Philippines. *Asia-Pacific Social Science Review*, 18(2), 267-281.
- Carvalho, M. M., & Rabechini, R. J. (2018). Impact of risk management on project performance: the importance of soft skills. *International Journal of Production research*, 21(5), 56-89.
- Chenhall, R. H. (2003). Management control systems design within its organizational context: Findings from contingency-based research and directions for the future. *Accounting Organizations and Society*, 28(2-3), 127-168. doi: 10.1016/S0361-3682(01)00027-7
- Chumba, C. (2018). *Public Private Partnership and implementation of road infrastructure projects in Kenya*. Retrieved from <http://erepository.uonbi.ac.ke/bitstream/handle/11295/153845/>
- Cooper, D. R. & Schindler, P. S. (2018). *Qualitative research: business research methods*, Boston, MA: McGraw-Hill.
- Dinsmore, P., & Rocha, L. (2013). Enterprise Strategic alignment . *Project management world journal*, 2(1), 1-5.
- Donaldson, L., & Davis, J. H. (1991). Stewardship theory or agency theory: CEO governance and shareholder returns. *Aust. J. Manag*, 16(1), 49-65.
- Dyer, J. H., & Harbir, S. (2018). "The Relational View: Cooperative Strategy and Sources of Interorganizational Competitive Advantage". *Academy of Management Review*, 23 (4): 660–679.
- Ekung, S., Agu, L., & Iheama, N. (2017). Influence of strategic alignment on project performance: Evidence from Nigerian case studies. *Project Management World Journal*, 6(8).
- Eliwa, H., Babaeian Jelodar, M., & Poshdar, M. (2018). *Information technology and New Zealand construction industry; an empirical study towards strategic alignment of projects and organisations*. Paper presented at the 18th International Conference on Construction Applications of Virtual Reality (CONVR2018), Auckland, New Zealand.
- Eliwa, H., Jelodar, M. B., & Poshdar, M. (2018). Information Technology and New Zealand Construction industry. An empirical study towards strategic alignment of projects and organizations. *International conference on construction application of virtual reality*, 413-442.
- Fiedler, F. (1964). *A Contingency Model of Leadership Effectiveness*. In L. Berkowitz (Ed.), *Advances in Experimental Social Psychology* (Vol. 1). New York: Academic Press.
- Galunic, D. C., & Eisenhardt, K. M. (1994). Renewing the strategy-structure-performance paradigm. *Research in organizational behavior*, 16, 215-215.
- Ghonim, M. A., Khashaba, N. M., Al-Najaar, H. M., & Khashan, M. A. (2022). Strategic alignment and its impact on decision effectiveness: a comprehensive model. *International Journal of Emerging Markets*, 17(1), 198-218.

- Guo, F., Richards, Y. C., Wilkinson, S., & Li, T. C. (2019). Effects of strategic alignment structures on the management of risks in major infrastructure projects: A comparative analysis. *International journal of project management*, 3(2), 815-826.
- Hamilton, R. T., & Shergill, G. S. (1992). The relationship between strategy-structure fit and financial performance in New Zealand: Evidence of generality and validity with enhanced controls *Journal of Management Studies*, 29(1), 95-113.
- Haniff, A. P., & Galloway, L. (2022). Modeling strategic alignment in project networks. *International Journal of Project Management*, 40 (5), 517-530
- Ingosi, J. M., & Juma, D. (2020). Influence of organizational culture on project performance. A case of non-governmental organizations in Nairobi County, Kenya. *The Strategic Journal of Business & Change Management*, 7(4), 262 – 281.
- Jaworski, B; Stathakopoulos, V. & Krishnan, H. S. (2019), "Control Combinations in Marketing: Conceptual Framework and Empirical Evidence". *Journal of Marketing*, 57 (1), 57–69.
- Jiboye, A. D. (2016). Sustainable Urbanization: Issues and Challenges for Effective Urban Governance in Nigeria. *Journal of Sustainable Development*, 4(6), 211-224.
- Joslin, R., & Muller, R. (2015). Relationships between a project management methodology and project success in different strategic alignment contexts. *International Journal of Project Management*, 33(6), 1377-1392
- Kanyane, M. H., & Sausi, K. (2015). Reviewing State-Owned Entities' Governance Landscape in South Africa. *African Journal of Business Ethics* 9(1), 1-81.
- Kenya National Highways Authority (2022) KeNHA Annual Report for the year ended 2021-2022 (Digital). Retrieved from <https://kenha.co.ke/document/kenha-annual-report-for-the-year-ended-2021-2022-digital-version/>
- Kerzner, H. (2016). *Project management: a systems approach to planning, scheduling and controlling* (9th ed.). Hoboken, New Jersey: John Wiley & Sons, Inc.
- Khan, A., & Waris, M. (2018). Deficiencies in Strategic alignment : An Analysis of Infrastructure Development Program
- Kibe, S. N., & Wanyoike, D. (2016). Influence of Strategic Alignment Practices on Project Selection Performance of Hotels in Nakuru Town, Kenya. *The International Journal of Business & Management*, 4(3), 270-290.
- Kikwasi, G. J., & Mwakalonge, J. (2020). The Role of Infrastructure Development in Enhancing Regional Integration: A Case of Kenya, Tanzania, and Uganda. *International Journal of Academic Research in Business and Social Sciences*, 10(6), 311-326.
- KRB. (2022). Road Maintenance Accountability Index Achievement by Road Authorities in Financial Year 2020/21. Nairobi: Kenya Roads Board.
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurements*, 30, 607-610.
- Lappi, T. M., Aaltonen, K., & Kujala, J. (2019). Strategic alignment and portfolio management in government digitalization Transforming Government: People, Process and Policy, 13(2), 159-196
- Lawrence, P. R., & Lorsch, J. W. (1967). Differentiation and integration in complex organizations. *Administrative Science Quarterly*, 1-47.
- Louis, W. F., & Smith, D. A. (1987). Congruence, Contingency, and Theory Building. *Academy of Management Review*, 12(1).
- Lütfi, S., (2020) Validity and reliability in quantitative research. *Business and management studies. An International Journal, European Leadership University*
- Mahmoudi, A., Bagherpour, M., & Javed, S. A. (2021). "Project performance". *IEEE Transactions on Engineering Management*, 68 (6), 1703–1721.
- Makokha, G., Maranga, E., & Nzuki, D. (2018). An assessment of factors affecting the performance of road construction projects in Kenya: A case study of Kajiado County. *International Academic Journal of Information Sciences and Project Management*, 1(1), 13-30.
- Mandy, S. & Immerwahr, S (2018). "Survey Translation: Performance of construction projects". *Survey Practice*, 11 (2), 1–10.
- McCardle, J. G., Rousseau, M. B., & Krumwiede, D. (2019). *The effects of strategic alignment and competitive priorities on operational performance: The role of cultural context*. Retrieved from <https://link.springer.com/article/10.1007/s12063-019-00139-7>

- Mohindra, T., & Srivastava, M. (2019). "Comparative Analysis of Project Management Frameworks and Proposition for Project Driven Organizations". *PM World Journal*, 8(8), 165-173.
- Mugo, K. M., & Moronge, M. (2018). Influence of organizational communication on implementation of building projects in Nairobi city county, Kenya. *The Strategic Journal of Business & Change Management*, 5(2), 44-83.
- Muller, R.J. R. (2016). The impact of project methodologies on project success in different project environments. *International Journal of Managing Projects in Business*, 9 (2) 364-388
- Mwangi, J. M., & Oluoch, J. O. (2019). Effect of Strategic Alignment on Project Performance: A Case of Kenya Urban Roads Authority, Kenya. *International Journal of Business and Management*, 7(3), 86-97.
- Mwaura, P. M. (2019). The Role of Infrastructure Development in Economic Growth of Kenya. *International Journal of Social Sciences and Management Studies*, 6(3), 18-27.
- Naeem, S., Khanzada, B., Mubashir, T., & Sohail, H. (2018). Impact of project planning on project success with mediating role of risk management and moderating role of organisational culture. *International Journal of Business and Social Science*, 9(1), 88- 98
- Nguyen Luong, H., & Watanabe, T. (2017). The Impact of Project Organizational Culture on the Performance of Construction Projects. *Sustainability* 2017, 9(781). doi: 10.3390/su9050781
- Njogu, C. N., Namusonge, G. S., & Oluoch, O. (2018). Influence of strategic alignment on the performance of community based HIV projects in Kiambu, Kenya. *International Journal of entrepreneurship and project management*, 3(1), 75-91.
- Office of the Auditor General. (2021). Report of the Auditor General on the Kenya Urban Roads Authority. Nairobi: Office of the Auditor General.
- Obeidat, B. Y. (2016). The effect of strategic orientation on organisational performance: the mediating role of innovation. *Int. J. Communications, Network and System Sciences*, 1(9), 478-505.
- Ochiel, G. W., Iravo, M., Wandera, R.W. (2016). Effect of organizational culture on project performance of Airtel Kenya limited. *International Journal of Management and Commerce Innovations*, 4(2), 17-26.
- Ochieng, E. G., Mutuli, S. M., & Oluoch, J. O. (2016). Factors influencing the performance of road construction projects in Kenya: A case study of Kitui County. *International Journal of Science and Research (IJSR)*, 5(9), 907-913.
- Omulo, O. V., & Muchelule, Y. (2022). Project risk management on performance of kenya rural roads authority in Siaya county. *International Journal of Social Sciences Management and Entrepreneurship*, 6(1), 146-158.
- Ouma, J. O., Gakuo, L. M., & Muathe, S. M. A. (2017). Factors Influencing Implementation of Strategic Alignment in Public Secondary Schools in Kenya. *International Journal of Education and Research*, 5(7), 175-184.
- Padovani, M., Carvalho, M. M. d., & Muscat, A. R. N. (2016). Project portfolio adjustment and balance: a case study in the chemical sector *Produção*, 22(4), 674-695.
- Pfeffer, J. (2005). Developing Resource Dependence Theory: How theory is affected by its environment. *Great minds in management: the process of theory development* (K.G. Smith & M. A Hitt ed., pp. 436-459). Newyork: Oxford University Press.
- Pieter, W. (2018). *Building Performance Analysis*. Hoboken / Chichester: Wiley Blackwell. ISBN 9781119341925.
- Pinto, J. K. & Winch, G. (2016). "The unsettling of 'settled science:' The past and future of the management of projects". *International Journal of Project Management*. 34 (2), 237–245.
- Pinyarat, S., Vicky, C. G., Ray, R. Q., & Burns, J. R. (2018). Relationships between strategic alignment and information technology governance and their impact on project performance. *International Journal of Project Management*, 36(2), 287-300.
- Reid, G., & Smith, J. (2000). The Impact of Contingencies on Management Accounting System Development. *Management Accounting Research*, 11, 427-450. doi: 10.1006/mare.2000.0140
- Rodman, H. (2018), "Are Conceptual Frameworks Necessary for Theory Building? The Case of Family Sociology", *The Sociological Quarterly*, 21 (3), 429–441.
- Rodney, M., Kristel, M., Carmel, M. (2019). Towards a contingency theory perspective of quality management in enabling strategic alignment. *International Journal of Production Economics*, 207, 195-209. Retrieved from <https://doi.org/10.1016/j.ijpe.2016.07.003>.

- Sanderson, J., (2016). *Revealing gaps in the project management literature: an application of multi-paradigm review to explanations of megastrategic alignment* . Retrieved from <https://www.researchgate.net/publication/272773804>
- Sari, A. B. P., Iswahyuni, D., Rejeki, S., & Sutanto, S. (2020). google forms as an efl assessment tool: positive features and limitations. *Premise: Journal of English Education and Applied Linguistics*, 9(2), 231-250.
- Scott, W. R. (2004). Reflections on a half-century of organizational sociology. *Annual Review of Sociology*, 30, 1-21.
- Sekaran, U., & Bougie, R., (2017). *Research methods for business: A skill building approach* (5th ed.). Chichester, West Sussex:
- Simona, D., Adela-Eliza, D., & Badea, L. (2011, April 11-13, 2011). *Project Quality Evaluation – An Essential Component of Project Success*. Paper presented at the Proceedings of WSEAS International Conference - Mathematics and Computers in Biology, Business and Acoustics, Brasov, Romania.
- Tam, C., da Costa Moura, E. J., Oliveira, T., & Varajão, J. (2020). The factors influencing the success of on-going agile software development projects. *International Journal of Project Management*, 38(3), 165-176.
- Too, E., & Weaver, P. (2018). The management of project management: A conceptual framework for strategic alignment . *International Journal of Project Management* 32(8), 1382–1394
- Tosi, H. L., & Slocum, J. W. (1984). Contingency theory: Some suggested directions. *Journal of Management*, 10(1), 9-26. doi: <https://doi.org/10.1177/014920638401000103>
- Tushman, M., & Nadler, D. (1986). Organizing for Innovation. *California Management Review*, 28(3). doi: <https://doi.org/10.2307/41165203>
- Unger, B. N. (2015). Corporate innovation culture and dimensions of project portfolio success: the moderating role of national culture. *Project Management Journal*, 45(6), 38-57.
- Vundi, K., (2020). *Influence of strategic alignment on the performance of CDF sponsored projects in Kitui County, Kenya*. Research gate Journal, : <https://www.researchgate.net/publication/341343522>
- Vundi, K., (2020). *Influence of strategic alignment on the performance of CDF sponsored projects in Kitui County, Kenya*. Research gate Journal, : <https://www.researchgate.net/publication/341343522>
- Wafula, E. F., (2017). *Factors influencing project performance in Kenya*. Retrieved from <http://erepository.uonbi.ac.ke/bitstream/handle/11295/101762/>
- Weber, M. (1947). *The Theory of Social and Economic Organization*: Translated by A. M. Henderson & Talcott Parsons, the Free Press.
- Wilden, R., & Biesenthal, C., (2018). Multi-level Strategic alignment : Trends and Opportunities. *International Journal of Project Management* 32(8), 14-26.
- Wiley, D., Amado, M., Ashton, K., Ashton, S., Bostwick, J., Clements, G., Drysdale, J., Francis, J., Harrison, B., Nan, V., Nisse, A., Randall, D., Rino, J., Robinson, J., Snyder, A., & Anonymous., (2012) “*Project Management for Instructional Designers*,” *Open Higher Ed Learning & Development*, accessed June 23, 2022, <https://openheld.omeka.net/items/show/38>.
- Woods, M. (2009). A contingency theory perspective on the risk management control system within Birmingham City Council. *Management Accounting Research*, 20(1), 69-81. doi: <https://doi.org/10.1016/j.mar.2008.10.003>
- World Bank. (2016). Implementation completion and results report.
- Xian. T& Bakhtnia. D (2022). Is Project Management an Art or is it a Science? How can Project Management Help Organizations Improve Business Performance? Retrieved from <https://www.coursesidekick.com/management/185826>
- Yosinta, O. (2016). *Organizational culture and good governance in the public sector: the case of provincial administration in Thailand* (Doctoral dissertation, University of Birmingham).
- Yung-Chang, H.,& Wu, M. (2019). *Strategic alignment and new product success*. Retrieved from <https://www.emerald.com/insight/content/doi/10.1108/MD-06-2017-0628/full/html>
- Zaman, U., Nadeem, R. D. & Shahid, N. (2020). Cross-country evidence on project portfolio success in the Asia-Pacific region: Role of CEO transformational leadership, portfolio governance and strategic innovation orientation. *Cogent Business & Management*, 7(1), 211-233.