

INFLUENCE OF PROJECT IDENTIFICATION PROCESS ON PROJECT PERFORMANCE: A CASE OF SELECTED TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING PROJECTS (TVET) IN BUGESERA DISTRICT.

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ABSTRACT

The main problem with most projects is that the selection process of the project idea is grossly mishandled leading to the formulation of wrong interventions that do not address the needs of the major stakeholders, most project practitioners present their own perceived problems and interventions that do not reflect the realities on the ground. This study therefore sought to establish the influence of the Project Identification Process on the Performance of the TVET Project in Bugesera District. The four main objectives of the study were; to determine the influence of stakeholder involvement on the performance of the TVET project, to determine the influence of problem analysis process on the performance of the TVET project, to determine the influence of objectives analysis on the performance of the TVET project and to determine the influence of risk management analysis on the performance of the TVET project. The study adopted descriptive survey research design. Primary data was collected using questionnaires from a target population one hundred and fifty respondents who will comprise of 80 program management staff, 35 project team and 35 project beneficiaries. A sample of 110 was determined using Yamane's formula where simple random sampling approach will be used for the programme management staff and project team while the purposive sampling technique will be used to select the project beneficiaries, this generated a sample of ninety-four respondents. A questionnaire was used to collect the required data from the respondents; the questionnaire will be physically administered to the programme management staff, project staff and beneficiaries. Data collected will be analyzed through SPSS version 21. Data analyzed was reported using frequencies presented in tables, percentages, pie-charts and histograms. Qualitative data will be incorporated in research findings based on reviewed literature and field experiences. The study revealed that risk management during project identification process influenced TVET project performance. The study established that existence of plan on how to monitor and control the potential risk to the project influences project performance to a moderate extent. The study concluded that stakeholder 's involvement has a significant influence on project performance. The study concluded that effective objective analysis during the TVET Project identification process had a positive impact of TVET project performance while poor project problem analysis would hinder conversion of problems into desired situation for the community. The study concluded that project risk management during project identification process influenced TVET project performance. The study concluded that project identification process influenced completion of project within the provided budget and scheduled time to a moderate extent and completion of the project within the desired quality, and meeting customer satisfaction and sustainability of TVET project to a moderate extent. The study recommends that management in project management should enhance stakeholder involvement during project initiation stage, enhance stakeholder mapping as well as stakeholder analysis tool as this would influence project management. The study recommends that management in project should enhance problem analysis process through proper project problem analysis, assessing factors contributing to community problem and involve stakeholder forum in problem analysis and identifying the community problems. This study further recommends that in management of community projects, management should enhance project risk management during project identification process as it impacts positively on project performance.

Key words: *objectives analysis, problem analysis process, stakeholder involvement, risk management analysis, performance of the TVET Projects*

1.1 Introduction

Recent studies show that many organizations have been trying to implement their corporate strategies through projects (Srivannaboon & Milosevic, 2006), and that projects under implementation commonly have little or no apparent link to the corporate strategies and goals (Englund & Graham, 1999). Hence, identifying right projects and right mix of projects for the organization is considered as one of the most important tasks for the organization to ensure the achievement of the results within limited resources and capabilities of the organization (Englund & Graham, 1999). Many discussions in the literature reveal that the right sets of projects for implementation of corporate strategies are importantly resulted from successful identification of project portfolio (PMI, 2006).

Project identification is a process of evaluating individual project or group of projects, and then choosing them so that the objectives of the organization will be achieved (Meredith & Mantel, 2003). Projects should be linked to the right goals and impact at least one of the major stakeholder's issues e.g. growth acceleration, cost reduction, social impact, or cash flow improvement. (Kumar, Saranga, Nowicki & Rami' rez-Ma' rquez, 2007). A good project identification is a process itself, if properly carried out, potential benefits to beneficiaries can improve substantially (Pande, Neuman, & Cavanagh, 2000). Project identification may also be related to the project implementation; by contributing to project success and not only to efficiency of the project processes, and supports development of the project culture in the organization.

Studies from researchers have proposed project selection process models, tools, and key elements in six sigma project selection producing a variety of models (Pyzdek, 2003). Because of dynamics of business environment directing us to manage business activities as projects, it often occurs that many of projects are managed parallel at the same time.

Successful organizations do not focus only on results but also on processes (Gošnik, 2008). The lack of market aspects of products can lead to defining wrong project objectives which are not focused on beneficiaries and consequently to unsuccessful end products (Gošnik, 2005). Partial views on the project are related with many risks, as well. Organization 's management has a crucial role in customer focused project management. It enables us to manage projects empowered by high degree of information exchange and to connect different key elements aiming at project performance. According to Thomas, Delisle, Jugdev, and Buckle (2001), 30% of all projects are canceled midstream, while over 50% of completed projects end in up to 190% over budget and 220% late because of the poor handling of the project identification process.

In spite of Rwanda great geographic, economic, cultural and demographic diversity, it shares many common challenges and issues that are fundamental to improving the quality and relevance of TVET to gain a competitive edge in the market economy of the 21st century. Rwanda must consider a coherent strategy for human capital development in which TVET plays an important role. However, to effectively tackle this problem, human resource development plans must be clearly cast within, and simultaneously linked to, the economic development vision of Rwanda. The success of TVET in any developing country can be considered a key indicator of the country's advancement in development. Any country that evolved into a technological advanced one, TVET must have played an active and vital role, as skilled manpower would have been required, also to enable its sustainability. In Rwanda, Science and Technology in education is also emerging as a key priority area within the sector, recognizing its role in human resource development for Rwanda. This forward-looking plan, based on declared targets and indicators is an instrument to make the Education Sector Policy operational and is designed to assist in reducing poverty within Rwanda while creating a foundation for our vision of economic development based upon applications of development skills and technology.

This study therefore shall seek consider the link between the project identification process and the performance of the projects, by studying the performance of the TVET project as the dependent variable and the stakeholder involvement, the problem analysis process, objectives analysis and the risk management analysis as the independent variables. Other intervening variables are expected to play a crucial role in the performance of the TVET projects including TVET infrastructure in study.

1.2 Statement of the Problem

A problem well stated is a problem half solved as noted by Thomas, Delisle, Jugdev, and Buckle (2001) that 30% of all projects are canceled midstream, and over 50% of completed projects end in up to 190% over budget and 220% late because of the poor handling of the initial process of identification, there is a link between the project identification process and the performance of the project. Key issues that arise during the identification process include; stakeholder analysis and involvement in the identification process, which if properly managed, enable projects to utilize the knowledge base of the stakeholders (Mitropoulos & Howell 2002), In addition, there is need to create integrated project teams which would have a positive influence on project outcomes (Wanderi *et. al*, 2015).

Problem analysis process, risk management analysis and the identification of the right objectives form the other major areas of interest in the project identification process. Projects are meant to address problems. The identification of a wrong project will cause a waste of valuable time, energy, and resources. If the problem is not effectively defined, the project executed will be wrong, objectives and goals wrong and will never address the intended problem. The effort to complete the project within the allowable budget, time and to the required specifications will be fruitless. Consideration therefore, must be considered before implementation.

In reference to Rwanda no studies have been carried regarding project identification process thus rendering the researcher to carry out the research on project identification process to fill the gap. This study analyzed the influence of the project identification process on the performance of the project.

1.3 Objectives of the study

1.3.1 General objective

The general objective of this study was to establish the influence of the Project Identification Process on the Performance of the TVET Projects in Bugesera District.

1.3.2 Specific objectives

The following specific objectives guided the study:

1. To assess the influence of objectives analysis on the performance of the TVET Projects in Bugesera District.
2. To establish the influence of problem analysis process on the performance of the TVET Projects in Bugesera District.
3. To determine the influence of stakeholder involvement on the performance of the TVET Projects in Bugesera District.
4. To determine the influence of risk management analysis on the performance of the TVET Projects in Bugesera District.

1.4 Research questions

The following questions guided the research:

1. How does the objectives analysis influence the performance of the TVET Projects in Bugesera District?
2. What is the influence of problem analysis process on the performance of the TVET Projects in Bugesera District?
3. How does the stakeholder involvement influence the performance of the TVET Projects in Bugesera District?
4. What is the influence of risk management analysis on the performance of the TVET Projects in Bugesera District?

2.0 Literature Review

2.1 Conceptual Framework

In this study, the independent variables were: Stakeholder Involvement, Problem Analysis process, objectives analysis and Risk management analysis while the dependent variable is Project Performance. A conceptual framework is a hypothesized model identifying the concepts under study and their relationships (Mugenda and Mugenda, 1999). A conceptual framework provides an outline of the preferred approach in the research and outlines the relationships and the desired effects, forming independent and dependent variables respectively. The performance of the TVET project is directly dependent on the four independent variables as indicated by the arrows, each variable in the framework has its own indicator of measurement which helps to measure its effectiveness. The stakeholder involvement is measured by, stakeholder mapping, stakeholder analysis, stakeholder participation and stakeholder communication management. The problem analysis process is measured by the identification of the main problem, analysis of the root causes of the problem and the analysis of the effects of the problem. The objectives analysis indicators include; analysis of the desired situation, analysis of the means to the desired situation and analysis of the impacts of the desired situation while the indicators of the risk management analysis are risk identification, risk analysis, risk response and risk monitoring and control. The indicators of the project performance on the other hand are; schedule, cost, quality and safety and customer satisfaction. Other intervening variables also come into play to impact the performance of the project this includes the TVET infrastructure as indicated in the conceptual framework.

2.3 Conceptual Framework

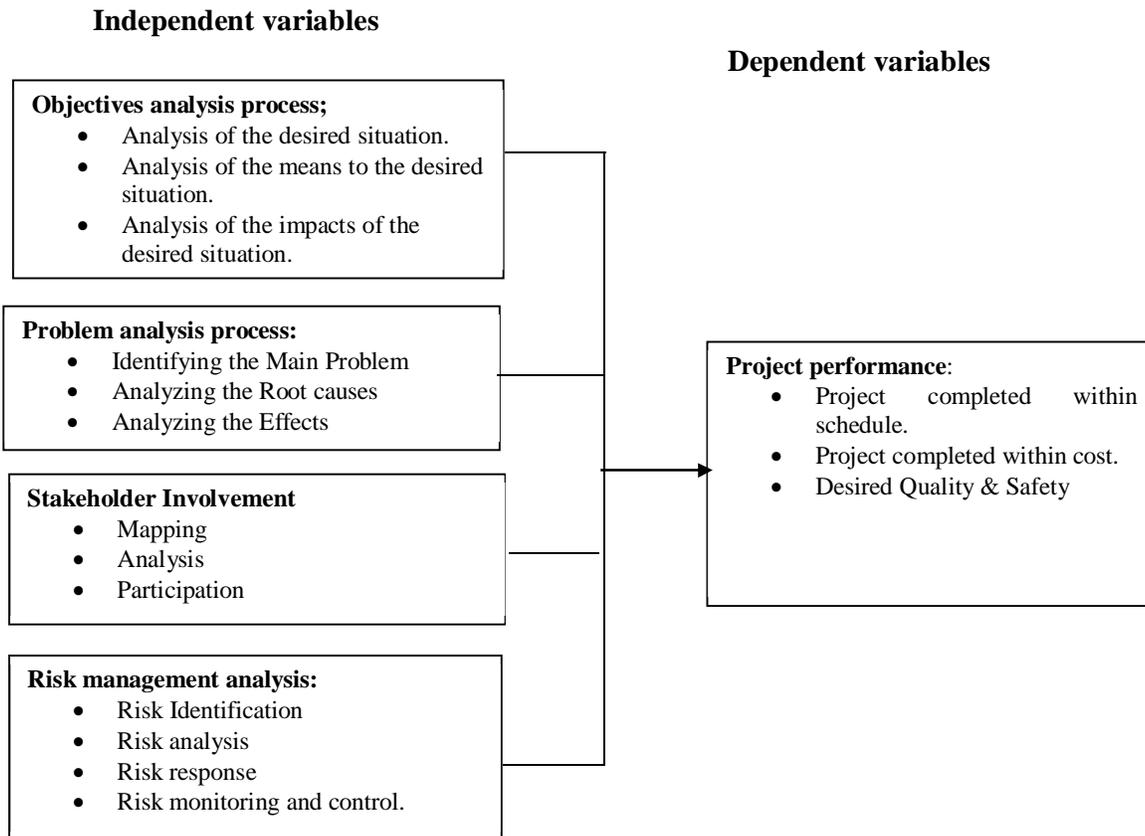


Figure 2: Conceptual framework

3.0 Methodology

3.1 Research design

This study adopted descriptive research design. A descriptive study is a study concerned with describing the characteristics of an individual, or of a group (Kothari, 2004). The study sought to establish the influence of project identification process on project performance of TVET in Bugesera district Rwanda. It adopted a case study survey. A case study involves careful and complete observation and analysis of a unit in its relationship to any other unit in the group (Kothari, 2004). A survey design is associated with a guided and quick collection, analysis, and interpretation of observation (Mugenda & Mugenda, 1999).

3.2 Target population

The target population of this research was the TVET Project in Bugesera District. The TVET project has one hundred project beneficiaries, fifteen project staff and twenty programme management staff at the head office (Source: Bugesera District TVET Project office December 2016). This population helped the research obtain answers to the research question.

Table.8: Population under study

Category	Target population
Program management staff	80
Project team	35
Project Beneficiaries	35
Total	150

(Source: WDA Project office December 2016)

3.3 Sample size and sampling procedure

A sample size of 110 respondents was determined from a total population of 150 individuals using the formula by Yamane (1967). Simple random sampling technique was used to select the project team members and program management staff. Simple random sampling technique ensure that different groups of a population are adequately represented in the sample.

$$n = \frac{150}{1 + 150 (0.05)^2} = 110$$

3.4.1. Sample Frame

Sampling frame is a list of all the population subjects that the researcher had targeted during the study. Using the Yamane's formula, the proportions of the sample size the computed sample strata are shown in table 2

Table 9: Sample frame

Category	Target population	Sample frame
Program management staff	80	56
Project team	35	27
Project Beneficiaries	35	27
Total	150	110

4.0 RESEARCH FINDINGS AND DISCUSSION

4.1. Objectives analysis process and project performance

Respondents were requested to indicate the extent level of agreement on influence of objective analysis process on project performance. From the findings, most respondents moderately agreed that the project strategy was drawn from the problem analysis and, analysis of the impact of the desired situation and identification of means to the desired situation was always done as indicated by a mean of 2.63, 2.52 and 2.51 with a standard deviation of 0.98, 0.97 and 0.86 respectively. The respondents agreed to disagree that conversion of project problem to the desired situation is achieved through project identification process as indicated by a mean of 2.24 with a standard deviation of 1.04. This implied that effective problem analysis during project identification process would have a positive impact on the TVET project performance while poor project objectives analysis would hinder conversion of desired situation for the community. The

finding concurred with Martinsuo and Lehtonen (2007), found out that efficiency from a PM perspective is the capability of projects in setting and fulfilling their set objectives. In this regard it is of utmost importance that project designers pay a keen attention to efficiency and effectiveness while designing the project objective both in the short term and the long term.

4.2 Problem analysis process and project performance

Respondents were requested to indicate the extent to which they agreed on the influence of problem analysis process statement on project performance. Respondents moderately agreed that effects of the problem to the community were always analyzed and noted as indicated by a mean of 2.58 with a standard deviation of 0.84. The results also indicated that most respondents disagreed that the factors contributing to the problem were always analyzed and that problem analysis is always done by a forum of stakeholders as indicated by a mean of 2.45 and 2.21 with a standard deviation 0.93 and 0.87 respectively. Most respondents disagreed that the main problem is always selected among other community problems as indicated by a mean of 2.13 supported by a standard deviation of 0.98.

On the extent to which respondents agreed on influence of the problem analysis process and influence on project performance, respondents agreed that identifying the effects of the main problem contributes to the TVET project performance as indicated by a mean of 4.28 with a standard deviation of 0.67. Respondents agreed that Identifying the right problem and causes of main problem contributes to the TVET project performance as indicated by a mean of 3.74 and 3.69 supported by a standard deviation of 0.74 and 0.69. This implied that effective problem analysis process during project identification process influence success of the project to a great extent. The findings, concurred with Thomas & Mullaly, Shi, (2011) proper analysis of the problem that the project intends to address and that improving project success in organizations is assumed to be made through project management improvement initiatives, which include the process of analyzing the main problems in the community and project organizations using various available tools and techniques including the problem tree technique and the fish bone analysis among others.

4.3 Stakeholder involvement

From the findings, most respondents moderately agreed that stakeholders are always involved throughout the life of the project as indicated by a mean of 2.50 with a standard deviation of 1.15. The results indicated that most respondents disagreed that stakeholder participation is always encouraged at the project initiation stage as indicated by a mean of 2.42 with a standard deviation of 0.99. The respondents disagreed that stakeholder mapping was always done during project initiation as indicated by a mean of 2.33 with a standard deviation of 0.99. The results further indicated that majority of the respondent strongly disagreed that stakeholder analysis tool was always used during project initiation at TVET project management. This implied that stakeholder involvement during TVET project identification process was not effective and this was likely to affect TVET project performance.

The study sought the extent to which stakeholder involvement contributed in TVET project performance. From the finding respondents agreed that stakeholder involvement throughout the project life leads to better performance of the project as indicated by a mean of 4.14 supported by a standard deviation of 0.83. Respondents also agreed that stakeholder participation leads to sustainability of the project as indicated by a mean of 4.08 with a standard deviation of 0.62. The respondents further agreed that stakeholder participation leads to identification of relevant gaps in the community as indicated by a mean of 3.87 with a standard deviation of 0.70. This implied that stakeholder 's involvement in TVET project identification influences success of the project to a great extent. The finding concurred with Chinyio and Olomolaiye (2010) stated that stakeholders can affect an organization 's functioning, goals, development and even survival. They also

mentioned that stakeholders are beneficial when they help to achieve its goals and they are antagonistic when they oppose to the mission. The findings also concurred with Persson, Olander, (2004) who found that stakeholders are vital to the successful completion of a project because their unwillingness to continuously support the vision or objectives of the project leads many projects to fail. Successful engagement of stakeholders involves actively giving and getting their support and working together to devise, plan and develop new development solutions.

4.4 Risk Management analysis and project performance

From the findings, most respondents indicated that existence of plan on how to monitor and control the potential risk to the project influence project performance to a moderate extent as indicated by a mean of 2.51 supported by a standard deviation of 1.01. The respondents indicated that project team identification of potential risks that posed a threat to project success, adequate planning of risks, for potential risk during project cycles influence TVET project performance to a significant extent as indicated by a mean of 2.44 and 2.42 supported by a standard deviation of 0.99 and 0.96 respectively. The results also indicated that analysis of identified TVET project risks influenced the TVET project performance to a significant extent as indicated by a mean of 2.25 with a standard deviation of 0.98. The result further indicated that risk management is vital to TVET project performance trend to a moderate extent as indicated by a mean of 1.17 with a standard deviation of 0.68. This clearly demonstrated that ineffective risk management in the identification of the TVET project would affect performance of the project to a great extent. The findings concurred with Ceric, (2003) who found that with effective risk management as an integral and required part of project management, influences success of project. Further, Wang, Dulaimi, & Aguria, (2004) indicated that project risk identification is the basis for analysis and control of risk management and ensures project risk management effectiveness impact on project performance.

4.5 Performance of Projects

Respondents were requested to indicate the extent to which project identification process influenced the performance of the TVET project. From the finding project identification process influence completion of project within the provided budget to a moderate extent as indicated by a mean of 3.45 with a standard deviation of 0.89. The findings indicated that project identification process influence completion of project within scheduled time to a moderate extent as indicated by a mean of 2.6 supported by a standard deviation of 0.93. The results also indicated that project identification process influence completion of the project within the desired quality to a moderate extent as indicated by a mean of 2.42 supported by a standard deviation of 0.99. The result further indicated that project identification process influence project meeting customer satisfaction to a moderate extent as indicated by a mean of 2.53 with a standard deviation of 1.03. The finding also indicated that project identification process led to project sustainability to a moderate extent as indicated by a mean of 2.26 with standard deviation f 1.09 while project identification process influences overall TVET project success to a moderate extent as indicated by a mean of 2.50 with a standard deviation of 1.05. This implied that effective project identification process influence project success while poor project identification hinders project performance. The findings concurred with Dvir, Lipovetsky, Shenhar, Tishler, (1999) who found that development projects in Israel indicate that the origination and initiation phase, in which major decisions on strategy are made, such as deciding the projects objectives and planning the project's execution, has the most influence on the project's success.

4.6 Regression Analysis

A multiple regression model was applied to establish whether there exists a significant relationship between project identification process on performance and performance of the TVET project. The multiple regressions model used in this study was:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \mu$$

Where

Y= Dependent variable – Performance of the TVET project

α = Constant

μ = Error

β = Coefficient factor

X₁ = Objectives analysis

X₂ = Problem analysis

X₃ = Stakeholder involvement

X₄ = Risk management analysis

and μ = Error Term.

Table 10: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.695 ^a	.483	.432	.05

a. Predictors: (Constant) stakeholder involvement, problem analysis process, objectives analysis and risk management analysis
 b. Dependent: Performance of TVET project

Adjusted R squared is called the coefficient of determination which indicates how the Performance of TVET project varies with variation in stakeholder involvement, problem analysis process, objectives analysis and risk management analysis. From table above, the value of adjusted R squared is 0.483. This implies that, there was a variation of 48.3% of performance of the TVET project varied with variation in project identification process at a confidence level of 95%.

Table 11 ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.996	4	3.499	5.5	.001 ^b
	Residual	45.288	72	.629		
	Total	59.284	76			

a. Predictors: (Constant) stakeholder involvement, problem analysis process, objectives analysis and risk management analysis
 b. Dependent: Performance of TVET project

The Total variance (59.284) was the difference into the variance which can be explained by the independent variables (Model) and the variance which was not explained by the independent variables (Error). The study established that there existed a significant goodness of fit between variable as F-test (F=5.565, P=0.01< 0.05). The calculated F=5.565 far exceeds the F-critical of F_{cr} 3.214. This implied there the level of variation

between independence and dependent variable was significant at 95% confidence level. This indicated that the model formed between stakeholder involvement, problem analysis process, objectives analysis and risk management analysis and Performance of TVET project had a good fit for the data. The strength of variation of the predictor values performance of Performance of TVET project was significant at $P= 0.02 < 0.05$.

Table 12: Regression Coefficients (a)

Mode 1		Unstandardized		Standardize d Coefficients	t	Sig.
		B	Std. Error			
1	(Constant)	1.765	.428		4.125	.000
	Objectives analysis	.189	.156	.163	3.215	.023
	Problem analysis process	.355	.136	.349	2.875	.006
	Stakeholder involvement	.243	.113	-0.046	2.381	.007
	Risk management analysis	.426	.117	.444	3.639	.001

From the data in the above table the established regression equation was

$$Y = 1.765 + 0.189 X_1 + 0.355 X_2 + 0.243 X_3 + 0.426 X_4$$

From the above regression model, it was found that Performance of TVET project would be at 1.765 holding stakeholder involvements, problem analysis process, objectives analysis and risk management analysis constant at zero.

The study established that stakeholder involvement significantly influence Performance of TVET project ($r=.243$, $p=0.0075 < 0.05$). The results in Table 4.16 shows that problem analysis process would significantly influence performance of TVET project ($r=.355$, $p=0.006 < 0.05$). From the regression results in Table 4.16, Objectives analysis significantly influence Performance of AICCAD TVET project ($r=.189$, $p=0.023 < 0.05$). From the regression results in Table 4.16 on, the study found that risk management analysis significantly influences Performance of TVET project ($r=.426$, $p=0.001 < 0.05$). This clearly indicated that project identification process has a significant positive influence on Performance of TVET project.

5.0. Conclusions

The study found that stakeholder 's involvement has a significant influence on project performance. Further the study found that stakeholder 's involvement during project initiation stage and stakeholder mapping as well as stakeholder analysis tool influence TVET project management. This was due to stakeholder involvement along project life led to sustainability of the project and identification of relevant gaps in the community indicating that stakeholder 's involvement influence success of TVET project to a great extent.

As a result, the study concluded that problem analysis process influenced TVET project performance. Through project problem analysis, factors contributing to the problem were always analyzed and involve stakeholder forum in problem analysis identifying the community problems. This study concluded that effective problem analysis process enhances identification of the project problem, identifying the right project problem and causes of main problem contributing to the TVET project performance. Regression results emphasized that there is significant positive relationship between project problem analysis processes would and performance of TVET project.

The study found that effective objective analysis during TVET Project identification process has a positive impact on the TVET project performance while poor project problem analysis would hinder conversion of desired situation for the community. Project objective analysis influence drawing of project strategy from the problem analysis, analysis of impact of desired situation and identification of means to the desired situation influence project performance and led to conversion of project problem to the desired situation is achieved through project objective analysis an indicator of the need to enhance objective analysis of the problem facing the community. Further regression results establish that there exists a significant relationship between objectives analysis significantly influence Performance of the TVET project.

It was concluded that project risk management during project identification process influenced the TVET project performance. The existence of plan on how to monitor and control the potential risk to the project and that project team identification of potential risks that posed a threat to project success and adequate planning of risks for potential risk during project cycles influences the TVET project performance. The study concluded that effective risk management in the identification of TVET project had significant effects on performance of the project.

The study found out that project identification process influence completion of project within the provided budget, completion of project within scheduled time to a moderate extent and completion of the project within the desired quality and project identification process influence project meeting customer satisfaction and sustainability of TVET project success to a moderate extent.

5.1. Recommendations

The study recommends that project practitioners should enhance stakeholder involvement during project initiation stage, enhance stakeholder mapping as well as use of stakeholder analysis tools as this would influence project management and success. Stakeholder involvement along project life impact on sustainability of the project and led to identification of relevant gaps in the community hence measures are taken to achieve success of community project to a great extent.

The study further recommends that management in project should enhance problem analysis process through proper project problem analysis, assessing factors contributing to community problem and involve stakeholder 's forum in problem analysis and identifying the community problems. Efficient problem analysis process would enhance identifying of main project problem, identifying the right project problem and causes of main problem contributing to the project performance.

The study recommends that management in community projects should effectively undertake objective analysis during Project identification process as it has positive impact on project performance. Through project objective analysis the influence drawing of project strategy from the problem analysis, analysis of impact of desired situation and identification of means to the desired situation influences project performance and led to conversion of project problem to the desired situation through project objectives analysis, an indicator of the need to enhance objective analysis of the problem facing the community.

It is also recommended that in management of community projects, project managers should enhance project risk management during project identification process as it impacts positively on project performance. Risk management influence project risk planning, monitoring and controlling of potential risk to the project and promote development of project team in identification of potential risks that posed a threat to project success and adequate planning of risks for potential risk during project cycles influence project performance. The management in community projects should emphasize on project identification process as it led to completion of project within the provided budget, completion of project within scheduled time to a moderate extent and completion of the project within the desired quality and project identification process influence project meeting customer satisfaction and sustainability of project success.

5.2. Areas for further research

Based on the conclusions and findings of the study, the following areas were suggested for further research:

1. To investigate the contribution of the project teams' technical capacity to the performance of the project.
2. To investigate the contribution of the project selection process to the sustainability of the project.

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