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MODERATING ROLE OF PORTFOLIO RISK MANAGEMENT ON PERFORMANCE OF WATER SERVICE BOARDS IN KENYA

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ABSTRACT: *The majority of water service boards are investing millions of money in different portfolios with the objective of profit maximization. However, delays in projects are a global phenomenon and have become a typical part of the project manager's concern. Therefore, the purpose of this study was to determine the influence of project portfolio management practices on the performance of water service boards in Kenya. The specific objectives of the study were; to determine the effect of project evaluation, project selection, and prioritization, to establish the moderating effect of contextual factors on the relationship between project portfolio management practices and performance of water service boards in Kenya. The study adopted a cross-sectional survey research design. The population of this study targeted the employees of water boards in Kenya which include coast water service board (CWSB), Rift valley water service board (RVSB), Lake Victoria North(LVNSB), Tana water, TanaAthi water service board, Athi water service board. The unit target constituted Engineers, senior management, middle management, and project team. The study targeted a population of 1310 people. The study found that project selection and prioritization as a project portfolio management practice influenced the performance of water service boards in Kenya; and that there is a significant influence of project evaluation as a project portfolio management practice on the performance of water service boards in Kenya. The study also found that portfolio risk management does moderate the relationships between project portfolio management practice and performance of water service boards in Kenya.*

KEYWORDS: project portfolio management, performance, Kenya water service boards

INTRODUCTION

The Project Management Institute (2013) defines project portfolio management (PPM) as the centralized or coordinated management of one or more portfolios, which included identifying, prioritizing, authorizing, managing, and controlling projects, programmes, and other related work, to achieve specific strategic business objectives. They recognized that "portfolio management produces valuable information to support or alter organizational strategies and investment decisions" (PMI, 2013) and allowed decision-making that controlled the direction of portfolio components as they achieved specific outcomes. In PPM resources are allocated according to organizational priorities and are managed to achieve the identified benefits. The management of

the portfolio requires that the alignment between objectives and portfolio components be maintained. A change in circumstances (external or internal) could result in a change in the portfolio mix.

Delays in projects are a global phenomenon and have become a typical part of the project manager's concern (Zidane *et al.,* 2015). For effective company strategy implementation, there is an increasing need to address the importance of project portfolio management. Portfolio management is the coordinated management of one or more portfolios to achieve organizational goals, objectives, and strategies. It includes interrelated organizational processes by which an organization evaluates, selects, prioritizes, and allocates its limited resources to best accomplish organizational strategies consistent with its vision, mission, and values. Portfolio management produces valuable information to support or alter organizational strategies and investment decisions (Abrantes & Figueiredo, 2014).

The ultimate goal of linking portfolio management with organizational strategy is to establish a balanced, executable plan that will help the organization achieve its goals. The impact of the portfolio plan upon strategy is attained by the six areas: maintaining portfolio alignment to strategic objectives, allocating financial resources, allocating human resources, allocating material or equipment resources, measuring portfolio component performance, and managing risks (Killen *et al.,* 2015). According to Rahayu and Edhi (2015), project portfolio management has for some time been the most used principle for managing the development of organizations, as organizations increasingly become multi-project environments more work is organized by projects. Thus, today project portfolio management is considered to be one of the most important areas for organizational development and business success especially in the real estate sector (Barney, 2013).

The assumption of project portfolio management as a rational decision process that could improve business success includes four underlying characteristics that have a major impact on how project portfolio management has been studied and executed in companies. Firstly, the rational approach appears to assume that projects are obedient servants that exist primarily to fulfill the strategy of the parent organization (Martinsuo, 2014). However, innovation projects are frequently used to purposefully question the strategy and are no longer necessarily limited to one company's strategic interests only. Secondly, project portfolio selection and management frameworks tend to assume that projects compete for the same resources and that all relevant resources are known and controlled by the company itself. Hence for successful optimization of resources, organizations need to rely on this framework (Dutra *et al.,* 2014).

The portfolio management standards are the establishment whereupon fruitful portfolio management is assembled; they give a favorable authoritative environment in which there is powerful standards operation of portfolio definition and conveyance (Helfat & Martin, 2015). Heising (2012) emphasized that projects in the portfolio may share risks that may become increasingly relevant business issues at the portfolio level and, therefore, need to be taken into account by managers. PPM has risen to prominence as a method of selecting and managing an organization's projects in water service boards (Verganti, 2013). PPM is now used for the

composition of project portfolios in such diverse fields as product development, information technology, and construction (Kopmann *et al.,* 2015). If a project's risk profile (budget, resource demands) changes after its initiation, the portfolio profile and therefore the selection of future projects accordingly needs to reflect this change (McNally *et al.,* 2013). The initial and continuous evaluation of the projects in a portfolio creates a high demand for high-quality, up-to-date internal and external information, which can put considerable strain on an organization; this is put forward as the main reason for the inattentiveness to this aspect of PPM in many organizations (Oh and Lee, 2012).

Project Portfolio Management and Performance at Kenya Water Service Boards.

Kenya's Water Services Boards are dependent upon five water resources derived from the five major water towers (Mt Kenya, the Aberdare Ranges, the Mau Complex, Mt Elgon, and the Cherangani Hills). This implies that water has to be transmitted across counties to support the economic hubs identified under Vision 2030 (WASREB, 2013). In Kenya, the water sector reform secretariat (WSRS) was formed as a transitional institution to oversee the formation of the new institutions which have been established and are working. The Department of Water and Irrigation transferred its functions, regulations, responsibilities, assets, and equipment's to the new institutions with effect from July 1, 2005 (World Bank, 2007). Kenya Vision 2030 was prepared in 2007 and in it, a new development blueprint for the country was presented. Water was defined as essential resources to support the development activities planned in Kenya Vision 2030.

As per the National Water Master Plan 2030, Investments by Water Service Boards (WSB) are key to the achievement of the right to water and public health services. The investments are expected to translate to improvement in the investment-related indicators at the utility level. The indicators expected to show improvement are water and sewerage coverage, hours of Supply, and NRW reduction. Investments by the WSBs for the period 2014/15 amounted to Ksh 11.28 billion, a decrease of Ksh 8.2 billion (42%) compared to the total investments in 2013/14. This decline in the amount of investment implies that the investment gap for water and sanitation infrastructure continues to widen. The figure of Ksh 11.28 billion translates to a meager 10% of the investment needs in the water services sector, estimated at Ksh 110.27 billion annually if the targets under Vision 2030 have to be met. It is imperative to note that for water projects, there is a need for proper portfolio management (Kester *et al.,* 2014). Hence, the need for these companies to adopt proper project portfolio management practices which would impact on their business success (Kelly and McQuinn, 2013).

Portfolio Management primary point is to boost aggregate estimation of projects through accomplishing their most extreme adjust of cost, returns, and the dangers inside the organization assets restricted in this way deciding the ideal asset for conveyance and to timetable exercises to best accomplish an organization's operational and budgetary objectives (Odhiambo, 2013). Having formal portfolio management in water service boards could help them handle different projects to achieve the organization's key objectives, permits the organizations to stage activities to dodge asset bottlenecks, and enhances the checking of the proposed project asks for that can be formally affirmed (Martinsuo, 2014).

According to the vision 2030, Kenya is a water-scarce nation with limited water resources, and therefore it is imperative to ensure that improved water supply is available and accessible to all. To realize the targets under vision 2030, the water sector needs to grow by at least 3% points annually for the next 13 years. Therefore, using the projections in the master plan and half times the current levels to meet demand, it requires a sustained investment of a minimum of Ksh 100 billion annually. Under the Water Act (2002), there was the implementation of water sector reforms which was to bring services closer to the people and the institutions which were expected to directly provide water services to consumers was the Water Service Providers (WSPs) which are regulated through a water service provision agreement issued by the Water Service Boards and all the water projects are to be implemented by the Water Service Boards.

Several factors could have contributed to the failure of water projects which could be: lack of community involvement/participation during the implementation of projects, high recurrent costs, poor maintenance of the water facilities in terms of operations and maintenance, use of inappropriate technology, politics and of lack of proper teaching of the requisite skills. Research is done by scholars and authors such as (Binder, 2008; Dungumaro & Madulu, 2003) argued that common descriptions, pointers, and measures of execution and sustainability that can guide service administration of resources in a way that safeguards paybacks for both current and future generations. They specify the significance of community involvement and correct project organization management skills for the effective execution of development projects. Besides, they indicated that community involvement is low in developing countries. In Kenya, there are eight (8) service boards and these are Athi, lake Victoria North, Lake Victoria south, Northern, Coast, Tana, and Tanaathi water service boards.

Statement of the Problem

As per the Countrywide Water Services Strategy (NWSS) (2007 -2015) "Kenya is exposed to serious problems in availing sustainable access to safe drinking water which is projected at around 60% in metropolitan and 40% in rural settings. According to the WASREB report (2017), the total investment made by Water Service Boards (WSBs) in Kenya between 2015 and 2017 amounted to Ksh34,456 billion. This investment was aimed at increasing water supply, reducing non-revenue water (NRW), an increasing number of hours of water supply but, this has not been realized. There is no correlation between a constantly growing development budget and a positive impact on the Kenyan people. According to the WASREB impact report, (2018), Kenya's water coverage stands at 55 percent against a 2015 National Water Services Strategy (NWSS) target of 80 percent. This indicator has not registered any significant growth in the last three (3) years and non-billed water (NBW) is at 42% against a target of 30% and the hours of supply has dropped to 14 hours from 18 hours in 2015, despite numerous implementation of water projects and a minimum investment of 29 billion Kenya shillings.

The prevailing water condition in Kenya shows that only 57 % of the population has access to clean and safe drinking water as per Kenya National Water Services Strategy (2010). Many factors could have contributed to the failure of water projects which could be: lack of community involvement/participation during the implementation of projects, high recurrent costs, poor

maintenance of the water facilities in terms of operations and maintenance, use of inappropriate technology, politics and of lack of proper teaching of the requisite skills. Research is done by scholars and authors such as (Binder, 2008; Dungumaro & Madulu, 2003) argued that common descriptions, pointers, and measures of execution and sustainability that can guide service administration of resources in a way that safeguards paybacks for both current and future generations. They specify the significance of community involvement and correct project organization management skills for the effective execution of development projects. Besides, they indicated that community involvement is low in developing countries.

Evidence on the factors explaining project portfolio management performance is still limited and more research is needed to test all aspects of the frameworks especially in the real estate sector where organizations are investing in multiple portfolios. With the call for more evidence, this study seeks to fill this knowledge gap by investigating the influence of portfolio management practices on the performance of water service boards in Kenya. Besides, it is clear several studies (McNally *et al*., 2013; Jugend and da Silva, 2014; Dutra *et al.,* 2014; Kester *et al*., 2014; Kock *et al.,* 2015 Kopmann *et al.,* 2015) have been done in developed countries with limited empirical literature in Kenya. It is in this light that the current study sought to fill the existing research gap by studying the project portfolio management practices on the performance of water service boards in Kenya.

Objectives of the Study

This study sought to investigate the influence of project portfolio management practices on the performance of water service boards in Kenya.

The study tested the following hypothesis.

1. **H_{01}:** There is no significant influence of project selection and prioritization as a project portfolio management practice on the performance of water service boards in Kenya.
2. **H_{02}:** There is no significant influence of project evaluation as a project portfolio management practice on the performance of water service boards in Kenya.
3. **H_{03}:** portfolio risk management does not moderate the relationships between project portfolio management practice and performance of water service boards in Kenya

LITERATURE REVIEW

This study was based on the theories; Modern Portfolio theory, Multi-Criteria Utility theory, control theory, Systems theory, and Complexity theory. Modern Portfolio Theory was developed by Harry Markowitz in the early 1950s In applying the concepts of variance and covariance, Markowitz showed that a diversified portfolio of financial assets could be optimized to deliver the maximum return for a given level of risk". This theory determines the highest return on a specific mix of investments for a given level of risk. According to Markowitz (1952), several assumptions must be formulated concerning investor behavior in portfolio management. The assumptions include; the investor views each investment alternative to be represented by the distribution probability of the expected returns throughout the investment was held. Also, there is the maximization of expected utility for one period the curves of utility demonstrate marginal wealth utility, utility curves of investors are a function of expected risk and returns because investors

solely base decisions on expected risk and return. He also argued that less risk will always be preferred by investors for any given expected return level (Markowitz, 1952).

McFarlan (1981) suggested that the selection of projects based on the risk profile of the portfolio could reduce the risk exposure to the organization. However, McFarlan does not go into any detail regarding the portfolio management methodology, approach, or definition but merely introduces the concept of portfolio management from a perspective of risk management. Nevertheless, the application of portfolio theory in a new field, specifically real estate investment, has resulted in further study towards developing methods and standards for applying portfolio theory to Project portfolio management. Modern portfolio theory (MPT) is relevant for this research as it provides a financial investment metaphor that can be applied to project portfolio management. Projects, programs, and operational initiatives can be viewed as investments that must be aligned to organizational goals. The project portfolio mix should be balanced in terms of risk exposure and investment returns. To understand the full impact of decisions regarding individual portfolio components, the aggregate must be considered, as opposed to the singular, projects, programs, and operational initiatives.

Multi-Criteria Utility Theory (MCUT) considers the decisionmaker's preferences in the form of the utility function, which is defined over a set of criteria (Goicoechea, Hansen, and Duckstein, 1982 as cited in Stewart and Mohamed (2002). The utility is a measure of desirability or satisfaction and provides a uniform scale to compare tangible and intangible criteria (Ang & Tang, 1984 as cited in Stewart and Mohamed (2002). Stewart and Mohamed (2002) state that decisions typically involve choosing one or a few alternatives from a list of several with each alternative assessed for desirability on several scored criteria. The utility function connects the criteria scores with desirability. According to Stewart and Mohamed (2002), the most common formulation of a multi-criteria utility function was the additive model (Keeney and Raiffa, 1993). MCUT generally combines the main advantages of simple scoring techniques and optimization models. According to Stewart and Mohamed (2002) business unit managers typically proposed projects they wished to implement in the upcoming financial year. These projects were supported by business cases in which costs were detailed. As cost is only one criterion related to project selection, other criteria would be based on business value, risk, organization needs that the project proposes to meet, and also other benefits to the organization like product longevity and the likelihood of delivering the product. Each criterion is made up of many factors that contribute to the measurement of that criterion. For example, to determine the value that a PPM investment delivers, organizations need to go beyond the traditional NPV (Net Present Value) and ROI (Return on Investment) analysis methods. Value can be defined as the contribution of technology to enable the success of the business unit.

Control theory was invented by Ouchi (1979) and Eisenhardt (1985) who originally developed this widely recognized theory to apply to the field of management science. Control theory uses the notion modes of control to describe all attempts to ensure that individuals in organizations act in a way that is consistent with organizational goals and objectives (Kirsch, 2004). Control theory has proven useful to describe the mechanisms of managing complex tasks in organizations such as

project portfolios. Control plays an important role in managing projects by integrating the participants (Kirsch, 2004). The concept of control is based on the premise that the controller and the controlee have different interests. These different interests will be overcome by the controller's modes of control (Tiwana and Keil, 2009). Modes of control may distinguish between formal and informal mechanisms. Formal modes of control are defined as Behavior control and Outcome control. Behavior control consists of articulated roles and procedures and rewards based upon those rules. Outcome control is a mechanism for assigning rewards based on articulated goals and outcomes. The informal modes of control are carried out by the control modes labeled as Clan and self. The clan is the mechanisms of a group sharing common values, beliefs, problems, and these mechanisms work through activities like hiring and training of staff and socialization. The control mode of the Self is about individually defined goals and can be carried through the mechanisms of individual empowerment, self-management, self-set goals (Kirsch, 2004).

CONCEPTUAL FRAMEWORK

The conceptual framework of this study can be presented diagrammatically as shown in Figure 1 below.

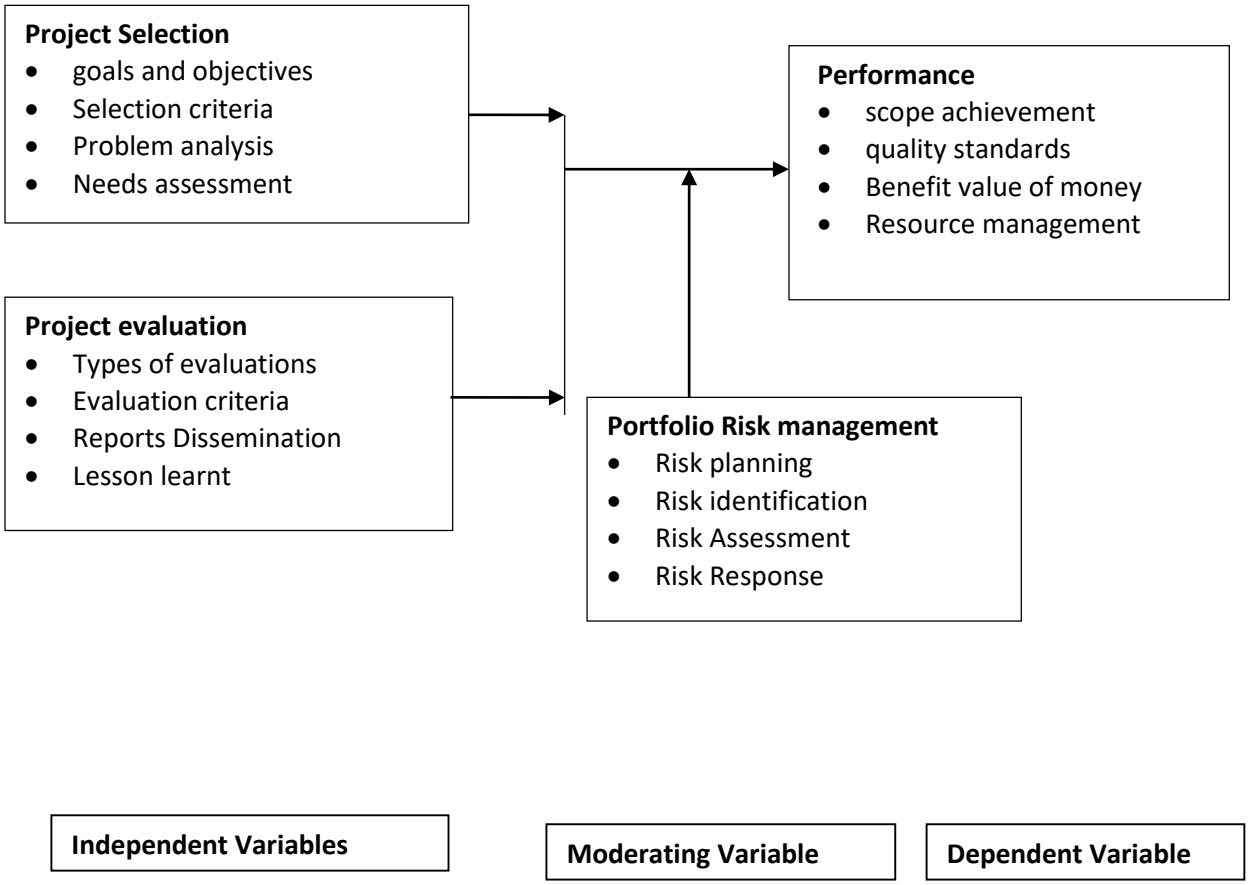

Figure 1: Conceptual Framework

REVIEW OF VARIABLES

Project Portfolio Management Practices

In this study Project, portfolio management practices include project selection, resource allocation, and portfolio control, and project evaluation. This section will look at a review of literature on the study variables but as for this publication, the will be specific to two independent variables, the independent and moderating variables.

a) Project selection

According to PMI (2013) project selection aims at a balanced project portfolio, considering the mission, vision, and strategy of the organization. It prioritizes the projects in an orderly manner in each strategic or financial category and establishes an organizational focus. This practice ensures that projects and programs are reviewed to prioritize resource allocation and that the management of the portfolio is consistent with and aligned to organizational strategies. Different types of criteria are used to evaluate and prioritize the portfolio components, such as financial criteria, technical criteria, risk-related criteria, resources-related criteria (human resources, equipment), contractual conditions criteria and experience, and other qualitative criteria. Examples of financial criteria include benefit-cost ratio, net present value, payback period, internal rate of return (IRR), the weighted average cost of capital, and terminal value (Rocha *et al.* 2009).

Rocha *et al.* (2009), suggest the following elements should be taken into consideration while conducting project selection, ad hoc selection techniques, scoring models, the analytic hierarchy process (AHP) method, sensibility matrix, and analysis, mission/vision/strategy operationalization, commercial success probability, technical success probability, bubble chart, indicators of success, the establishment of a prioritized list of projects, the involvement of senior management, analysis of selection criteria (subjective, objective, quantitative, or intuitive), determination of the cost of each project, and urgency and seriousness. Gutierrez and Magnusson (2014) argue that the main criteria adopted for selecting projects is the appreciation that members attach to the association's lines of action. Based on the survey results, project expectations and priorities are assessed, as well as the need for investment in realization and communication. Projects are not placed in strict categories (strategic, financial, or organizational focus), allowing further analysis. Financial analysis is done only by project budgets. Run-time is considered in the selection and final prioritization, but not consistently since projects that are at risk of not being completed in the specified period (annually) are also prioritized. A few empirical, qualitative studies give partial support to the potential linkage between portfolio selection and portfolio management performance.

According to Golini, Kalchschmidt, and Landoni (2015), for portfolio success and organizational performance, selection and prioritization practices should consider the history of projects within portfolios, performing individual analysis of projects, but does not verify the complex interaction among projects. Therefore, even if projects are deemed urgent and serious, they should consider

the project's commercial success probability, the establishment of a prioritized list of projects, the involvement of senior management, analysis of selection criteria (subjective, objective, quantitative, or intuitive. This practice is very important to water service boards in Kenya because companies put a lot of money into their investments and some do not succeed.

b) Project Evaluation Practices

The use of project evaluation practices depends on the needs of each organization and may involve evaluating different attributes (Castro and Carvalho, 2010). In this practice, a prioritized list of projects is established (Rabechini, Maximiano, and Martins, 2005). Some researchers add to this dimension, citing the criteria of qualitative and quantitative analysis to assist decision-making around strategic adequacy (Rocha *et al.* 2009; Castro and Carvalho, 2010). According to Castro and Carvalho (2010), they found that analysis of this practice can take into consideration the following elements: relevance and risk assessment, adherence to strategic focus, feasibility study, criteria definition, quantitative analysis criteria (return on investment, net present value, internal rate of return, discounted cash flow, and decision tree), productivity index, qualitative analysis criteria (technical, cost, term, quality, safety, legality, human resources, and economic), scoring models, alignment with the third sector, and market research.

According to Unger (2015), the success of the project portfolio depends on the project evaluation practice which is always discussed by the executive board. He further stated that in the evaluation stage, the list of candidate projects should be prepared annually. The list should include information about the goals, deadlines, technical specifications, quality, and running costs. However, there is no interest in the direct participation of other areas of the organization in the evaluation of these projects. Xavier (2008), found that project evaluation practice is usually analyzed using the element of qualitative analysis criteria, both in the evaluation of individual projects and in the annual definition of the project portfolio.

According to Moxham (2014), the project evaluation dimension for project portfolio management is applicable through six elements: relevance and risk assessment, adherence to strategic focus, feasibility study, criteria definition, qualitative analysis criteria, and market research. A careful analysis of the feasibility study element indicates that its applicability also occurs through the qualitative analysis criteria element. Therefore, it is important to note that project evaluation practice plays a significant role in determining the success of a portfolio which this study seeks to determine in real estate investment companies.

Portfolio Risk Management

PMBOK-(PMI), (2013) defined portfolio risk as an uncertain event or condition that, if it occurs, has positive or negative effects on the project's objectives, thus the likelihood that a project will fail to meet its objectives. Thus project risk management is laid down project management activities for controlling and as such mitigate these risks (Amugsi & Muindi, 2017). Project risks are, therefore, various and diverse, where, Luis (2017) argued that projects attract a lot of interests from various stakeholders, resulting in wrangles that are risky to project's success and performance. Technically and economically, therefore, well-planned projects may fail to achieve

its goal, due to stakeholders conflicting interests. This, thus, calls for stakeholder's analysis that, must be rigorously and systematically done, to control unexpected problems from arising and harm project continuity and subsequent performance (Eshna, 2017). On the other hand, projects employ computerized project management software technology as a tool for project planning, scheduling, resource allocation, and change management. This besides, ensures a seamless understanding of the project's management team and stakeholders and thus allowing a common understanding of costs and quality management for the projects being undertaken (Kuria, 2016).

Projects technology is however at times are prone to risks, among which are information hacking, unauthorized information access, the risk to viruses, and rerouting transactions that may cause delays and consequential projects unsustainability (Kumar et al., 2017). Project managers should thus, be versed in ways and procedures of managing these risks. Further, Sabihah, Intan, Siti, and Ahmad (2017) argued that projects often experience execution risks especially when financial assistance is offered by outside vendors or sponsors who, at times stops such assistance without warning. This is because project sponsors are not directly controlled by the project management team. Thus, making projects to encounter risks of sustenance different from expected, making it difficult to merge their plans with those of the project's management team (Mwololo, 2016). Further, projects are also prone to a lack of continued support from both internal and external authorities. This may arise as a result of project management politics that in most cases occur when projects, are poorly scoped ending up to spills over to more additional time, leading to wastage of resources (Gabriela & Agnieszka, 2017). It is, therefore, this research intends to study how proper project risk management should be aligned with project management practices to influence the performance of solid wastes projects in Kenya.

Water service boards Portfolio Performance

The project portfolio management objectives are well established in literature: the maximization of the portfolio value, the balance of the portfolio, and the project alignment to strategic goals Following the approaches of Cooper (2010), Martinsuo and Lehtonen (2013), Meskendahl (2010), and Müller *et al.* (2008), project portfolio success comprise the following dimensions: (1) average project success, (2) average product success, (3) strategic fit, (4) portfolio balance, (5) preparing for the future, and (6) economic success. Average project success includes the classical success criteria budget, schedule, and quality adherence, as well as customer satisfaction of all projects in the portfolio (Martinsuo and Lehtonen, 2013). Average product success encompasses commercial effects such as goal-achievement regarding market success, Return-on-Investment, break-even, or profit of all projects in the portfolio (Meskendahl, 2010). The strategic fit incorporates the extent to which all projects reflect the corporate business strategy. A regular reflection of the current project portfolio regarding strategy helps to align both the project goals and the resource allocation with the corporate business strategy (Martinsuo and Lehtonen, 2013).

A portfolio balance can be the balance of the project portfolio concerning risks and expected benefits. The objective is to have a project portfolio with a reasonable level of risk, as too many high-risk projects could be dangerous for the organization's future. Further criteria to balance project portfolios can be the duration of the projects (long vs. short term projects) or the use of

technologies (mature vs. new). Preparing for the future deals with the long-term aspects and considers the ability to seize opportunities that arise after the projects have been brought to an end. Finally, economic success addresses the short-term economic effects at the corporate level, including overall market success and commercial success of the organization or business unit (Meskendahl, 2010). According to Ross, Westerfield, Jafee, and Jordan (2008), performance measurement enables stakeholders to hold organizations accountable and to introduce consequences for performance. It also helps citizens, customers judge the value that the company creates for them, and it provides managers with the data they need to improve performance. Meskendahl, (2010) asserts that the key to ensuring a profitable cash flow in real estate investment is predicated first and foremost upon buyers' ability to select lucrative properties for purchase. Before deciding to buy, he suggests gathering data from as many sources as possible, including current leases, recent property tax bills, recent utility bills, and even pertinent sections of the seller's tax returns.

Rental income has been the most preferred measure by investors (Kohnstamm, 1995), Gallinelli offers the Profitability Index calculation as an alternate means of assessing investment return. It is closely related to Net Present Value, although it is expressed in a ratio format. Thus, on review of the financial performance measures of Real Estate investment, return on assets, return on equity, profitability, market share, competitiveness, customers' satisfaction, and loyalty will be considered as a general measure of real estate investment companies' performance.

EMPIRICAL REVIEW

Maizlish and Handler (2005) found that, the practical aspects of PPM were not widely accepted in the majority of companies, and that few companies maintained an active PPM practice. They added, however, that there were elements of PPM that existed in all companies and that most companies utilized simple and straightforward financial models to make investment decisions. Levine (2005) offered a practical guide to PPM recognizing that the project portfolio lifespan extends well beyond that of a project and includes identification of needs and opportunities and the realization of benefits. Jeroz (2007) in his study of investment companies recommended that portfolios should be reviewed and adjusted from time to time with the market conditions. He pointed out that the evaluation of the portfolio is to be done in terms of targets set for risk and return. The changes in the portfolio are to be effected to meet the changing conditions. Martinsuo and Lehtonen (2013) discussed the role of single-project management in achieving portfolio management efficiency. The results of their research imply that "an understanding of portfolio-level issues needs to be considered as part of a project manager's capabilities through proper evaluation rather than remain only a top management concern"

Blichfeldt and Eskerod (2008) found that although organizations manage project portfolios using project portfolio theory, they still experience problems such as delayed projects, resource issues, and a lack of overview of the projects. They found that a key reason was that PPM was only applied to a subset of on-going projects. Projects that were not part of the portfolio utilize the same

resources as projects that were part of the portfolio, resulting in an impact on the portfolio. They assessed that the practice of PPM was therefore deficient. Cooper (2011), found that effective portfolio management practices improved time to market and improved quality in execution which are among the main goals of PPM and the Idea-to-Launch process. The process is a cross-functional team approach, as an effective cross-functional project team is needed to develop and launch a new product into a new market - new projects are bound to fail if functions are working in silos. Effective portfolio management practices must be an integral part of the process to keep the right projects in the pipeline, but most companies suffer from too many projects and not enough resources. Therefore, if proper resource allocation and project selection are done accordingly, there will be a successful project portfolio (Girotra, Terwiesch, and Ulrich, 2007).

METHODOLOGY

The choice of the research design was guided by the research question(s) and objective(s), existing knowledge, time, and resources (Kothari, 2004). This study adopted a cross-sectional survey research design that focused on the effect of project portfolio practices on the performance of water service boards in Kenya. The choice of research philosophy is based on the research hypothesis to be tested. In this regard, the study adopts a positivism research philosophy; since positivism reflects the belief that reality is stable that can be observed and described from an objective viewpoint without interfering with phenomena. The target population for this study were employees of eight water boards in Kenya which include coast water service board(CWSB), Rift valley water service board (RVSB), Lake Victoria North(LVNSB), Lake Victoria South, Tana water, TanaAthi water service board, Athi water service board, and Northern water service board. These water boards constitute all the legally mandated water service providers in Kenya. The unit target constituted Engineers, senior management, middle management, project team, and some senior management from water service providers comprising of 280 key people (WASREB report,2018). A sample of 165 respondents was obtained using Yamane's 1967 formula.

A standardized questionnaire was used to collect primary data. A questionnaire is convenient and cost-effective. The quantitative data collected was analyzed by calculating the response rate with descriptive statistics such as mean, median, standard deviation. Qualitative data was analyzed through thematic analysis while multiple regression models were used to test the hypotheses. Diagnostic tests were taken to ensure there is no violation of critical assumptions. They include normality, multicollinearity, and heteroscedasticity tests. Multiple regression analysis was done to test the relationship between the independent variables and the dependent variable. A hypothetical multiple regression model based on conceptual relation was constructed to determine the influence of project portfolio management practices on the performance of water service boards in Kenya. The model shown below was used:

$$Y= \beta_0 +\beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon_i$$

Contextualizing the above model to this study gives the following model:

$$OP= \beta_0 +\beta_1PE + \beta_2PS + \beta_3RA+ \beta_4PC + \varepsilon_i$$

Where

OP = Performance of Water service boards

PE = Project evaluation
PS = Project selection and prioritization
RA = Resource Allocation
PC = Portfolio control
β_0 = Intercept
ε_i = Stochastic term (error term)
To test for moderating effect $H_{03,}$ the product of the coefficients approach was used as suggested by Fairchild and MacKinnon (2008).

STUDY FINDINGS

Descriptive Statistics.

The descriptive statistics for the variables: project selection, project evaluation, project risk management, and project performance are present as follows:

a) Influence of Project Selection and Prioritization on Organizational Performance

From the study results, the majority (77.8%) of the respondents agreed that project selection and prioritization influence organizational performance. Table 1 below shows the statistics on the influence of project selection on the performance of Water Service Boards in Kenya.

Table 1: Descriptive Statistics for Project Selection and Prioritization

Statement	Mean	Std.Dev.
Provides the opportunity to compare different scenarios through creations of different versions.	3.773	1.251
Prioritizes the projects in an orderly manner in each strategic or financial category, and establishes an organizational focus.	3.75	1.306
Helps in the elimination of efforts on product/project redundancies.	3.616	1.091
Contributes to the reduction of time to market	3.598	1.391
It helps to compare projects and measurably compare each project's contribution to the organizational strategy	3.547	1.232
It helps in aligning each project to the strategy formulation	3.517	1.296
Aggregate Score	**3.634**	**1.261**

The findings presented in Table 1 show that the aggregate mean value was 3.634 and the standard deviation was small (1.261). This suggests that on average, the respondents agreed with the statements about the influence of project selection and prioritization on the performance of water service boards in Kenya. The study specifically established that the respondents agreed that it provides the opportunity to compare different scenarios through creations of different versions (M=3.773, SD=1.251); that this practice (project selection and prioritization) prioritizes the projects in an orderly manner in each strategic or financial category, and establishes an organizational focus (M=3.75, SD=1.306); and that project selection and prioritization helps in elimination of efforts on product/project redundancies (M=3.616, SD=1.091). Further, the respondents agreed that proper project selection and prioritization contributes to reducing time to

market (M=3.598, SD=1.391); it helps to compare projects and measurably compare each project's contribution to the organizational strategy (M=3.547, SD=1.232); and that it helps in aligning each project to the strategy formulation (M=3.517, SD=1.296). The findings concur with PMI (2013) that project selection and prioritization ensures that projects and programs are reviewed to prioritize resource allocation and that the management of the portfolio is consistent with and aligned to organizational strategies. It also agrees with Chien, (2012) who reported prioritization as a success factor in multi-project environments. He further stated that resource allocation issues and lack of portfolio-level activities, including project overlaps and lack of prioritization, as problems with managing multi-project environments.

Influence of Project Evaluation on Organizational Performance

Regarding the influence of project evaluation on the performance of water service boards in Kenya majority (80.55%) of the respondents agreed that portfolio project evaluation influences organizational performance while 19.5% disagreed. Table 2 presents descriptive statistics.

Table 2: Descriptive Statistics for Project Evaluation

Statement	Mean	Std. Dev.
This practice ensures the organization adheres to strategic focus	3.846	1.423
Project evaluation helps to appraise viable projects through qualitative and quantitative analysis/feasibility study.	3.818	1.514
Project evaluation improves the planning of projects and timelines are met.	3.808	1.34
This practice helps in eliminating plans of unyielding projects/risk assessment	3.775	1.427
Evaluation helps tracking and budgeting of projects to become much easier.	3.719	1.271
It aids the organization to zero in on the right product project/relevance	3.669	1.347
Aggregate Score	**3.773**	**1.387**

In Table 2 above, the mean values are above 3.5 and the aggregate mean value is 3.773 with a standard deviation of 1.387(small). This suggests that on average, the respondents agreed with the statements on the influence of project evaluation on the performance of water service boards in Kenya. Specifically, the respondents agreed that this practice ensures the organization adheres to strategic focus (M=3.846, SD=1.423); project evaluation helps to appraise viable projects through qualitative and quantitative analysis/feasibility study (M=3.818, SD=1.514); and that project evaluation improves planning of projects and timelines are met (M=3.808, SD=1.340). The findings further showed that the respondents agreed that this practice (project evaluation) helps in eliminating plans of unyielding projects/risk assessment (M=3.775, SD=1.427); evaluation helps tracking and budgeting of projects to became much easier (M=3.719, SD=1.271); and that adoption of this practice aids the organization to zero in on the right product project/relevance (M=3.669, SD=1.347).

The study findings agree with Castro and Carvalho (2010) who explained that analysis of practice takes into consideration the relevance and risk assessment, adherence to strategic focus, feasibility

study, criteria definition, quantitative analysis criteria (return on investment). It also concurs with Unger (2015) that the success of the project portfolio depends on the project evaluation practice which is always discussed by the executive board. He further stated that in the evaluation stage, the list of candidate projects should be prepared and the list should include information about the goals, deadlines, technical specifications, quality, and running costs.

Moderating Effect of Portfolio Risk Management on Relationship between Project Portfolio Management and Organizational Performance

Respondents gave their extent to which they agreed with each of the following statements regarding the influence of portfolio risk management on the relationship between project portfolio management on the performance of water service boards in Kenya. Table 3 presents the findings obtained.

Table 3: Descriptive Statistics on the Moderating Effect of Portfolio Risk Management

	Mean	Std. Dev.
The success or failure of projects depend on portfolio risk	3.845	1.459
The company has laid down project management activities to control and mitigate portfolio risk	3.802	1.461
Wrangles arising from stakeholders interest causes risks to project success and performance	3.793	1.408
Adoption of project management software ensures a seamless understanding of projects management team	3.778	1.321
Aggregate Score	**3.805**	**1.412**

On average, the respondents agreed with the various statements on the moderating effect of portfolio risk management on the relationship between project portfolio management on the performance of water service boards in Kenya as indicated by an aggregate mean value of 3.805 and standard deviation value of 1.412. The findings further showed that the respondents agreed that the success or failure of projects depends on portfolio risk (M=3.845, SD=1.459); the company has laid down project management activities to control and mitigate portfolio risk (M=3.802, SD=1.461); wrangles arising from stakeholders interest causes risks to project success and performance (M=3.793, SD=1.408); and that adoption of project management software ensures seamless understanding of projects management team (M=3.778; SD=1.321). The study findings agree with Eshna (2017) that well-planned projects may fail to achieve its goal, due to stakeholders conflicting interests. He added that it is important to have stakeholder's analysis that must be rigorously and systematically done, to control unexpected problems from arising and harm project continuity and subsequent performance. The study also concurs with Kuria (2016) that projects that employ computerized project management software technology as a tool for project planning, scheduling, resource allocation, and change management ensures seamless understanding of projects management team and stakeholders and thus allowing the common understanding of costs and quality management for the projects being undertaken.

Project Portfolio Management and Organizational Performance

The respondents agreed that project portfolio management influences performance. They specifically agreed that it influenced customer satisfaction and loyalty (M=3.869, SD=1.528); Return on Assets (M=3.813, SD=1.424); competitiveness (M=3.798, SD=1.445); market share (M=3.792, SD=1.426); Return on Equity (M=3.776, SD=1.337); and Profitability (M=3.757, SD=1.356). This agrees with Barney (2013) that today project portfolio management is considered to be one of the most important areas for organizational development and business success; it could improve business success. Respondents were also asked to rank their organization on the following project portfolio management success criteria. They used the scale 1= little to no importance, 2= some importance, 3= above average importance, 4= very important. The findings were as presented in Table 4.

Table 4: Descriptive Statistics for Organization Project Portfolio Management Success

Statement	Mean	Std. Dev.
The average single project success – individual projects(within the portfolio) fulfilling their own set of success criteria such as cost, time, quality, and customer satisfaction	3.97	1.209
The use of synergies-making use of synergies between projects such as technical or market synergies.	3.875	1.252
The portfolio is aligned with the organizational strategy -the extent to which the portfolio reflects the board's strategy.	3.818	1.514
The portfolio is balanced -a portfolio that balances different criteria such as achieving the growth and profit objectives	3.684	1.274
Aggregate Score	**3.837**	**1.312**

From the findings in Table 4, the aggregate mean value was 3.837 and the standard deviation was 1.312. This is an indication that on average, the respondents ranked their organization project portfolio management success criteria and being very important. Specifically, they indicated the following to be very important: the average single project success – individual projects (within the portfolio) fulfilling their own set of success criteria such as cost, time, quality, and customer satisfaction (M=3.97, SD=1.209). The use of synergies-making use of synergies between projects such as technical or market synergies (M=3.875, SD=1.252). The portfolio is aligned with the organizational strategy -the extent to which the portfolio reflects the board's strategy (M=3.818, SD=1.514). The portfolio is balanced -a portfolio that balances different criteria such as achieving the growth and profit objectives (M=3.684, SD=1.274).

Finally, respondents were asked about their perception of organizational performance i.e. unsuccessful, slightly successful, mostly successful, and very successful. Based on the findings, project portfolio management was perceived differently by different respondents. Most 64(48.5%) perceived it as slightly successful, 54(40.9%) indicated it was mostly successful, 10(7.6%) saw it as being unsuccessful, and 4(4%) considered it very successful These findings suggest that

organization's project portfolio management still has room for improvement because only 3% considered it to be very successful.

Inferential Statistics

Inferential statistics were used to assess the association between dependent and independent variables. Inferential statistics computed in this study were correlation analysis and regression analysis.

Correlation Analysis

Pearson R correlation wad used to measure the strength and direction of the linear relationship between variables. The association was considered to be: small if ±0.1 <r< ±0.29; medium if ±0.3 <r< ±0.49; and strong if r> ±0.5. Table 5 below shows the results.

Table 5: Correlation Analysis

		Performance
Project Selection	Pearson Correlation	.811*
	Sig. (2-Tailed)	.017
	N	133
Project evaluation	Pearson Correlation	.566**
	Sig. (2-Tailed)	.004
	N	133

The findings in Table 5 show that project selection and organization performance had a strong positive and significant relationship (r=0.811, p=0.017). Since the p-value was less than the selected level of significance, the relationship was considered to be significant. The findings also show that resource allocation has a strong relationship with organization performance (r=0.503). The p-value (0.027) was less than the selected level of significance (0.05) and therefore, the relationship was considered to be significant. The relationship between portfolio control and organization performance was also found to be strong (r=0.517). Since the p-value (0.035) was less than the selected level of significance (0.05), the relationship was considered to be significant. Finally, project evaluation is seen to have a strong positive, and significant relationship with organization performance (r=0.566, p=0.004). The p-value was less than the selected level of significance (0.05) this suggesting the relationship was significant. These findings suggest that there was a significant relationship between the independent variables (project selection, resource allocation, portfolio control, and project evaluation) and the dependent variable (performance).

Diagnostic Tests

Regression analysis was used to investigate the influence of project portfolio management practices on the performance of water service boards in Kenya. For regression analysis to be performed, the data must meet the assumptions of normality, multi-collinearity, heteroscedasticity, and autocorrelation.

Multicollinearity

Multicollinearity was done to find out where more than one predictor variables in a regression model have high correlations. Findings reveal that the independent variables showed minimal signs

of multicollinearity because the VIF values were less than 10. This simply means that the variables were not highly correlated therefore Multicollinearity does not exist. The variables were thus suitable for multiple regressions. Table 6 below shows the results.

Table 6: Multicollinearity Test Statistics

Model	Collinearity Statistics	
	Tolerance	**VIF**
Project Selection	0.246	4.065
Resource Allocation	0.318	3.145
Portfolio Control	0.303	3.300
Project evaluation	0.412	2.427

Heteroscedasticity Test

Heteroscedasticity is a situation whereby there is equal variability across a range of values of the second factor predicting it (Vinod, 2018). The study performed Breuch-pagan/cook-Weisberg test intending to test Heteroscedasticity.

Table 7: Breusch-Pagan / Cook-Weisberg test for heteroscedasticity

Ho: Constant variance			
Statistics	df	Stat value	p-value
Chi-squared	133	2.6874	0.5412

From the findings presented in Table 7 p-value is greater than the selected level of significance which was 0.05 therefore the null hypothesis was supported that the data did not suffer from heteroscedasticity.

Autocorrelation Test

The null hypothesis for the Durbin-Watson's d tests is that the residuals aren't linearly autocorrelated. The findings reveal that the d-value (1.618) lies between 1.5 and 2.5 therefore the assumption has been met and there is no serial correlation among the study variables. Table 8 presents the results.

Table 8: Autocorrelation Test

Model	Durbin-Watson
1	1.618

a. Predictors: (Constant), project selection, resource allocation, portfolio control, project evaluation
b. Dependent Variable: Performance

c) Regression Analysis

Multiple regression models were fitted to the data to investigate the influence of project portfolio management practices on the performance of water service boards in Kenya. It was also used to test the research hypothesis.

Influence of Project Selection and Prioritization on Organizational Performance

Univariate analysis was computed to determine the influence of project evaluation on the performance of water service boards in Kenya. The hypothesis tested was:

H_{01}: There is no significant influence of project selection and prioritization as a project portfolio management practice on the performance of water service boards in Kenya.

Table 9: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.811[a]	0.794	0.781	1.258

a. Predictors: (Constant), project prioritization

Adjusted R squared is the coefficient of determination that shows the variation in the dependent variable due to changes in the independent variable. From the findings in Table 4.16, the value of adjusted R squared was 0.781, indicating that there was a variation of 78.1% on the performance of water service boards in Kenya due to project prioritization, at 95 percent confidence interval. This shows that 78.1% of changes in the performance of water service boards in Kenya could be accounted for by project prioritization. R is the correlation coefficient which shows the relationship between the study variables. There was a strong positive relationship between the study variable as shown by 0.811.

Table 10: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1.247	1	1.247	7.470	.019[b]
	Residual	21.877	131	0.167		
	Total	23.124	132			

a. Dependent Variable: performance

b. Predictors: (Constant), project prioritization

From the analysis of variance (ANOVA), the study found out that the regression model was significant at 0.019 which is less than the value of significance (p-value) which is 0.05, thus indicating that the data was ideal for concluding the population parameters. The calculated value was greater than the critical value (7.470>3.913), an indication that project prioritization significantly influences the performance of water service boards in Kenya. The significance value was less than 0.05 indicating that the model was significant.

Table 11: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.412	0.412		3.427	0.013
	Project Prioritization	0.319	0.106	0.811	3.009	0.004

a. Dependent Variable: Financial performance

The regression equation was:

$Y = 1.412 + 0.319\ X_1$

From the above regression equation, it was revealed that holding project prioritization to a constant zero, the performance of water service boards in Kenya would be 1.412. A unit increase in project prioritization would lead to an increase in the performance of water service boards in Kenya by 0.319. The p-value obtained (0.0004) was less than the selected level f significance, an indication that the influence was significant. We, therefore, reject the null hypothesis that "there is no significant influence of project selection and prioritization as a project portfolio management practice on the performance of water service boards in Kenya".

Influence of Project Evaluation on Organizational Performance

The study conducted a univariate analysis to determine the influence of project evaluation on the performance of water service boards in Kenya. The hypothesis tested was:

H_{02}: There is no significant influence of project evaluation as a project portfolio management practice on the performance of water service boards in Kenya.

Table 12: Model Summary (project evaluation)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.566[a]	.320	.319	1.73348

a. Predictors: (Constant), project evaluation

From the regression results, R^2 was found to be 0.566 suggesting that project evaluation and performance of water service boards in Kenya were strongly related. The value of adjusted R^2 was 0.319 suggesting that a 31.9% change in performance of water service boards in Kenya, can be explained by project evaluation. The remaining 68.1% suggests that there were other factors other than project evaluation that influences the performance of water service boards in Kenya that were not discussed in this model.

Table 13: ANOVA (project evaluation)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	9.002	1	9.002	19.635	.000[b]
	Residual	39.955	131	0.305		
	Total	48.957	132			

a. Dependent Variable: performance

b. Predictors: (Constant), project evaluation

From the ANOVA table, the p-value was 0.000, which was less than the selected significance level (0.05), implying the significance of the model. Besides, the F value (19.635) was significant as shown by the p-value of 0.000. The f-calculated value was greater than the f-critical value from the f-distribution tables (3.913). This implies that the model was reliable in predicting the performance of water service boards in Kenya.

Table 14: Regression Coefficients (project evaluation)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.154	0.248		8.685	0.006
	Project evaluation	0.712	0.099	0.566	7.192	0.000

a. Dependent Variable: Performance

From the coefficients, the regression model obtained was;

$Y = 2.154 + 0.712X_4 + \varepsilon$.

This is an indication that a unit increase in project evaluation results in an increase in the performance of water service boards in Kenya by 0.712 units. The p-value (0.000) was less than the selected level of significance (0.05) indicating significance. We, therefore, reject the null hypothesis: "There is no significant influence of project evaluation as a project portfolio management practice on the performance of water service boards in Kenya."

Moderating Effect of Portfolio Risk Management on Relationship between Project Portfolio Management and Organizational Performance

Step-wise multiple regression analysis was conducted to establish the moderating effect of portfolio risk management on the relationship between project portfolio management practices and performance of water service boards in Kenya. The hypothesis tested was:

H_{05}: Portfolio risk management does not moderate the relationships between project portfolio management practice and performance of water service boards in Kenya

Table 15: Model Summary for Moderated Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.881[a]	.776	.772	0.13919
2	.884[b]	.781	.780	1.15021

a. Predictors: (Constant), project selection, resource allocation, portfolio control, and project evaluation

b. Predictors: (Constant), project selection, resource allocation, portfolio control, and project evaluation, X1*M, X2*M, X3*M, X4*M,

From the second model, the moderated model (model 2), the findings show that the value of the adjusted R square is 0.780. This indicates that 78% of variations in the performance of water service boards in Kenya can be explained by changes in moderated independent variables. The findings show that after the introduction of the moderating variable (portfolio risk management) the amount of variation in the dependent variable that can be explained by changes in independent

variables increased; from 0.772 to 0.780. The moderated variables are also seen to have strong positive relations with the performance of water service boards in Kenya as indicated by the correlation coefficient value of (R) 0.884.

Table 16: ANOVA for Moderated Regression Analysis

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	111.24	4	27.81	21.515	.000[b]
	Residual	165.504	128	1.293		
	Total	276.744	132			
2	Regression	102.232	8	12.779	9.659	.000[c]
	Residual	164.052	124	1.323		
	Total	266.284	132			

a. Dependent Variable: Performance

b. Predictors: (Constant), project selection, resource allocation, portfolio control, and project evaluation

c. Predictors: (Constant), project selection, resource allocation, portfolio control, and project evaluation, X1*M, X2*M, X3*M, X4*M,

This tested the significance of the moderated model. The significance was tested at a 5% level of significance. The findings presented in Table 16 show that the models had a significance level of 0.000; both models the un-moderated and the moderated models. From the findings, the F-calculated for the first model was 21.515 and the second model was 9.659. Since the F-calculated for the two models were more than the F-critical, 2.442 (first model) and 2.014 (second model), the two models were a good fit for the data and hence they could be used in predicting the moderating effect of portfolio risk management on relationship between project portfolio management practices and performance of water service boards in Kenya.

Table 17: Coefficients for Moderated Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.920	0.081		11.358	0.000
	Project Selection	0.388	0.084	0.032	4.619	0.029
	Resource Allocation	0.784	0.127	0.429	6.173	0.007
	Portfolio Control	0.335	0.073	0.231	4.589	0.021
	Project evaluation	0.205	0.049	0.209	4.184	0.030
2	(Constant)	0.625	0.085		7.353	0.001
	Project Selection	0.272	0.074	0.099	3.676	0.029
	Resource Allocation	0.664	0.178	0.363	3.730	0.025
	Portfolio Control	0.671	0.184	0.5	3.647	0.030
	Project evaluation	0.149	0.048	0.507	3.104	0.033
	X_1*M	0.346	0.032	0.094	10.813	0.000
	X_2*M	0.235	0.033	0.087	7.121	0.003
	X_3*M	0.379	0.068	0.807	5.574	0.019
	X_4*M	0.226	0.048	0.592	4.708	0.020

a. Dependent Variable: Performance

From the coefficients table, the following model was fitted;

$$\mathbf{Y= 0.625 + 0.346X_1*M+ 0.235X_2*M + 0.379X_3*M + 0.226X_4*M + \varepsilon}$$

The findings also show that moderated project selection (X_1 *M) has a positive significant influence on the performance of water service boards in Kenya (β=0.346, p=0.000). This suggests that the moderated variable has a significant influence on the performance of water service boards. The p-value was less than the selected level of significance (0.05) suggesting significance. We, therefore, reject the null hypothesis: "*Portfolio risk management does not moderate the relationships between project selection and performance of water service boards in Kenya"*.

The findings also show that moderated project evaluation (X_4 *M) has a positive significant influence on the performance of water service boards in Kenya (β=0.226, p=0.020). This suggests that the moderated variable has a significant influence on the performance of water service boards. The p-value was less than the selected level of significance (0.05) suggesting significance. We, therefore, reject the null hypothesis: "*Portfolio risk management does not moderate the relationships between project evaluation and performance of water service boards in Kenya"*.

SUMMARY OF FINDINGS

Influence of Project Selection and Prioritization on Organizational Performance

The study found that project selection and prioritization provides the opportunity to compare different scenarios through creations of different versions; it also prioritizes the projects in an orderly manner in each strategic or financial category and establishes an organizational focus, and it helps in elimination of efforts on product/project redundancies. Further, the study established that proper project selection and prioritization contributes to reducing time to market; it helps to compare projects and measurably compare each project's contribution to the organizational strategy; and that it helps in aligning each project to the strategy formulation. The study also established that project selection and prioritization influence organizational performance. Prioritization of projects gives the first-mover advantage, enabling them to reach customers before competition. It also helps in the successfully delivery of projects. Through project selection, the company can increase its Return on Investment because it enables it to weigh its projects based on their returns. It also helps enhance efficiency; this is because the company can invest effort upfront in the project pool and thus weed out any inefficiency that might arise in the future due to lack of sufficient capacity. Project selection and prioritization enhance strategic alignment with improves organization performance. Proper selection helps a company to remain on track with their goals. A standard selection approach helps the company to benchmark projects against well-defined criteria rather than use ad-hoc processes that lead to inconsistent approvals. This results in transparent downstream communication, as project managers get clarity on why a certain project was approved or rejected. The result is that performance of the company and project is enhanced.

Influence of Project Evaluation on Organizational Performance

This finding suggests that portfolio project evaluation influences organizational performance. The study established that project evaluation ensures the organization adheres to strategic focus; project evaluation helps to appraise viable projects through qualitative and quantitative analysis/feasibility study, and that project evaluation improves planning of projects and timelines are met. The study further established that project evaluation practice helps in eliminating plans of unyielding

projects/risk assessment; evaluation helps tracking and budgeting of projects to become much easier; and that adoption of this practice aids the organization to zero in on the right product project/relevance. Project evaluation helps the organization to identify whether or not the objectives and goals originally established are being achieved, as well as their expected effects and impact. It also guides in determining whether the organization is adapting to new environments, changing technology, and changes in other external variables to efficiently utilize the available resources. Evaluation is also helpful to the organization because it identifies areas that need to be improved, modified, or strengthened; and different modes to better fulfill the needs of the clients of the institute. Besides, through organization assessment, the financial data in the organization is furnished to justify the need for additional resources. Also, it helps keep the key activities on the right track and offers information that allows the setting of minimum standards to promote compliance with the organizational research process objectives

Moderating Effect of Portfolio Risk Management on Relationship between Project Portfolio Management and Organizational Performance

The study established that the success or failure of projects depends on portfolio risk; the company has laid down project management activities to control and mitigate portfolio risk; wrangles arising from stakeholders interest causes risks to project success and performance, and that adoption of project management software ensures seamless understanding of projects management team. The study findings agree with Eshna (2017) that well-planned projects may fail to achieve its goal, due to stakeholders conflicting interests. He added that it is important to have stakeholder's analysis that must be rigorously and systematically done, to control unexpected problems from arising and harm project continuity and subsequent performance. The study also concurs with Kuria (2016) that projects that employ computerized project management software technology as a tool for project planning, scheduling, resource allocation, and change management ensures seamless understanding of projects management team and stakeholders and thus allowing the common understanding of costs and quality management for the projects being undertaken.

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