

INFLUENCE OF BENCHMARKING ON THE PERFORMANCE OF ROAD INFRASTRUCTURE PROJECTS IN WAJIR COUNTY, KENYA

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Abstract: Road infrastructures projects in Kenyan county administrations sometimes face challenges in meeting their set completion deadlines. A significant percentage of these projects exhibit delayed completion, with a time frame ranging from two to five years beyond the originally projected deadline, and in certain cases, they may even become indefinitely suspended. Certain projects may face uncertainty about their completion due to the presence of subpar work, which undermines the overall quality of the projects. Consequently, these projects experience delays and incur significant cost overruns. The aim of the current study was to investigate the influence of benchmarking on the performance of road infrastructure projects in Wajir County. The study was descriptive, the population of the study was 148 employees in Wajir county government, stratified random sampling technique was applied to sample 108 staff who provided data for the study by filling questionnaires that were administered both physically and online. The data collected was analyzed through both descriptive and inferential analysis. Results of the study were presented in tables and narratives. Bench Marking and performance revealed a β of 0.098, $t=1.041$ which was also associated with a p-value of .301 > 0.05. The study concluded that benchmarking had a positive but insignificant effect on the performance of road projects in Wajir County. The study recommended for revision of benchmarking practices as well as a commitment to make benchmarking across other counties, the current benchmarking practices were not found popular which could be a reason for the non-significant effect of benchmarking on the performance of road projects, actual visits in other counties for benchmarking roads projects or outside will be a step in evaluating whether well-designed benchmarking have a better effect on performance.

Keywords: Benchmarking, Project Performance.

1. INTRODUCTION

An intelligent system is necessary for any entity, industry, sect, family, or enterprise to operate such governance forms efficiently. Without adequate management, planning, and supervision, an entity like a school cannot be successful. Said effective management must be formed. There must be adequate human, technological, and financial resources to accomplish administrative aims and outcomes. A substantial possibility of failure might be presented to the company if a sufficient personnel expenditure is not effectively established. Each member of the staff has power over the firm's other assets.

Even though employment figures are vital, El-Baz (2021) asserts that human resources planning is not merely a game of numbers. The value of the workforce and its distribution within the company are both as, if not more, necessary to human resource planning. J. Maxwell, 2001 "Stop attempting to build your Organization" is a suggestion. Improve the mindsets of others. If you accomplish that, your business will expand by 10% overnight. Individuals within a company are the most complex investment to govern. Because of this, careful consideration must be taken when choosing employees to fill delicate roles within a business.

Bednarek et al. (2020) intended to look at the impact of overall quality management (TQM) methods on large American industrial enterprises. The study found various high-quality management methods and approaches required for TQM performance, such as management style and concrete-proof decision-making process, amongst many others. As a result, managers must comprehend which areas they should address to implement TQM properly in their respective organizations. Transforming from mistake identification to error prevention necessitates adopting quality administration methodologies and establishing a new operational culture that necessitates a shift in how businesses are governed. The researchers claim that the high degree of change in international and specialty industries has raised the demand for companies to increase their agility, rendering TQM concepts critical in today's corporate climate, not just for revenue but also for sustainability. Whereas the global environment requires organizations to be more sensitive to consumers and expand quality expectations, practically every company invests in continual improvement to ensure quality standards of processes and products. As a result, TQM enables businesses to achieve significant levels of distinctiveness while lowering expenses.

Commercial and governmental enterprises must implement quality management programs to maintain a competitive advantage. Total Quality Management (TQM) methods implemented in businesses, according to Stouten et al. (2018), generate high-performance levels in regional enterprises. Company efficiency has grown as a result of the overall quality management approach. Global, international, regional, and local businesses are constantly striving to obtain a competitive advantage through TQM activities that are customer-centric in form. When a corporation is able to identify and address the current and future needs of its customers, it cultivates client loyalty, resulting in increased revenue. The organization has the capability to uncover untapped consumer markets and effectively meet their wants. Enhanced corporate practices result in improved quality and increased client satisfaction.

In Nigeria, Ezenyilimba et al. (2019) discovered that enterprises in the industrial sector had received a competitive edge in technological integration in the business. Most of the companies in Nigeria, particularly those in the government sector, need to establish an organizational unit to coordinate their operations if they succeed managerially properly. Consequently, the researchers proposed that administrators have to create a strategy for where to get their staff. Hiring and placement refer to choosing personnel to employ and filling roles in various organizations, including those in the public sector. To meet goals, managerial duties also include discipline, promotion, training, and related activities.

In South Africa, Allen et al. (2019) discovered that organizations that invest in research and development and staff training are more inclined to accomplish business efficiencies and long-term client relationships. Customer loyalty and overall organizational productivity are related to constant innovation in products and services. Abdullahi et al. (2019) to ascertain the effect of quality management practices on the financial productivity of Tanzanian. The researcher postulates that these manufacturing companies' financial performance was directly linked to high-quality management practices. The researcher identified that the companies that were reluctant to implement innovation and general management practices were most likely to fail compared to those that embraced general management and technological practices. The constant development of the firm is a framework that enables different companies to maintain a competitive advantage over their peers. The development process can incorporate various objectives that allow the production of zero defects or maintain the happiness of the consumers.

According to Osman et al. (2019), organizations in Kenya functioning in the twenty-first century have earned a competitive advantage by improving staff capabilities and implementing strategic leadership methods. Effective governance leads to the achievement of a company's goals. Outstanding leadership fosters solidarity and direction for both shareholders and staff. Generating a flourishing corporate culture creates an internal setting where staff can completely understand their ability and participate actively in accomplishing the firm's goals. Personnel should be involved in developing explicit company goals and objectives by leadership. This encourages staff, who may boost their output and commitment dramatically.

Although total quality management (TQM) procedures are said to improve the operational performance of businesses, Zafarani (2011) notes that government agencies functioning in emerging economies, more especially Kenya Revenue Authority, are facing declining effectiveness of internal and external challenges with controlling service levels. The KRA was the subject of the study. One of the State-owned parastatals, the Kenya Revenue Authority, collects taxes from individuals and entities to promote social and socioeconomic advancements. According to the report, KRA has not yet exceeded stakeholder interests in the dynamic economic landscape despite being a state-owned enterprise.

Roads as part of infrastructure systems in a country, contribute greatly to economic development. They provide vital connections between industries, production facilities, and target customers. They also promote economic development,

which is reflected in the expansion of job prospects as well as in social, health, and educational domains (Samanta, 2015). All of these factors contribute significantly to the efforts aimed at alleviating poverty and this explains the importance and urgency of improving roads to a motorable condition. Given the voluminous public resources consumed in the execution of road infrastructure projects, these projects must perform as expected (Berechman, 2010). Normally, a project is graded as having performed well if it is completed within planned timelines and budget and also conforms to functional and technical specifications (Kerzner, 2017).

Devolution has resulted in shared accountability of the road function in Kenya. The building, renovation, and maintenance of national trunk roads are within the purview of the national government, but the responsibility for county roads is with the county governments (Osman & Kimutai, 2019). Among the factors leading to the push for devolution was the belief that county governments were better placed than the national government to efficiently and effectively deliver projects at the local level since they know the specific challenges at the grassroots level (Ngetich, 2017). However, this has been far from reality.

A key concern for the government and citizens in Kenya is the many road projects at the county level that have failed to achieve their goals, exhibiting some form of project failure despite their intended economic and social value (Adan, 2017; Transparency International, 2016). These performance failures have far-reaching repercussions and are the pointer to wanting quality of project work in counties. This is due to the fact that projects may be completed in a safe working environment, in accordance with plans and specifications, on schedule, and within a specified budget when quality is monitored and maintained throughout (Chin-Keng, 2011).

Since quality management is essential to achieving stakeholder expectations and adhering to project design and specifications, county governments should take the problem of quality management in road project work very seriously. According to Steyn (2008), quality management in project management comprises a number of procedures, including quality assurance, planning, control, and improvement. These processes are helpful and generally relevant to the majority of projects. Adopting certain tools, approaches, or practices is necessary to guarantee the quality of project outputs in accordance with each of these procedures. However, based on the research that is currently available, the focus is mostly on the processes themselves rather than on the tools, methods, or practices, how they are adopted, or how they impact project performance.

Project performance management refers to the process of planning, executing, and overseeing initiatives. The primary focus of project performance management is in the holistic perception of the project's reputation rather than the mere accomplishment of individual tasks. The secret to achieving a project's goal effectively is undoubtedly project management, a profession that has grown upon planning and carrying out the activities associated with a project (El-Baz, 2021). However, project performance management, a more extensive procedure that assures company strategy, must also be included. About one in three projects do not accomplish their objectives irrespective of the fact that most senior executives think their projects are operating effectively. Companies that proactively delegate tasks to conform with vision (and implement them successfully) outperform several of their rivals in terms of resource allocation in a way that significantly benefits the company's success. They eliminate waste, make life easier, raise productivity, and make wiser purchases.

By conducting a comparative analysis of your organizational value with other similar firms, it is possible to ascertain if a significant discrepancy exists and may be addressed by improving productivity. Analyzing other enterprises may provide valuable insights into the strategies and practices necessary to enhance organizational efficiency and achieve a more competitive position within the industry (Budur et al., 2019). Utilizing a particular indication (such as cost of production of measurement, efficiency per standard measure, the cycle time of x per useful measure, or faults per measurement system), benchmarking is a method of monitoring success that produces a gauge of achievement that is then, especially in comparison to others. Businesses may discover areas, platforms, or procedures that can be improved via progressive (constant) or significant (enterprise process re-engineering) changes using benchmarking.

2. STATEMENT OF THE PROBLEM

Worldwide, devolution has been recognized as a key factor driving significant infrastructural development transformation more so in perennially underserved regions. In Kenya, however, the situation in many counties has been far from what was envisioned. Road infrastructure projects implemented by county governments in Kenya sometimes experience delays in their completion, failing to adhere to the designated timescales (World Bank in 2014). A significant part of these projects exhibit

a delay in completion, specifically ranging from two to five years, and in certain cases, they may even become stagnant (Atibu, 2015; Osman & Kimutai, 2019). Certain projects may face uncertainty about their completion due to the presence of subpar work, which undermines the overall quality of the projects. Consequently, this leads to delays in their progress and substantial cost overruns (Mohamed, 2012). Specifically, these projects were not completed within the stipulated timeframe, with only 47% to 64% of the physical construction work being finished nine months after the expected completion date. This data serves as evidence of inadequate project performance.

The Auditor General's report of 2019 also noted that though the Wajir County Government had paid over 207 million to contractors towards works meant to improve roads in Wajir Town to bitumen standards, physical verification carried out in September 2019 revealed that all the projects had stalled and further, that the respective contract periods lapsed in July 2018. The county management also did not provide any tangible plans to revive and complete the projects. Hence, the county residents did not get the value expected for the monies invested in these projects. These concerns are of significant importance, since a majority of the roads in the county remain inaccessible during the rainy season, so restricting all forms of transportation inside the county (Wajir CIDP, 2018-2022). The Office of the Auditor General notes that the above concerns are a result of avoidable issues and therefore, quality management must be prioritized in the execution of road projects in Wajir County as this will ensure project requirements and specifications are met.

While Zafarani (2011) and Jainendrakumar (2015) provide a detailed delineation of quality management practices under each of the quality management processes, they did not test the impact of such practices, for instance, quality auditing, benchmarking, and inspections on project performance. Other scholars such as Muiruri and Were (2016) and Oni, Amusan, Owolabi, and Akinbile (2019) focus on the drivers of the adoption of effective project quality management practices which is a different objective of that of this study. The studies mentioned above have also been conducted in a different context and it is evident that a large number of them focus on the construction of buildings. Khisa and Mutuku (2023) examined critical success factors and performance of completed construction projects at National Social Security Fund, Nairobi City County, Kenya. The main findings of the study demonstrate that the key critical success factors used in this study affected the performance of NSSF-completed construction projects either positively or negatively. Therefore, this study sought to investigate the influence of benchmarking on the performance of road infrastructure projects in Wajir County, Kenya.

3. LITERATURE REVIEW

Theoretical Literature Review

Systems theory is evident in the research of experts across a wide range of fields, such as biology, where it originated and continues to play a crucial role. In 1950, Austrian scientist Ludwig von Bertalanffy first explained the philosophy's origins, progression, and applicability. Norbert Wiener, the inventor of cybernetics, and Charles Darwin's research played a significant role in this conception. Assistance for subsequent, more sophisticated models built on the fundamental idea of systems, such as Chaos Theory (1980) or more ongoing attempts to extend the General Theory of Systems to social disciplines and human groupings (Von Bertalanffy, 2019). As a transdisciplinary, interdisciplinary, and multi-perspectival endeavor, systems theory combines concepts and values from an ontology, the ideology of science, physical science, computer programming, biology, engineering, geography, social science, political science, and economics. Its goal was to dispel some essential dichotomies or contradictions of classical philosophy, including materialism versus vitalism, reductionism versus perspectivism, or mechanism versus teleology (Von Bertalanffy, 2019). Systems theory is an interdisciplinary field of research that focuses on the examination of systems, defined as cohesive assemblages of interrelated parts that might arise via natural or artificial means. Every entity has causal parameters, is influenced by its surrounding environment, is distinguished by its design, purpose, and mission, and engages in communication with particular other units via these established connections. A system exhibits synergy or intuitive functioning when its overall performance surpasses the combined capabilities of its individual components.

Changes made to a specific constituent has the potential to exert influence on other constituents within the system, or even the system as a whole. Anticipation of these changes in behavioral patterns might be possible. Structures that undergo evolution and transformation exhibit varied degrees of development and adaptation, contingent upon their effective interaction with their environment and other contextual factors influencing their organization. Specific systems maintain other systems to keep them from failing. Systems theory aims to represent a system's dynamics, constraints, conditions, and relationships as well as to explain principles (including aim, gauge, techniques, and instruments) that can be identified and applied to other systems at every degree of layering as well as in other contexts. and for reaching optimum equifinality in a

variety of sectors. The objective of generic systems theory is to develop notions and principles that has broad applicability, rather than being confined to a specific area of expertise. Von Bertalanffy (2019) assert that there is a distinction between dynamic or active systems and static or passive systems. Active systems refer to dynamic components or frameworks that interact via explicit contextual boundary restrictions, behaviors, and processes, often known as attractors. Passive systems refer to constructions and components that undergo continuous handling.

Therefore, the systems theory is applied in this research since it explains how the systems of the organizations and their projects evolve and are maintained. Consequently, the relevance of the theory is employed in the research objective.

4. EMPIRICAL LITERATURE REVIEW

Herbold et al. (2018) researched the impact of benchmarking on performance. According to the researchers, benchmarking aims for continuous improvement by creating benchmarks against which procedures, consumer items, and effectiveness can be measured and compared. On the contrary, learning describes how project managers boost their understanding and fundamental skills to achieve favorable optimum success. This study considers the connection between benchmarking and the traits of knowledge management using data from a sample of twenty innovation technology projects in northeast England. Proof exists to substantiate the assertion that benchmarking improves a project's efficiency most when used with successful project management learning by looking at several characteristics related to project management courses. A dilemma mentality, training and education, ambition, and human resource management are a few of the essential components linked to benchmarking and project outcomes. The factors analyzed by the researchers in the innovation projects showed statistical significance, supporting the claim that project management learning while implementing an innovation project is a crucial component in achieving operational excellence.

According to the researchers, the significance of benchmarking as a technique to improve project efficiency is examined in this study. The researcher's goal was to examine the most excellent significant research on benchmarking and its impact on overall project productivity. By identifying, comprehending, and adopting the best interventions from several other projects previously done, benchmarking has rapidly spread and become one of the many popular marketing advantages. Finding project standards and attempting to implement those to further the project's objectives is the primary purpose of benchmarking. Numerous studies examine the association between benchmarking and project outcomes. Consequently, this paper made an effort to evaluate documented literature research and lay the foundation for additional experimental research in various situations.

This research aims to examine how benchmarking is currently used for waste management projects in small and medium-sized businesses and to determine how popular it is. A multi-method strategy that included a random sample of 101 manufacturing organizations and in-depth interviews with an estimated 24 businesses to gather qualitative information that addressed the topics in more detail was used. The often utilized benchmarking index was profitability and human capital. Human resource-related metrics were inconsistently and fragmentarily benchmarked. Where benchmarking was implemented, it was discovered to be highly beneficial throughout all metrics. However, projects that weren't already utilizing it showed little interest in doing so. Therefore, even though project managers seem reticent to use benchmarking information, most remain happy with the outcomes when they do. The researchers investigate the causes of this resistance and overall usage trends. Nevertheless, there is a need to conduct the current study because the results of this research cannot be used to generalize the findings.

The study main areas were four main planning areas: time, scope, cost, and risk. The study was underpinned on resource management theory and constraint theory. The population of the study included: site managers, county project managers, engineers, and architects' findings of the study revealed who were 167 respondents, and questionnaires were utilized in data collection. Results of the study suggested that cost budgeting, scheduling of activities, use of work-breakdown structures, and risk identification significantly and positively affected project success among 15 road projects in the county

5. RESEARCH METHODOLOGY

The study was descriptive, the population of the study was 148 employees in Wajir county government, stratified random sampling technique was applied to sample 108 staff who provided data for the study by filling questionnaires that were administered both physically and online. The data collected was analyzed through both descriptive and inferential analysis. Results of the study were presented in tables and narratives.

6. FINDINGS

The descriptive statistics results of benchmarking are presented in Table 1.

Table 1: Benchmarking

Statement on Benchmarking	SD		D		N		A		SA		M	Std. dev
	f	%	f	%	f	%	f	%	f	%		
As a county, we have carried out Cost and schedule benchmarking against other county governments	34	37.0	38	41.3	4	4.3	16	17.4	0	-	2.02	1.05
We have benchmarked the capacities of our staff against other counties in Kenya and the national government	10	10.9	25	27.2	57	62.0	0	-	0	-	2.51	0.68
We have benchmarked the risks facing our road projects against	3	3.3	4	4.3	7	7.6	35	38.0	43	46.7	4.20	0.98
We have carried out Beneficiary satisfaction benchmarking against what our counterparts in other counties are doing	8	8.7	15	16.3	15	16.3	31	33.7	23	25.0	3.50	1.27
Composite Mean											3.06	

The findings of the study revealed that respondents disagreed that their county government carried out Cost and schedule benchmarking against other county governments as shown by a mean score of 2.02. The respondents also disagreed that they had benchmarked the capacities of their staff against other counties in Kenya and the national government; the respondents were moderate that they had carried out Beneficiary satisfaction benchmarking against their counterparts in other counties are doing, however, the respondents agreed that they had benchmarked the risks facing their road projects against the ones in other counties as shown by a mean of 4.20. With a composite mean of 3.06, the respondents were moderate that their county had utilized benchmarking as a quality management practice in Wajir county on road projects. Lee et al. (2018) who sought to investigate the influence of benchmarking on performance were of the contrary opinion when the scholar revealed that where benchmarking was implemented, it was discovered to be highly beneficial throughout all metrics. However, projects that weren't already utilizing it showed little interest in doing so. Therefore, even though project managers seem reticent to use benchmarking information, most remain happy with the outcomes when they do. The researchers investigate the causes of this resistance and overall usage trends

Results of Regression Analysis

Table 2: Model Summary

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.106 ^a	.011	.000	.66006		
ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.443	1	.443	1.016	.316 ^b
	Residual	39.212	90	.436		
	Total	39.654	91			
Coefficients						
Model	Unstandardized Coefficients			Standardized Coefficients		
	B	Std. Error		Beta	t	Sig.
1	(Constant)	3.952	.406		9.724	.000
	Benchmarking	.132	.131	.106	1.008	.316

Findings of the study revealed in table 2 showed an r-square of 0.11 also called the coefficient of determination which indicated that benchmarking explained 11.0% of the changes in the performance of road infrastructure projects in Wajir County. The table also revealed an F-ratio of 1.016 which was associated with a p-value of 0.316, indicating that the variable in the model was not a significant predictor of the performance. A contrary opinion was given by Herbold et al. (2018) who researched the impact of benchmarking on performance. The scholar revealed that benchmarking improves a project's efficiency significantly when used with successful project management learning by looking at several characteristics related to project management courses.

7. CONCLUSIONS

The study concluded that benchmarking had a positive but insignificant effect on the performance of road projects in Wajir county. The null hypothesis was therefore accepted that: Benchmarking does not have a significant effect on the performance of road infrastructure projects in Wajir County. Scholars who did not support the conclusions were Herbold et al. (2018) who researched the impact of benchmarking on performance. The scholar concluded that benchmarking improves a project's efficiency significantly.

8. RECOMMENDATIONS

The study recommended for revision of benchmarking practices as well as a commitment to make benchmarking across other counties, the current benchmarking practices were not found popular which could be a reason for the non-significant effect of benchmarking on the performance of road projects, actual visits in other counties for benchmarking roads projects or outside will be a step in evaluating whether well-designed benchmarking have a better effect on performance.

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