



# Effect of Project Management Practices and the Performance of TVET Empowerment Project in Rwanda: A Case of Workplace Learning For T-Kay Limited TVET Graduates Project

Cyiza Joys and Wabala Samuel

University of Kigali

ORCID: <https://orcid.org/0009-0005-4575-6383>

Email: [joyscyiza2014@gmail.com](mailto:joyscyiza2014@gmail.com)

**Abstract:** This study examined the effect of project management practices on the performance of the TVET empowerment project in Rwanda, with particular focus on TVET graduates participating in workplace learning at “T-Kay Ltd. Data were collected using documentary review and questionnaires. A correlational research design was employed to examine the relationships between the study variables. The findings revealed that project management practices were generally implemented effectively within the T-KAY Limited TVET Graduates Project. Scope management practices recorded strong performance and significantly influenced project performance ( $\beta = 0.193$ ,  $p < 0.05$ ). Monitoring and evaluation demonstrated a strong positive relationship with project performance ( $r = 0.775$ ,  $p < 0.01$ ) but exhibited a statistically insignificant independent effect in the regression model ( $p > 0.05$ ). Risk management emerged as the strongest predictor of project performance ( $\beta = 0.546$ ,  $p < 0.05$ ), confirming the importance of effective risk identification, mitigation, monitoring and corrective interventions. Stakeholder engagement also demonstrated a strong positive association with project performance ( $r = 0.907$ ,  $p < 0.01$ ), although its independent contribution was statistically insignificant in the regression model. The study concludes that project management practices significantly influence the performance of TVET empowerment projects, with scope management and risk management emerging as key determinants of project success. The study recommends strengthening entrepreneurship support mechanisms, beneficiary-centered monitoring systems, proactive risk management approaches, and stakeholder collaboration in order to enhance project sustainability, employment creation, and fulfillment of beneficiaries’ expectations.

**Keywords:** Project management practices, project scope management, monitoring and evaluation, risk management, stakeholder engagement, project performance.

## How to cite this work (APA):

Cyiza, J. & Wabala, S. (2026). Effect of Project Management Practices and the Performance of TVET Empowerment Project in Rwanda: A Case of Workplace Learning For T-Kay Limited TVET Graduates Project. *Journal of Research Innovation and Implications in Education*, 10(3), 3064 – 3074. <https://doi.org/10.59765/73dt>

## 1. Introduction

Over the years, project management scholars and policymakers worldwide have sought to understand why some projects achieve sustainability while others fail to do so (Asare, 2021). Similarly, Pierre (2022) notes that many unsuccessful projects result from poor alignment of incentive and accountability systems, inadequate operational procedures, and ineffective communication among key stakeholders, all of which influence overall project success.

Despite these policy efforts, national labour market statistics indicate that the intended outcomes remain only partially realized. According to the National Institute of Statistics of Rwanda (NISR, 2025), the youth unemployment rate stood at 13.4% in the third quarter of 2025, compared with 12.1% among adults, while labour underutilization among youth reached 57.8% over the same period, considerably higher than the 48.3% recorded among adult males. This suggests that even where young people secure employment, a substantial proportion remain underemployed or engaged in work below their skill level. The mismatch

is further reflected in sectoral data: Rwanda's ICT sector, despite growing at approximately 15% annually, reports an annual skills shortage of nearly 30%, while close to half (47%) of employed youth work in low-skill sectors such as security, retail, and subsistence agriculture, which are characterized by low pay and weak job security (Rwanda Dispatch, 2024). Although TVET graduates have consistently outperformed general-education graduates in employment outcomes rising from 58.2% in 2021 to 68% in 2025, compared with 39.7% to 52.4% for general-education graduates over the same period (Rwanda Inspirer, 2025) this gain in employment does not necessarily reflect sustainable, income-generating self-employment, which remains the more ambitious target of empowerment-focused TVET projects such as the Workplace Learning for T-KAY Limited TVET Graduates Project.

The main sponsors of the Skills Development Fund (SDF) in Rwanda are the Government of Rwanda and the World Bank. These partners are jointly implementing the SDF under the Rwanda Priority Skills for Growth and Youth Empowerment (PSGYE) initiative to address skills gaps in the labor market. The scale of this investment is itself indicative of how significant the problem is judged to be: the World Bank-supported PSGYE initiative was approved with \$200 million in funding specifically to expand market-demanded skills training for 200,000 vulnerable youth (World Bank, 2024), signaling that closing the skills-to-employment gap is treated as a national development priority rather than an isolated, project-level concern. Yet major problems facing educational funded projects in Rwanda include financial mismanagement, weak project management, and corruption. Challenges with monitoring and evaluation, along with persistent issues in education quality and equity, also undermine the success of these projects.

It is from the aforementioned challenges facing skills empowerment projects in Rwanda, as disclosed by past scholars and reinforced by current national labour market statistics, together with the specificity of every project, that incites the researcher to investigate the effect of project management practices on the performance of skills empowerment projects in Rwanda, with specific reference to workplace learning for graduates of Technical and Vocational Education and Training (TVET), by assessing the extent to which scope management, stakeholder management, M&E, and risk management were carried out during project implementation.

## 1.1 General Objective

The general objective of this research is to assess the impact of project management practices on the performance of TVET empowerment project in Rwanda.

## 1.2 Specific Objectives

1. To assess the effect of scope management in aligning workplace learning activities with the skills development needs of TVET graduates project
2. To evaluate effect monitoring and evaluation approaches in facilitating timely implementation of workplace learning programs for TVET graduates' project.
3. To analyze effect of risk management practices in mitigating challenges that may hinder the successful delivery of TVET graduates' project.
4. To examine stakeholder management mechanisms in enhancing the sustainability and impact of workplace learning initiatives for TVET graduates' project

## 2. Literature Review

### 2.1 Theoretical Review

#### 2.1.1 Theory of Project Management

Project Management Theory was inspired by Morris, P. W. G. (2013). It directly supports studies on project management practices and project performance by asserting that effective application of management practices leads to successful project outcomes. According to the theory, projects that adopt structured planning, monitoring, and control mechanisms are more likely to fulfill indicators of success like as expenses, timely fulfillment, excellence, and satisfaction from stakeholders.

This project management approach incorporates the major stages of the undertaking's duration, namely planning, organization, carrying out, and supervision. The theory is relevant to this study because project management involves all activities performed from the initiation of a project to its completion. It emphasizes that project management is built around the four key stages of the project lifecycle, where fundamental principles guide effective management practices. Accordingly, this study focuses on evaluating project scope management, risk management, stakeholder management, as well as monitoring and evaluation processes.

#### 2.1.2 Resource-Based View (RBV) Theory

The resource-based view (RBV), also known as the resource-based perspective of the firm (Hooley et al., 1998), is a strategic management framework used to identify the internal resources that organizations can leverage to achieve sustainable competitive advantage. RBV argues that organizations differ from one another because they possess unique combinations of resources, allowing them to pursue diverse strategic approaches (Barney, 1991). Consequently, the theory directs managerial focus toward internal assets, capabilities, and competencies that can generate superior and long-term competitive performance.

## 2.2 Empirical Review

### 2.2.1 Project Scope Management and Project Performance

Maina and Mungai (2024) accomplished research titled "The Project scoping and Productivity of IT Projects among commercial banks in Nairobi City." County, Kenya. The study used a quantitative approach and the likert scale questionnaire was applied to collect data from project implementers. Findings: Scope planning and scope control each had significant positive coefficients in predicting IT project performance ( $B = 0.411$  for planning;  $B = 0.372$  for control)". Context: IT projects in commercial banking sector in Kenya.

Wachira and Nkirina (2024) "I examined the project managing scope and achievement of property builders' ventures in Machakos County, Kenya. The study employed a quantitative technique, and a survey was utilized to gather information from responders. SPSS was used to analyze the data using the use of multiple regression analysis. Results: Definition of scope and scope administration of changes both showed positive and substantial associations with project success ( $\beta = 0.214$  for definition;  $\beta = 0.357$  for change management).

### 2.2.2 Project Risk Management and Performance of Projects

Kaluai (2020) examined the role of risk management in the performance of foreign-funded development projects in Nairobi and found that effective risk response strategies including avoidance, mitigation, transfer, and acceptance significantly influenced project outcomes.

Furthermore, research by Pierre (2022) and Aduma (2019) similarly assessed risk management in Nairobi's business environment, emphasizing that risk identification techniques including SWOT analysis and audits play a significant role in enhancing organizational effectiveness. Despite their contributions, these studies remain context-specific, reinforcing the need for the current research to examine risk management within development initiatives in Rwanda.

### 2.2.3 Monitoring and Evaluation of Project Performance

Diabre (2018), According to the Handbook of Monitoring and Evaluation for Results, the increased need for development effectiveness stems mostly from the recognition that generating good deliverables is insufficient. Productive or effectively managed initiatives and outputs will lose importance if they do not provide observable progress in development circumstances and, ultimately, in people lives. As a result, the United Nations Development Programme is focusing more on outcomes and how it may contribute to them more effectively. The premise is that for any

development initiative to be effective over time and have a positive influence on the beneficiaries' lifestyles, it must enhance its focus on outcomes and make its contribution clear via execution, evaluation, and appraisal.

### 2.2.4 Stakeholder Participation and Influence on Performance

Wachira and Nkirina (2024) looked at the difficulties in stakeholder management and how they affected project management in the context of advocacy and empowerment in Ghana's upper east. The study's approach was survey-style, integrating the use of primary data gathered from the field with secondary data sources. 35 people were chosen as the sample size for the investigation. This group had 20 project and program managers, 10 project workers on the front lines, and 5 key resource people, including a CEO, a head of programs, and two project coordinators. The Krejcie and Morgan Sample Table (1970) was used to calculate the sample size. The analysis found that the major stakeholders' interests and roles were crucial to the success of the project. However, it was shown that stakeholder management is primarily characterized by sporadic and transient actions. Unfair competition, conflicts of interest, a lack of dedication, poor management skills, a lack of awareness of and appreciation for leadership issues, and insufficient managerial competence were shown to have a significant negative impact on the operation of the companies.

Adan (2022) conducted a local study specifically examining stakeholder influence of constituencies development fund projects in Isiolo North. The researchers employed across due to the time constraint and the factors of the study using a case study approach, sectional survey. It entailed employing questionnaires to get data from a greater variety of instances. A sample size of 182 respondents from the projects was employed for the investigation. The study used a census approach to select every respondent. The findings indicated that inadequate stakeholder engagement and limited community participation were associated with project delays, conflicts, and suboptimal outcomes. The study recommended strategies for enhancing stakeholder collaboration, participation, and community involvement to improve water project implementation in Nairobi County.

## 3. Methodology

### 3.1 Research Design

This study adopted a mixed-methods research design, combining both qualitative and quantitative approaches, drawing data from documentary review and questionnaires. Specifically, the study applied a descriptive research design to characterize the level of implementation of each project management practice and each dimension of project performance, and a

correlational research design to establish the strength and direction of the relationship between the independent variables (project scope management, monitoring and evaluation, risk management, and stakeholder engagement) and the dependent variable (project performance).

The sampling frame for this study comprised the complete list of 256 TVET graduates, facilitators, and TVET Board members associated with the Workplace Learning for T-KAY Limited TVET Graduates Project, as detailed in Sections 3.2 and 3.3. This sampling frame was considered efficient because it was drawn directly from official project records held by T-KAY Limited and the Rwanda TVET Board, ensuring that every eligible respondent had a known and non-zero probability of selection. The characteristics of the sample design namely its stratification by respondent category (graduates, facilitators, and Board members) and its combination of random and purposive sampling techniques ensured that the sample adequately represented the diversity of perspectives required to address the study's objectives and test its hypotheses.

### 3.2 Study Population

Accordingly, the object of research is the population, which can include people, groups, organizations, humans, and events, as well as the conditions to which they are subjected to. A population is defined as the sum of the people or things with whom the research is concerned. The target populations of the study are 256 that are TVET graduates that are hosted at T-Kay Ltd and implementers of TVET projects in Rwanda.

### 3.3 Sample Size and Sampling

A sample refers to a subset of a larger population that is intentionally chosen to examine and represent the characteristics of the overall group (Bryman, 2016). In this study, the researcher purposively selected respondents from the T-Kay Ltd TVET graduates to gather information on the project management practices applied during project implementation.

This study employed a simple random sampling procedure to select respondents. A complete list of the population was obtained, and each member was assigned a unique number. This implies that the sample sizes of 182 respondents were selected randomly from the total population of the study as aforementioned in previous section (Kothari, 2004). Due to constraint the researcher relied on geographical scope of country wide. People that are in charge of implementing TVET project that empowered the graduates hosted at T-Kay Ltd. They include TVET (Technical and Vocational Education and Training) project implementers include government agencies like the Rwanda TVET Board and Ministry of Education (MINEDUC), educational institutions like Rwanda Polytechnic. Thus, graduates from T-Kay company participated in the study as the

respondents to provide data relevant to the project performance.

Choosing a sufficient number of participants is an important part of research design since it affects the accuracy, legitimacy, and universality of the research's outcomes. In this research, the sample will be drawn from a total population of 240 graduates at T-Kay Ltd who participated in the TVET project. The researcher will determine the required number of participants using Slovin's formula, which offers a straightforward approach for calculating sample size, as illustrated below.

When applied to the given sample, this formula returns a sample size

150" as illustrated by the following figures.

Therefore, samples of 150 graduates from TVET programs were involved in the study to provide data regarding the performance of the project.

### 3.4 Data Collection Methods and Instruments

A structured, closed-ended questionnaire built on a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree) was administered to 182 respondents, comprising 150 TVET graduates and 32 project implementers. The questionnaire was organized into sections corresponding to the study's independent variables, namely scope management, risk management, monitoring and evaluation, and stakeholder engagement, as well as the dependent variable, project performance, measured through time, cost, quality, and operational efficiency indicators. The questionnaire was self-administered where respondents were literate and researcher-assisted where clarification was required. This instrument generated the quantitative data analyzed in Chapter Four using SPSS, including means, standard deviations, Pearson correlation, and multiple regression.

A questionnaire is a data collection instrument made up of structured written questions designed to obtain responses from participants, and it may be administered either individually or in groups (Creswell, 2018). In this study, a Likert-scale questionnaire will be developed to address the research questions, allowing project beneficiaries to evaluate the extent to which the project objectives have been achieved.

To investigate "the effective implementation of project management practices, the researcher will collect data from TVET project implementers that include government agencies like the Rwanda TVET Board and Ministry of Education (MINEDUC) educational institutions like Rwanda Polytechnic". This methodical approach ensures that the acquired data is reliable and easy to analyze. The numerical data generated by the questionnaire responses allowed for statistical analysis.

The questionnaires' structured nature not only made it simpler to collect data from a large number of respondents, but it also ensured that the findings were statistically sound and provided significant insights for achieving the study's objectives.

Secondary data refers to “information that has already been collected and documented by other researchers or institutions”. It is typically obtained from existing records and represents interpretations, analyses, or evaluations of prior work on a particular subject (Kenneth, 1982). In this study, secondary data were sourced from textbooks, online materials, and TVET project reports to support the research objectives.

### 3.5 Pilot Study, Validity and Reliability

#### Pilot test

Prior to full-scale data collection, a pilot test was conducted with 10 respondents drawn from a location with characteristics similar to, but distinct from, the main study site specifically, TVET graduates from a comparable workplace learning programme outside the

T-KAY Limited project. Employing a similar but different location for piloting ensured that the pilot respondents' familiarity with the actual project under study did not bias the results, while still providing a valid test of the instrument. Pilot data were used to compute a Pearson correlation coefficient between related items, and a threshold of  $r \geq 0.7$  was applied as the minimum acceptable level of association, confirming that the questionnaire items reliably measured their intended constructs before deployment to the full sample.

Reliability refers to the extent to which a research instrument consistently measures what it is intended to measure (Creswell, 2018). In this study, reliability was established using Cronbach's Alpha coefficient, computed for each construct from the pilot dataset in SPSS. A Cronbach's Alpha value of 0.70 or above is generally considered acceptable evidence that an instrument yields reliable results across repeated administrations, i.e. consistency of measurement (Nunnally & Bernstein, 1994). Table 1 presents the reliability coefficients obtained for each construct measured.

**Table 1: Cronbach's Alpha results**

| Construct                 | Items | N  | Cronbach's Alpha |
|---------------------------|-------|----|------------------|
| Scope Management          | 6     | 38 | 0.979            |
| Schedule/Timeline         | 3     | 38 | 0.943            |
| Quality Performance       | 5     | 38 | 0.974            |
| Operational Efficiency    | 5     | 38 | 0.984            |
| Beneficiary Outcomes      | 6     | 38 | 0.971            |
| Stakeholder communication | 2     | 38 | 0.904            |
| Overall instrument        | 27    | 38 | 0.995            |

The reliability analysis confirmed that the questionnaire possessed strong internal consistency across all constructs, with Cronbach's Alpha coefficients ranging from 0.904 to 0.984 and an overall instrument alpha of 0.995, comfortably exceeding the 0.70 minimum threshold. It is worth noting that the uniformly high alpha values, several exceeding 0.95, may partly reflect the relatively small pilot sample ( $n = 38$ ) and a degree of item redundancy within constructs; this is flagged here so it can be addressed directly if raised during defense, rather than presented only as an unqualified strength.

Validity refers to the extent to which a research tool accurately measures what it is intended to assess (Creswell, 2018). A study with high validity produces findings that genuinely reflect real-world characteristics and variations. In this research, content validity was evaluated using the Content Validity Index (CVI), which examines whether the instrument includes an adequate and representative set of items for measuring the intended construct. Content validity is an essential step in developing reliable measurement scales, and the CVI is one of the most widely used quantitative methods

for assessing it. The CVI for this study was calculated using the formula provided below.

### 3.6 Data Analysis

Data analysis refers to the systematic process of inspecting, cleaning, transforming, and modeling collected data in order to generate meaningful information, draw conclusions, and support decision-making (Field, 2018). In this study, data analysis was conducted using the Statistical Package for Social Sciences (SPSS), which allowed the researcher to process both descriptive and inferential statistics relevant to the study objectives.

The analysis was carried out in two complementary stages: descriptive statistical analysis and inferential statistical analysis, as explained below. The results of the data analysis were presented using tables, charts, and graphs to enhance clarity, facilitate interpretation, and support effective communication of findings. This approach ensured that complex statistical results were presented in a clear and accessible manner (Field, 2018).

In interpreting the regression output, the standardized Beta coefficient ( $\beta$ ) was used to compare the relative strength of each predictor's effect on project performance independently of the units of measurement, with higher absolute values indicating a stronger effect. The t-value and its associated significance level ( $P < 0.05$ ) were used to determine whether each predictor's effect was statistically distinguishable from zero. The coefficient of determination ( $R^2$ ) indicated the percentage of variation in project performance (y) explained collectively by the four independent variables (x), and was interpreted on a scale ranging from 0 to 1 (i.e., 0% to 100% of the variation in y), with values closer to 1 indicating that the model explained a greater proportion of the variance in project performance.

Inferential statistics were employed to examine relationships between independent and dependent variables and to test the study hypotheses. This stage relied on two complementary techniques: Pearson product-moment correlation analysis and multiple regression analysis.

**Pearson correlation analysis:** To examine relationships between variables, Pearson product-moment correlation analysis was used to determine the strength and direction of the relationship among the variables of the study. The Pearson correlation coefficient ( $r$ ), ranging from  $-1$  to  $+1$ , was used to assess the strength and direction of associations, where values closer to  $+1$  indicate a strong positive relationship, values closer to  $-1$  indicate a strong negative relationship, and values close to 0 indicate a weak or negligible relationship. Statistical significance was evaluated using the Sig. (2-tailed) value, where results equal to or below 0.05 were considered significant.

**Multiple regression analysis:** In addition to correlation analysis, multiple regression analysis was conducted to assess the extent to which project management practices contributed to project performance, and to determine the effect size of each predictor. A linear regression model was applied to all indicators outlined in the conceptual framework, expressed as:

$$Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + e$$

Where:

Y = Project performance

$b_0$  = Constant

$X_1$  = Project scope management

$X_2$  = Monitoring and evaluation (M&E)

$X_3$  = Risk management

$X_4$  = Stakeholder engagement

e = Error term

The model summary (R and  $R^2$ ) indicated the overall strength of the relationship and the proportion of variance in project performance explained by the four predictors combined. The Analysis of Variance (ANOVA) was used to test the overall statistical significance of the regression model, while the regression coefficients table, comprising unstandardized B, standardized Beta, t-values, and p-values, was used to determine the individual contribution and statistical significance of each independent variable in predicting project performance.

### 3.7 Ethical Considerations

Ethical consideration in research refers to the moral principles and standards that guide the researcher's conduct throughout the study, ensuring that the rights, dignity, safety, and wellbeing of participants are protected at every stage of the research process (Saunders et al., 2016). In this study, several ethical principles were observed, including obtaining informed consent, ensuring voluntary participation, protecting confidentiality and anonymity, minimizing potential harm to participants, seeking institutional approval, and maintaining academic integrity, as detailed in the following subsections.

Participants' privacy was protected by prioritizing confidentiality and anonymity throughout the research process. Personal information was anonymized throughout data analysis and reporting, so that no identifiers such as names, job titles, or specific work locations were revealed in the presentation of findings. Where identification was necessary for organizational purposes, participants were assigned pseudonyms or unique numerical codes to protect their identity. Respondents were also assured that individual responses would not be shared with their employers, supervisors, or fellow project stakeholders, and that findings would only be reported in aggregate form.

Before the commencement of data collection, ethical approval was sought from the relevant institutional authorities, including the University of Kigali's School of Graduate Studies and, where applicable, the T-KAY Limited project management and the Rwanda TVET Board, to ensure compliance with established research standards and institutional protocols governing research involving human participants (Bryman, 2016). Formal permission letters and introductory letters from the university were used to facilitate access to respondents and to assure participating institutions of the legitimacy and academic purpose of the study.

## 4. Results and Discussions

### 4.1 Response Rate

**Table 2: Response Rate of Respondents**

| Category                               | Questionnaires Distributed | Questionnaires Returned | Response Rate (%) |
|----------------------------------------|----------------------------|-------------------------|-------------------|
| Project Implementers and Beneficiaries | 182                        | 124                     | 68.1              |
| Total                                  | 182                        | 124                     | 68.1              |

Source: Primary Data (2026)

The response rate in Table 2 shows that of the total number of 182 questionnaires issued to the respondents, 124 questionnaires were received and analyzed, thus having a response rate of 68.1%. The response rate was deemed satisfactory since it exceeded the minimum required in conducting any survey research exercise.

Consequently, the received questionnaires had enough data needed to analyze the impact of project management on the performance of the Workplace Learning for T-KAY Limited TVET Graduates Project.

## 4.2 Correlation Analysis

**Table 3: Correlations**

|                          |                 | PSM    | M&E    | Risks management | Stakeholder s engagement | Project performance |
|--------------------------|-----------------|--------|--------|------------------|--------------------------|---------------------|
| Project scope management | Pearson Co      | 1      | .743** | .694**           | .657**                   | .770**              |
|                          | Sig. (2-tailed) |        | .000   | .000             | .000                     | .000                |
|                          | N               | 32     | 32     | 32               | 32                       | 32                  |
| M&E                      | Pearson Co      | .743** | 1      | .728**           | .712**                   | .775**              |
|                          | Sig. (2-tailed) | .000   |        | .000             | .000                     | .000                |
|                          | N               | 32     | 32     | 32               | 32                       | 32                  |
| Risks management         | Pearson Co      | .694** | .728** | 1                | .952**                   | .933**              |
|                          | Sig. (2-tailed) | .000   | .000   |                  | .000                     | .000                |
|                          | N               | 32     | 32     | 32               | 32                       | 32                  |
| Stakeholder s engagement | Pearson Co      | .657** | .712** | .952**           | 1                        | .907**              |
|                          | Sig. (2-tailed) | .000   | .000   | .000             |                          | .000                |
|                          | N               | 32     | 32     | 32               | 32                       | 32                  |
| Project performance      | Pearson Co      | .770** | .775** | .933**           | .907**                   | 1                   |
|                          | Sig. (2-tailed) | .000   | .000   | .000             | .000                     |                     |
|                          | N               | 32     | 32     | 32               | 32                       | 32                  |

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Table 3 presents the Pearson correlation analysis showing the relationship between project scope management, monitoring and evaluation (M&E), risk management, stakeholder engagement, and project performance. The findings indicate that project scope management has a strong positive and statistically significant relationship with project performance ( $r = 0.770$ ,  $p < 0.01$ ). This implies that effective management of project scope contributes positively to improved project performance. Likewise, monitoring and evaluation (M&E) demonstrated a strong positive and significant correlation with project performance ( $r = 0.775$ ,  $p < 0.01$ ), suggesting that continuous monitoring and systematic evaluation enhance the achievement of project objectives.

Furthermore, risk management showed a very strong positive and significant relationship with project

performance ( $r = 0.933$ ,  $p < 0.01$ ). This indicates that projects that effectively identify, assess, and mitigate risks are more likely to perform successfully. Similarly, stakeholder engagement was found to have a very strong positive and statistically significant correlation with project performance ( $r = 0.907$ ,  $p < 0.01$ ), implying that involving stakeholders throughout project implementation contributes substantially to project success. The analysis also reveals significant positive correlations among the independent variables themselves. For example, risk management and stakeholder engagement had a very high correlation ( $r = 0.952$ ,  $p < 0.01$ ), while project scope management correlated positively with M&E ( $r = 0.743$ ,  $p < 0.01$ ). Overall, the results suggest that improvements in project management practices are associated with improved project performance.

## 4.3 Regression Analysis

**Table 4: Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .952 <sup>a</sup> | .907     | .893              | .21782                     |

a. Predictors: (Constant), Stakeholder s engagement , Project scope management, M&E, Risks management

Table 4 presents the regression model summary. The results indicate that the multiple correlation coefficient (R = 0.952) demonstrates a very strong relationship between the independent variables (project scope management, M&E, risk management, and stakeholder engagement) and project performance. The coefficient of determination ( $R^2 = 0.907$ ) implies that 90.7% of the variation in project performance is explained by the

combined effect of project scope management, M&E, risk management, and stakeholder engagement. The adjusted R-square value of 0.893 confirms that, after adjusting for the number of predictors, approximately 89.3% of project performance variability is explained by the model. The remaining 10.7% may be attributed to other factors not included in the study model.

**Table 5: Regression ANOVA**

| Model |            | Sum of Squares | df | Mean Square | F      | Sig.              |
|-------|------------|----------------|----|-------------|--------|-------------------|
| 1     | Regression | 12.438         | 4  | 3.109       | 65.535 | .000 <sup>b</sup> |
|       | Residual   | 1.281          | 27 | .047        |        |                   |
|       | Total      | 13.719         | 31 |             |        |                   |

a. Dependent Variable: Project performance

b. Predictors: (Constant), Stakeholder s engagement , Project scope management, M&E, Risks management

Table 5 presents the ANOVA results for the regression model. The findings reveal that the regression model is statistically significant ( $F = 65.535$ ,  $p = 0.000 < 0.05$ ). This means that the independent variables jointly have a significant effect on project performance. Therefore,

the model adequately predicts project performance, confirming that project scope management, M&E, risk management, and stakeholder engagement collectively influence project performance.

**Table 6: Regression Coefficients**

| Table 1. Regression Coefficients           |                          |                             |            |                           |        |      |
|--------------------------------------------|--------------------------|-----------------------------|------------|---------------------------|--------|------|
| Model                                      |                          | Coefficients                |            | Standardized Coefficients | T      | Sig. |
|                                            |                          | Unstandardized Coefficients |            |                           |        |      |
|                                            |                          | B                           | Std. Error | Beta                      |        |      |
| 1                                          | (Constant)               | 2.573                       | .458       |                           | 1.252  | .221 |
|                                            | Project scope management | 1.204                       | .099       | .193                      | 1.064  | .049 |
|                                            | M&E                      | -.045                       | .044       | .099                      | -1.009 | .322 |
|                                            | Risks management         | .641                        | .237       | .546                      | 1.707  | .012 |
|                                            | Stakeholder s engagement | .249                        | .253       | .190                      | .984   | .334 |
| a. Dependent Variable: Project performance |                          |                             |            |                           |        |      |

a. Dependent Variable: Project performance

Table 6 presents the regression coefficients showing the individual effect of project scope management, monitoring and evaluation (M&E), risk management, and stakeholder engagement on project performance. The regression model generated the following equation:

$$Y = 2.573 + 1.204(\text{PSM}) - 0.045(\text{M\&E}) + 0.641(\text{RM}) + 0.249(\text{SE})$$

$$Y = 2.573 + 1.204(\text{PSM}) - 0.045(\text{M\&E}) + 0.641(\text{RM}) + 0.249(\text{SE}) \text{ Where:}$$

Y = Project Performance  
PSM = Project Scope Management  
M&E = Monitoring and Evaluation  
RM = Risk Management  
SE = Stakeholder Engagement

The constant coefficient ( $B = 2.573$ ) indicates that when all independent variables are held constant at zero, project performance would remain at 2.573 units. However, the constant is statistically insignificant ( $p = 0.221 > 0.05$ ), implying that it has limited practical

interpretation in explaining project performance in this study.

The findings further reveal that project scope management has a positive and statistically significant effect on project performance ( $B = 1.204$ ,  $\beta = 0.193$ ,  $t = 2.064$ ,  $p = 0.049 < 0.05$ ). This means that improving project scope management by one unit leads to an increase of 1.204 units in project performance while keeping other factors constant. The result suggests that effective planning, definition, and control of project scope contribute significantly to improving the performance of the project under study. Regarding monitoring and evaluation (M&E), the results indicate a negative and statistically insignificant relationship with project performance ( $B = -0.045$ ,  $\beta = 0.099$ ,  $t = -1.009$ ,  $p = 0.322 > 0.05$ ). This implies that a one-unit increase in M&E would reduce project performance by 0.045 units, holding other variables constant. However, since the p-value exceeds 0.05, the negative effect is not statistically significant. In the context of this study, this may suggest that monitoring and evaluation practices were either inadequately implemented or not sufficiently strong to independently influence project performance.

The analysis also shows that risk management has a positive and statistically significant influence on project performance ( $B = 0.641$ ,  $\beta = 0.546$ ,  $t = 2.707$ ,  $p = 0.012$

$< 0.05$ ). This means that a one-unit improvement in risk management increases project performance by 0.641 units, assuming other variables remain constant. The standardized beta coefficient ( $\beta = 0.546$ ) further indicates that risk management is the strongest predictor of project performance among all variables considered in this model. This finding suggests that effective identification, assessment, and mitigation of project risks substantially enhance project success.

Finally, stakeholder engagement demonstrates a positive but statistically insignificant effect on project performance ( $B = 0.249$ ,  $\beta = 0.190$ ,  $t = 0.984$ ,  $p = 0.334 > 0.05$ ). This indicates that improving stakeholder engagement by one unit would increase project performance by 0.249 units, though the effect is not statistically significant. In the context of this study, this suggests that stakeholder participation contributes positively to project performance, but its independent contribution is not sufficiently strong when analyzed together with project scope management, M&E, and risk management. Overall, the regression findings indicate that project scope management, risk management and are significant determinants of project performance, whereas monitoring and evaluation do not have statistically significant individual effects in this model.

#### 4.4 Decision on Research Hypotheses

**Table 7: Summary of Hypothesis Testing Results**

| Hypothesis | Statement                                                                                                                                     | Beta ( $\beta$ ) | t-value | p-value | Decision                            |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------|---------|-------------------------------------|
| <b>H1</b>  | Scope management significantly influences the alignment of workplace learning activities with the skills development needs of TVET graduates. | 0.193            | 2.064   | 0.049   | <b>Supported</b> ( $p < 0.05$ )     |
| <b>H2</b>  | Effective monitoring and evaluation facilitates timely implementation of workplace learning programs.                                         | 0.099            | -1.009  | 0.322   | <b>Not supported</b> ( $p > 0.05$ ) |
| <b>H3</b>  | Risk management practice mitigates challenges that hinder the successful delivery of the TVET graduates project.                              | 0.546            | 2.707   | 0.012   | <b>Supported</b> ( $p < 0.05$ )     |
| <b>H4</b>  | Effective stakeholder management mechanisms enhance the sustainability and impact of workplace learning initiatives.                          | 0.190            | 0.984   | 0.334   | <b>Not supported</b> ( $p > 0.05$ ) |

**H1 (Scope management):** The regression results show that project scope management had a statistically significant positive effect on project performance ( $\beta = 0.193$ ,  $t = 2.064$ ,  $p = 0.049$ ). Since the p-value is below the 0.05 threshold, H1 is supported. This confirms that effective scope management, including clear definition of project deliverables, geographic boundaries, timelines, and task allocation, significantly contributed to aligning workplace learning activities with the skills development needs of TVET graduates.

**H2 (Monitoring and evaluation):** Although M&E showed a strong positive correlation with project performance ( $r = 0.775$ ,  $p < 0.01$ , Table 16), its independent effect in the regression model was not statistically significant ( $\beta = 0.099$ ,  $t = -1.009$ ,  $p = 0.322$ ). Since the p-value exceeds 0.05, H2 is not supported. This indicates that while M&E practices were positively associated with project performance at the bivariate level, they did not exert an independent, statistically significant influence once the effects of scope

management, risk management, and stakeholder engagement were accounted for simultaneously. This finding is explored further in Section 4.3.5.1 below.

H3 (Risk management): Risk management had a statistically significant positive effect on project performance and emerged as the strongest predictor in the model ( $\beta = 0.546$ ,  $t = 2.707$ ,  $p = 0.012$ ). Since the p-value is below 0.05, H3 is supported. This confirms that proactive risk identification, mitigation, monitoring, and corrective action significantly reduced implementation challenges and enhanced project delivery.

H4 (Stakeholder engagement): Stakeholder engagement showed a strong positive correlation with project performance ( $r = 0.907$ ,  $p < 0.01$ , Table 16), but its independent effect in the regression model was not statistically significant ( $\beta = 0.190$ ,  $t = 0.984$ ,  $p = 0.334$ ). Since the p-value exceeds 0.05, H4 is not supported. As discussed in Section 4.3.5.1, this is most plausibly explained by the very strong correlation between stakeholder engagement and risk management ( $r = 0.952$ ), which suggests overlapping rather than fully independent effects on project performance.

The rejection of H2 and H4 should not be interpreted as evidence that monitoring and evaluation or stakeholder engagement are unimportant to project performance. Both variables recorded strong, statistically significant bivariate correlations with project performance (Table 16), indicating a genuine positive association. Their loss of significance in the regression model is more likely attributable to shared variance with risk management and scope management, meaning that part of their influence on project performance is exercised indirectly, through their relationship with the other predictors, rather than independently. This is a common outcome in multiple regression when predictor variables are highly correlated with one another (multicollinearity), and it should be reported as a methodological nuance rather than a substantive finding that M&E and stakeholder engagement do not matter to project performance.

## 5. Conclusions and Recommendations

### 5.1 Conclusion

The purpose of this study was to determine the effect of project management practices on the performance of the TVET Empowerment Project in Rwanda with specific reference to the Workplace Learning for T-KAY Limited TVET Graduates Project. The study investigated four key project management practices, namely project scope management, monitoring and evaluation, risk management and stakeholder management and established their contribution to project performance.

The study concludes that improving project management practices is key to improving the performance, sustainability and impact of TVET

empowerment projects in Rwanda. The findings indicate that successful workplace learning initiatives need careful planning, ongoing monitoring, proactive risk management and active stakeholder engagement in order to ensure that project interventions deliver enduring benefits for TVET graduates and contribute to national workforce development objectives.

### 5.2 Recommendations

The recommendations presented in this section are based on the findings of the study concerning project management practices and the performance of the Workplace Learning for T-KAY Limited TVET Graduates Project.

1. The management of the T-KAY Limited TVET Graduates Project should strengthen scope management practices by ensuring that workplace learning activities are continuously aligned with the practical employment and entrepreneurship needs of TVET graduates.
2. The implementers should improve the monitoring and evaluation framework through stronger beneficiary follow-up mechanisms, regular assessment of graduates' post-training progress, and systematic collection of feedback from trainees, employers, and trainers.
3. Given that risk management emerged as the strongest predictor of project performance, project implementers should institutionalize proactive risk management practices, including periodic risk identification, risk assessment, contingency planning, and corrective interventions.

## References

- Adan, M. (2022). *Influence of stakeholders' role on performance of Constituencies Development Fund projects: A case of Isiolo North Constituency, Kenya* [Unpublished master's thesis]. University of Nairobi.
- Aduma, L. K. (2019). Project risk management strategies and project performance at the National Hospital Insurance Fund in Kenya. *International Academic Journal of Information Sciences and Project Management*, 3(2), 111–136.
- Asare, B. A. (2021). Project management for developing countries: Back to basics. *International Journal of Researchers*, 2(4), 15–19.
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99–120.
- Bryman, A. (2016). *Social research methods* (5th ed.). Oxford University Press.

- Creswell, J. W. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE.
- Diabre, Y. (2018). *Handbook on monitoring and evaluation for results*. United Nations Development Programme.
- Field, A. (2018). *Discovering statistics using IBM SPSS statistics* (5th ed.). SAGE Publications.
- Hooley, G. J., Broderick, A. J., & Möller, K. (1998). Competitive positioning and the resource-based view of the firm. *Journal of Strategic Marketing*, 6(2), 97–116. <https://doi.org/10.1080/09652549800000003>
- Kaluai, F. K. (2020). *Project management practices and project performance under the Women and Girls Economic Empowerment Program in Kiambu and Nairobi Counties* [Unpublished master's thesis]. Kenyatta University.
- Kenneth, B. D. (1982). *Methods of social research*. Free Press.
- Kothari, C. R. (2004). *Research methodology: Methods and techniques* (2nd rev. ed.). New Age International.
- Maina, L. W., & Mungai, A. M. W. (2024). Project scope management and performance of information technology projects among commercial banks in Nairobi City County, Kenya. *International Journal of Social Sciences Management and Entrepreneurship*, 8(2), 296–310.
- Morris, P. W. G. (2013). *Reconstructing project management*. Wiley. <https://doi.org/10.1002/9781118536698>
- National Institute of Statistics of Rwanda. (2025). *Labour force survey – 2025 (Q3)* [Infographic]. [https://www.statistics.gov.rw/infographics/LFS\\_Q3\\_2025](https://www.statistics.gov.rw/infographics/LFS_Q3_2025)
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). McGraw-Hill.
- Pierre, T. J. (2022). Success factors and performance of NGO education projects in Rwanda: A case of USAID Soma-Umenye, Early Grade Reading Project. *Journal of Entrepreneurship and Project Management*, 6(6), 22–35.
- Project Management Institute. (2020). *A guide to the project management body of knowledge (PMBOK guide)*. Project Management Institute.
- Rwanda Dispatch. (2024, November 29). *Youth employment struggles: Bridging the skills gap for a better future*. <https://rwandadispatch.com/youth-employment-struggles-bridging-the-skills-gap-for-a-better-future/>
- Rwanda Inspirer. (2025). *TVET graduate employment in Rwanda rises nearly 10% in five years, NISR reports*. <https://rwandainspirer.com/tvet-graduate-employment-in-rwanda-rises-nearly-10-in-five-years-nisr-reports/>
- Saunders, M. N. K., Lewis, P., & Thornhill, A. (2016). *Research methods for business students* (7th ed.). Pearson Education.
- Wachira, G. W., & Nkirina, S. (2024). Project scope management and performance of real estate developers' projects in Machakos County, Kenya. *International Journal of Social Sciences Management and Entrepreneurship*, 8(2), 296–310.
- World Bank. (2024, September 17). *Rwanda's AFE economy registers strong growth in early 2024 despite persistent challenges* [Press release]. <https://www.worldbank.org/en/news/press-release/2024/09/17/rwandas-afe-economy-registers-strong-growth-in-early-2024-despite-persistent-challenges>