



## PROJECT LEADERSHIP AND IMPLEMENTATION OF INTEGRATED INFRASTRUCTURE PROJECTS IN GOVERNMENT AGENCIES IN KENYA

Jared Dancan Ochieng Owili<sup>1</sup>, Dr. Samson Nyang'au Paul(PhD)<sup>2</sup>, Dr. Benard Lango (PhD)<sup>3</sup>

<sup>1</sup>PhD Scholar, Human Resource Management, Jomo Kenyatta University of Agriculture and Technology, Kenya

<sup>2</sup>Lecturer, Jomo Kenyatta University of Agriculture and Technology, Kenya

<sup>3</sup>Lecturer, Jomo Kenyatta University of Agriculture and Technology, Kenya

### ABSTRACT

The purpose of the study was to examine the relationship between project leadership and the implementation of integrated infrastructure projects within government agencies in Kenya. Effective project leadership plays a pivotal role in driving the successful execution of infrastructure initiatives, aligning project objectives with national development priorities, and fostering stakeholder engagement. The study was anchored on the Contingency Theory. The study adopted mixed method approaches. The target population was 504 and involved project managers, supervisors and contractors implementing implementation of integrated infrastructure projects in government agencies in Kenya. The sample size of the study was 223 participants computed using Slovin's sample size determination formula. The study findings revealed that there is a positive and significant relationship between project leadership and implementation of integrated infrastructure projects in government agencies in Kenya. The study established that through motivating, inspiring, negotiating and transformative, project leaders navigate complex challenges inherent in infrastructure development, in terms of reduced cost overruns, time overruns and stakeholder satisfaction. Therefore, by investing in leadership development programs and embracing collaborative approaches, government agencies in Kenya can leverage the power of effective project leadership to deliver transformative infrastructure projects that drive economic growth and improve the quality of life for citizens.

**Keywords:** Project Leadership, Integrated Infrastructure Projects, Government Agencies

### INTRODUCTION

#### Background Information

The Government of Kenya has undertaken a considerable number of infrastructure projects geared towards ensuring economic growth and development within the country. The World Bank (2019) argues that a majority of developing countries' economic growth is hinged on the success of infrastructure projects. Based on the available information on implementation of integrated infrastructure projects, they have not realized the stakeholders' expectations in terms of their implementation and quality (Idoniboyeobu et al., 2017). Even though various integrated infrastructure projects are still ongoing (Pall et al., 2020), cost overruns and time overruns are still experienced. Delays in implementation of infrastructure projects have negatively impacted on both the social and economic benefits in Kenya that would have accrued if the projects were completed on time (World Bank, 2019) (Pham et al., 2020).

According to Hyvai (2016) over 60% of substantive infrastructure in Africa projects fail to meet targeted goals due to ineffective project planning issues. This leads to project being delivered over budget and behind schedule (Abdi & Sang, 2020).

The African Infrastructure Country Diagnostic (AICD) report published in 2019 estimated Kenyan Infrastructure funding gap at USD 3.1 Billion (Kenya Shillings 328 Billion) annually with the roads subsector alone bearing a deficit of USD 44 Million equivalent of KSh 44 Billion (Briceno-Garmendia & Shkaratan, 2021). Faced with limited resources, the need for effective integrated planning now far outweighs the available funding. The budget is further eroded by consistent escalation in construction costs due to ineffective integrated project leadership thereby widening further the already existing funding gap.

Moreover, several studies agree that project leadership is a driver of project implementation (Prabhaar 2018; Ian et al 2018; Chin 2018; Yusuff et al 2017). The project implementations in terms of cost overrun, time delay, quality deficiency are caused by poor project planning (Onditi, 2019). According to Sitenei (2020) adoption of project planning practices in infrastructure projects is poor. This is experienced in terms of misuse of resources, risk planning, conflict of interest due to poor stakeholder planning and poor scope planning meeting obligatory requirements; hence failing to deliver results that don't meet stakeholders expectations (World Bank, 2019). The limited studies have majorly tried to specifically focus on factors hindering effective implementation of infrastructure projects with no attention paid on role of project planning despite this being a critical process in the implementation of integrated infrastructure projects. This clearly depicts a need to bridge the knowledge gap in the Kenyan context. It is with this in mind that the study sought to examine the relationship between project leadership and implementation of infrastructural projects in government agencies in Kenya.

### **RESEARCH OBJECTIVE**

The general objective of the study will be to examine the relationship between project leadership implementation of infrastructural projects in government agencies in Kenya

### **RESEARCH HYPOTHESIS**

The study hypothesized  $H_{01}$ : There is no significant relationship between project leadership and implementation of integrated infrastructure projects in government agencies in Kenya.

### **THEORETICAL REVIEW**

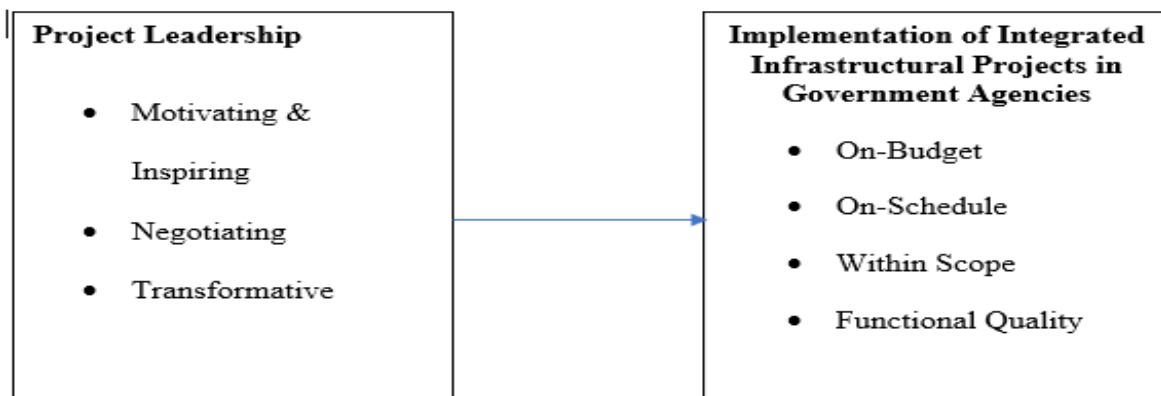
The contingency theory of leadership was proposed by the Austrian psychologist Fred Edward Fiedler in his landmark 1964 article, "A Contingency Model of Leadership Effectiveness." The contingency theory emphasizes the importance of both the leader's personality and the situation in which that leader operates. Contingency theory is an organizational theory based around the idea that the role of a project manager is to establish the best possible fit between the organization, its environment and sub-systems. It is founded on the belief that many management theories may be appropriate in a particular situation, but no single approach will work successfully in all circumstances (Aljawder & Davis, 2013; Besner & Hobbs, 2013). Instead, internal and external situations will determine the optimal course of action. This makes it particularly appropriate for construction, which, with its typically uncertain and non-routine site environment, will typically benefit from a management model that is more adaptive and flexible (Kureshi, 2013; Tolbert & Hall, 2015).

A significant body of research on implementation of integrated infrastructural projects in government agencies examines project implementation determinants, project implementation and the relationship between the two from a contingency perspective (Jiang, Klein & Chen, 2013; Barki, Rivard & Talbot, 2015; Yetton, Martin, Sharma & Johnston, 2013; Kureshi, 2013; Howell et al., 2010; Jun, Qiuzhen & Qingguo, 2011). These studies have argued for a contingency approach which considers successful project implementation to be dependent on how well the project as a whole is able to deal with uncertainties in the project environment. They have also provided practical evidence that in order to achieve effective project implementation, project leadership, team capability, planning, risk and management strategies need to be tailored to project characteristics and objectives. Therefore, this is the overriding theory for this study as it explains the relationship between project leadership and implementation of the integrated infrastructure projects in government agencies in Kenya.

### Conceptual Model and Hypothesis

A conceptual framework is a concise description of the phenomenon under study accompanied by a graphical or visual description of the major variables of the study (Cooper & Schindler, 2008).

Michelle (2017) states that a conceptual framework is a diagrammatic representation that shows the relationship between variable and independent variables. This study's conceptual framework sought to demonstrate the relationship between project leadership and implementation of integrated infrastructure projects in government agencies in Kenya.



**Figure 1: Conceptual Framework**

### LITERATURE REVIEW

Leadership is among the most widely discussed concepts in project management, as it is believed to form the basis for success of any structure, company, organization, institution and nation (Nel et al., 2014; Harper, and Hall, 2015). Leadership is comprised of various components, skills, styles and attributes. Descriptions of leadership includes being motivating and inspiring (Avolio, 2004) while directing others to achieve concrete results. Leadership is defined, thus, as the process of one individual influencing a group or followers to successfully attain a specific goal (Clark, 1997). Chemers (2014) thought leadership to be the process of persuading a group of followers to attain certain objectives and to channel an organization to a direction that it is more cohesive and coherent. Yukl (2012) defines leadership as the process of influencing others to identify and come to an agreement about what must be done and how it should be done. He also considers it to be the process of expediting individual and combined efforts to achieve shared objectives.

There is one common element within these definitions, namely that leadership is about influencing others towards successfully gaining a certain objective (Clark, 1997; Yukl, 2012; Nel et al., 2014). Maseko and Proches (2013) emphasize that there are certain leadership styles and characteristics identified as being critical for successful project delivery. Sohmen (2013) sees three leadership styles: transformational, transactional and laissez-faire. Laissez-faire leadership is non-leadership – it is where a leader abdicates responsibilities and avoids making decisions (Bass, 1998). Laissez-faire leadership style, in turn, is considered as destructive in nature (Skogstad et al., 2007).

Transformational leadership lies on the opposite end of the spectrum, in that this type of leader strives to inspire and “transform” their employees in order to improve their performance. Transformational leadership was treated as a new paradigm and leaders can utilize its principles to create an adaptive organization (Bagraim et al, 2019). In addition, transformational leadership stimulates creativity, innovation and new ideas, which help the organization to grow faster and adapt well to a dynamic environment (Bushra et al., 2018). Transformational leadership style is positively linked to project performance (Keller, 2022), and project success (Aga et al., 2016; Anantatmula, 2020; Yang et al., 2019).

Momanyi (2018) conducted a survey into the issue of project leadership influence on project management and performance. It has objectively focused on effects of leadership skills, experience, quality and styles in enhancing project performance. Further, the study sought to answer questions on the impact of aligning, motivating, directing and influencing in enhancing project performance. Apart from conducting a review of past studies, theoretical foundations were also reviewed to underpin the hypotheses that guided the study. Quantitative data was collected using structured questionnaires and analyzed descriptively. Further, regression analyses were done and results confirmed a positive and strong connection concerning leadership components and management functions on project performance.

Ondieki (2019) study explored the role of project leadership and communication in Kenya. Various project leadership roles are covered and their effects on project success. The different articles used in this report indicate a mix of leadership skills that are necessary for project managers. The role of communication in project phases is also discussed in detail and its impacts. Core, managerial, and corporate communication frameworks require unique communication skills sets that are elaborated in this paper. Through the use of project leadership powers, project managers apply communication and leadership skills to ensure project success.

Chin (2017) study focused on the effect of leadership styles on the success of virtual project teams among multinational companies in Malaysia. The study focused on 100 executives, or respondents who have project management experience and are working with multinational companies in Malaysia. To rate leadership style, Multifactor Leadership Questionnaire is distributed to respondents. To rate project success factor, Project Implementation Profile is distributed to respondents. The relationship between leadership style and perceived project success will be evaluated using regression analysis. The findings conclude that transformational leader style can lead to high success for project team success in virtual setting.

Ai et al. (2021) investigated the impact of transformational leadership (TL) style on project success (PS) in the indirect effect of serial mediation of team-building and teamwork quality

(TWQ). A quantitative research approach was used for this study. Data were gathered from 374 professional information system development (ISD) project managers in Pakistan. The hypotheses were tested using regression analysis with bootstrapping. Both team-building and teamwork independently and serially mediate the relationship between the TL and PS of the project managers, respectively. The TL style of the project manager intensifies PS with team-building practices (TBP) and TWQ. The TL boosts TWQ in terms of communication, coordination, and cohesion to achieve a successful project. The findings suggest that TL is associated with PS through serial mediation of team-building and teamwork. Renzi (2020) evaluated the effects of leadership style on project implementation. Through content analysis qualitative research design utilizing secondary sources, there emerges a trait that defines good leadership and how it can be leveraged for proper outcomes in project implementation and management. The study concludes that project implementation includes the engagement of teams under one or multiple leaderships.

Chaidhry et al. (2012) focused on the impact of leadership on project performance. The study focused on the leadership factors of HR planning were adopted on the basis of project nature and analyzed the effect of the factors on the performance of the project. The links of these factors with strategic goals and objectives of the project were explored in order to improve project performance and develop organizational culture that foster innovativeness, flexibility, formulating and executing HR systems & policies and activities that produce the employees competencies and behavior the project needs to achieve its strategic aims. The data was collected from includes 70 employees from four main consultancies companies working together on a project, located in Lahore, Pakistan. Responses were gone through EFA and Cronbach's alpha test to assure consistency and reliability. Results suggest that leadership has positive links with project performance.

Daniel and Ugochuku (2020) study examined the influence of project managers' leadership style on project implementation. The aim the study was to highlight the significance of leadership skills that are vital for project managers while managing projects in an effective and efficient way. An observation have been noted from literature in the field of project management that research on leadership of project managers is still limited even though calls have been made to conduct more research for more than one decade. The project managers' role is rapidly evolving from managing or directing to leading the projects that must possess essential knowledge, skills, and new emerging concept of leadership. An unstructured interview approach were adopted for the study from which Leadership skills, leadership experience, leadership control and leadership styles all proved to have an effect on project performance. This study concluded that there is a relationship between management leadership styles and performance of projects; project management control had the greatest effect on performance of projects.

## **RESEARCH METHODOLOGY**

The study applied mixed method research combining both the qualitative and quantitative research designs. The target populations of the study were integrated infrastructural projects in government agencies in Kenya. The unit of observation comprised of 504 that is project managers, supervisors and contractors implementing implementation of integrated infrastructure projects in government agencies in Kenya. The sample size of the study was 223 participants computed using Slovin's sample size determination formula.

## RESEARCH FINDINGS

Regression analysis was conducted to determine the proportion of implementation of integrated infrastructure projects in government agencies in Kenya (dependent variable) which could be predicted by project leadership (independent variable). Therefore, to test this hypothesis, the model  $Y = \beta_0 + \beta_1 X_1 + \varepsilon$  was fitted. Where Y is of implementation of integrated infrastructure projects in government agencies in Kenya and  $X_1$  is project leadership. The R-Squared tends to depict the variation in the dependent variable that can be explained by the independent variables: the greater the value of R-squared the greater the effect of independent variable. The R Squared can range from 0.000 to 1.000, with 1.000 showing a perfect fit that indicates that each point is on the line.

**Table 2. Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.555 <sup>a</sup>	0.308	0.289	0.35125
a. Predictors: (Constant), Project Leadership				

As indicated in Table 2, the R-squared for the relationship between project leadership and performance of implementation of integrated infrastructure projects in government agencies in Kenya was 0.308; this is an indication that at 95% confidence interval, 30.80% variation in of implementation of integrated infrastructure projects in government agencies in Kenya can be attributed to changes in project leadership. This means that the remaining 69.20% are other factors associated with of implementation of integrated infrastructure projects in government agencies in Kenya which were not explained by the model. The correlation coefficient of 0.555 indicates project leadership had a positive correlation with of implementation of integrated infrastructure projects in government agencies in Kenya. Therefore, project leadership was an important factor that could be considered in the implementation of integrated infrastructure projects in government agencies in Kenya.

**Table 3: Beta Coefficients for Project Leadership with Project Implementation**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.876	0.118		24.372	0.000
Project Leadership	0.673	0.134	0.555	5.022	0.000

The coefficients or beta weights for each variable allows the researcher to compare the relative importance of each independent variable. The regression equation revealed that holding project leadership to a constant zero, implementation of integrated infrastructure projects in government agencies in Kenya would be at a constant value of 2.876 would be at a constant value of 2.876. Therefore, the regression of coefficients results in Table 5 shows that there is a significant and positive relationship between project leadership and implementation of integrated infrastructure projects in government agencies in Kenya as supported by  $p < 0.05$  and a beta coefficient of 0.673. This implies that a unit increase in project leadership would increase the implementation of integrated infrastructure projects in government agencies in Kenya by 0.673 units. This was supported by the t values where  $t_{cal} = 24.372 > t_{critical} = 1.96$  at a 95 percent confidence level which depicts that we reject the null and accept the alternate hypothesis. Further, this confirms the positive effect of project leadership in implementation of integrated infrastructure projects in government agencies in Kenya. The fitted equation is as shown below:

$Y=2.876+0.673X_1$ , that is, implementation of integrated infrastructure projects in government agencies in Kenya =  $2.876+0.673$  Project Leadership.

## **DISCUSSION**

The relationship between project leadership and the implementation of integrated infrastructure projects in government agencies in Kenya is positive and significant for several reasons. Project leadership plays a crucial role in aligning the implementation of integrated infrastructure projects with the government's vision, priorities, and strategic objectives. Effective project leaders ensure that infrastructure projects are in line with national development plans, policies, and sectoral strategies, contributing to overall economic growth, social development, and regional integration.

Project leaders are responsible for strategic planning, decision-making, and resource allocation throughout the project lifecycle. They coordinate with relevant stakeholders, including government agencies, private sector partners, and local communities, to identify project needs, assess feasibility, and develop comprehensive implementation plans that consider technical, financial, environmental, and social factors.

Project leadership fosters stakeholder engagement and collaboration among diverse actors involved in integrated infrastructure projects. Effective leaders facilitate communication, build partnerships, and promote consensus among stakeholders, ensuring that their interests, concerns, and perspectives are incorporated into project planning, design, and implementation processes.

Overall, effective project leadership is essential for the successful implementation of integrated infrastructure projects in government agencies in Kenya. Strong leadership ensures strategic alignment, stakeholder engagement, resource management, performance monitoring, capacity building, risk management, and conflict resolution, ultimately contributing to the achievement of sustainable development goals and improved quality of life for citizens.

## **CONCLUSION AND RECOMMENDATIONS**

In conclusion, the positive and significant relationship between project leadership and the implementation of integrated infrastructure projects in government agencies in Kenya is evident in several key areas. Effective project leadership aligns project objectives with national development priorities, engages stakeholders, mobilizes resources, ensures quality and performance, builds institutional capacity, and manages risks and conflicts. By providing strategic direction, fostering collaboration, and promoting accountability, project leadership enhances the efficiency, effectiveness, and sustainability of infrastructure projects, ultimately contributing to economic growth, social development, and improved quality of life for citizens. Strong project leadership is essential for overcoming challenges, seizing opportunities, and achieving positive outcomes in Kenya's infrastructure sector, driving progress towards national development goals and aspirations.

In light of the positive relationship between project leadership and the implementation of integrated infrastructure projects in government agencies in Kenya, it is recommended government agencies should prioritize investment in leadership development programs tailored to project managers and leaders involved in infrastructure projects. These programs should focus on enhancing project management skills, stakeholder engagement, strategic planning, and risk management. By investing in leadership development, government agencies can strengthen project leadership capabilities, improve project delivery, and

ultimately contribute to the successful implementation of integrated infrastructure projects in Kenya.

## REFERENCES

- Abulhakim, N., & Adeleke, A. Q. (2019). The Factors Contributing to Accident Occurrence on Malaysia Building Projects through Partial Least Square Structural Equation Modeling. *Social Science and Humanities Journal*, 1096-1106.
- Adek, R. T. (2016). Determinants of successful Projects Implementation of Infrastructure Projects in Devolved Units: A Case Study of Mombasa County, Kenya. Unpublished Master's Degree, The University of Nairobi.
- Akinyede, I. J. (2014). Framework for effective management of cost constraint on building project delivery in South Africa (Doctoral dissertation, Cape Peninsula University of Technology).
- Apiyo, R. O., & Mburu, D. K. (2014). Factors affecting procurement planning in county governments in Kenya: a case study of Nairobi City County. *International Journal of Economics, Commerce and Management*, 2(11), 1-34.
- Banda, R. K., & Pretorius, L. (2016). The effect of scope definition on infrastructure projects: a case in Malawi's public and private implementing agencies. *South African Journal of Industrial Engineering*, 27(4), 203-214.
- Barbalho, S. C. M., Carvalho, V. G., Silva, G. L., & Toledo, J. C. (2016). Analyzing the impact of the functions of Project Management Offices on triple constraints performance of new product projects. *Product: Management & Development*, 14(2), 85-94.
- Baymout, M. (2015) Measuring results of project management triangle constraints: the case of engineering building at Effat University.
- Beleiu, I., Crisan, E., & Nistor, R. (2015). Main factors influencing project success. *Interdisciplinary Management Research*, 11(2), 59-72.
- Bhonde, C., & Shaikh, F. (2015). Review of Project Quality Plan. *International Journal for Research in Emerging Science and Technology*, 2(1), 26-34.
- Bryman, A. (2016). *Social research methods*. Oxford university press.
- Catania, J. T., Armstrong, G., & Tucker, J. (2013). The effects of project management certification on the triple constraint. *International Journal of Information Technology Project Management (IJITPM)*, 4(4), 93-111.
- Cheng, Y. M. (2014). An exploration into cost-influencing factors on construction projects. *International Journal of Project Management*, 32(5), 850-860.
- Chin, L. S., & Hamid, A. R. A. (2015). The practice of time management on construction project. *Procedia Engineering*, 125, 32-39.
- Constitution, K. (2010). Government printer. Kenya: Nairobi.
- Corbin, J., & Strauss, A. (2014). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. Sage publications.
- Creswell, J. W., & Clark, V. L. P. (2017). *Designing and conducting mixed methods research*. Sage publications.
- Gichuki, C. W. (2014). Effect of cost management strategies on the financial performance of manufacturing companies listed on the Nairobi securities exchange. Unpublished Dissertation.
- Goswami, S. (2015). Role of quality management system in project completion. *Pipeline & Gas Journal*, 242 (5), 101- 109
- Hassan, A. K., & Adeleke, A. Q. (2019). The effects of Project Triple Constraint on Malaysia Building Projects. *Social Science and Humanities Journal*, 1222-1238.



- Kabirifar, K., & Mojtahedi, M. (2019). The impact of Engineering, Procurement and Construction (EPC) Phases on Project Performance: A Case of Large-scale Residential Construction Project. *Buildings*, 9(1), 15.
- Kariungi, S. M. (2014). Determinants of Timely Completion of Projects in Kenya: A Case of Kenya Power and Lighting Company, Thika. *ABC journal of advanced research*, 3(2), 9-19.
- Kenya, L. O. (2013). *The Constitution of Kenya: 2010*. Chief Registrar of the Judiciary.
- Kiarie, A. W., & Wanyoike, D. (2016). Determinants of Successful Implementation of Government Funded Projects in Kenya: A Case Study of Integrated Financial Management Information System. *International Journal of Innovative Research and Development*, 5(10).
- Kwasira, L. A., Wambugu, D. G., & Wanyoike, D. M. (2016). Influence of Quality Management Practices on Successful Completion of Building Construction Projects in Nakuru Town, Kenya. *International Journal of Innovation and Scientific Research*, 27(1), 16-22.
- Kweyu, F. X. (2018). *Influence of Project Management Processes on Performance of Kenya Power Last Mile Connectivity Projects in Nakuru County, Kenya*. Unpublished Master's Degree. The University of Nairobi.
- Miniti, F.M., & Moronge, M. (2018). Influence of Project management Practices on implementation of County Government projects in Kenya; A case of Nakuru County, *Strategic Journal of Business Change Management*, 5(2), 58-82.
- Mwakajo, I. S. & Kidombo, H. J. (2017). Factors influencing project performance: A case of county road infrastructural projects in Manyatta Constituency, Embu County, Kenya. *International Academic Journal of Information Sciences and Project Management*, 2(2).
- Leong, T. K., Zakuan, N., Mat Saman, M. Z., Ariff, M., Md, S., & Tan, C. S. (2014). Using project performance to measure effectiveness of quality management system maintenance and practices in construction industry. *The scientific world journal*, 2014.
- Lugusa, S. I., & Moronge, M. (2016). Influence of Project Management Skills on Performance of Bank Financed Projects in Kenya: A Case of Commercial Banks Projects. *The Strategic Journal of Business and Change Management*, 3(2), 810-838.
- Lukale, A. M. (2018). *Determinants of cost overruns in rural roads infrastructure projects in Kenya* (Doctoral dissertation, Strathmore University).
- Müller, R., & Jugdev, K. (2012). Critical success factors in projects: Pinto, Slevin, and Prescott-the elucidation of project success. *International Journal of Managing Projects in Business*, 5(4), 757-775.
- Munyoki, S. K. (2014). *Factors Influencing Completion of Construction Projects: A Case of construction projects in Nairobi Kenya*. Univeristy of Nairobi.
- Muriithi, S.H., Makokha, E, N& Otieno C. Factors affecting timely completion of public construction projects in TransNzoia County. *International Journal of Scientific and Research Publications*, 7(4), 404-434
- Musau, P. M., & Kirui, C. (2018). Project management practices and implementation of government projects in Kenya, case of Machakos County government. *International Academic Journal of Information Sciences and Project Management*, 3(2), 58-79.
- Mwangi, K. J. (2018). *Factors Influencing Performance of County Government Projects: A Case of Gatundu Modern Market, Kiambu County, Kenya*.
- Njau D. N, & Ogolla P. (2017). *Factors influencing Project scope performance; A case of Kenya National Youth Service Projects in Kenya*. *Strategic Journal of Business and Change Management*, 4(2), 207-220
- Nasir, N., Nawi, M. N. M., & Radzuan, K. (2016, August). Relationship between time management in construction industry and project management performance. In *AIP Conference Proceedings* (Vol. 1761, No. 1, p. 020079). AIP Publishing.

- Nayak, J. K., & Singh, P. (2021). *Fundamentals of research methodology problems and prospects*. SSDN Publishers & Distributors.
- Nibyiza, F. A. B. I. O. L. A. (2015). *Analysis of project scope change management as a tool for project success* (Doctoral dissertation, Doctoral dissertation, Jomo Kenyatta university of agriculture and technology).
- Nyakundi, N, N (2015). *Project Management Process on Outcomes: Case of Public Sector Infrastructure Projects at Telkom Kenya Limited*. Unpublished master's Degree. The university of Nairobi.
- Ogutu, B. O. & Muturi, W (2017). *Factors Influencing Successful Completion of Road construction Projects in Kenya: The Case of Kisumu County*. *International Journal of Economics, Commerce and Management United Kingdom*, 5(6).
- Omondi, E. F. (2017). *Influence of Triple Constraint Management on Completion of Non-Governmental Organizations Water Sanitation and Hygiene (Wash) Projects in Nakuru County, Kenya*.
- Osedo, A. A. (2015). *Determinants of Effective Implementation of County Construction Projects in Kenya: A Case of Nairobi City County*.
- Pandey, P., & Pandey, M. M. (2021). *Research methodology tools and techniques*. Bridge Center.
- Raza, S. A., & Shah, T. Z. (2012). *Work environment and its impact on triple constraint of project management*. *Information Management and Business Review*, 4(10), 545-552.
- Rugenyi, F. (2015). *Assessment of the Triple Constraints in Projects in Nariobi: The Project Managers' Perspective*. *International Journal of Academic Research in Business and Social Sciences*, 5(11), 1-16.
- Rugenyi, F., & Bwisa, H. (2016). *Effects of triple constraint on the management of projects in Nairobi, the project manger's perspective*. *Strategic Journal of Business and Change Management*, 3(2).
- Shahu, R., Pundir, A. K., & Ganapathy, L. (2012). *An empirical study on flexibility: a critical success factor of construction projects*. *Global Journal of Flexible Systems Management*, 13(3), 123-128.
- Sikudi, L. A., & Otieno, D. M. (2017). *Factors Influencing Implementation of County Funded Development Projects by County Governments, In Kenya. (A Case of Kilifi County Government)*.
- Tabish, S. Z. S., & Jha, K. N. (2012). *Success traits for a construction project*. *Journal of construction engineering and management*, 138(10), 1131-1138.
- Tabish, S.Z. S & Jha, K. N, (2011). *Identification and evaluation of performance factors for public Construction projects*, *Construction Management and Economics*, 29 (8).
- Van Manen, M. (2016). *Phenomenology of practice: Meaning-giving methods in phenomenological research and writing*. Routledge.
- Yaghootkar, K., & Gil, N. (2012). *The effects of schedule-driven project management in multi-project environments*. *International Journal of Project Management*, 30(1), 127-140.
- Yin, R. K. (2017). *Case study research and applications: Design and methods*. Sage publications.
- Zhang, C., Gong, Y., & Brown, S. (2023). *Research methodology*. In *Block chain Applications in Food Supply Chain Management: Case Studies and Implications* (pp. 77-98). Cham: Springer Nature Switzerland.
- Zwikael, O., & Globerson, S. (2006). *Benchmarking of project planning and success in selected industries*. *Benchmarking: An International Journal*.
- Wanjau, B. N. (2015). *Factors influencing completion of building projects in Kenya, ministry of land, housing and urban development, Nairobi county*. University of Nairobi Unpublished MA thesis in Project Planning and Management Thesis, 21-34.

Ward, J., & Daniel, E. M. (2013). The role of project management offices (PMOs) in IS project success and management satisfaction. *Journal of Enterprise Information Management*, 26(3), 316-33.