

Project Implementation Practices and Project Performance in Rwanda: A case of Masaka Farm Supported by Africa to Africa Green Solutions Ltd

^{1*} Assoumpta Mukamugenga & ^{2*}Dr. Eugenia Irehukwu Nkechi

^{1*}School of Business and Economics, Mount Kenya University
Kigali, Rwanda

²School of Business and Economics, Mount Kenya University
Kigali, Rwanda

Email of the corresponding author: mugengassoumpta@gmail.com

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Abstract: The purpose of this research was to assess implementation practices and project performance using a case of Masaka Farm Project. Specifically, the researcher assessed effect of project design, project monitoring and project team management on project performance. The research used a descriptive survey design, both quantitative and qualitative research approach were used. This study targeted 108 project stakeholders. The researcher used questionnaire. Data collected was analyzed through descriptive and inferential statistics. Results to the first objective was indicated that 53.8% agreed that Maska farm has good project scope, 60.6% agreed that project design is shared to all stakeholders involved in the project, 78.8% agreed that they have project work plan during project execution. Correlation analysis felt that a positive correlation between good project scope and project quality ($r=0.914$; p value=0.000); the good project scope and project timely delivery was not correlated ($r=0.901$; p value=0.000); the good project scope significantly correlated with project cost efficiency and effectiveness (0.901 ; p -value=0.000). Findings showed 65.7% strongly agreed with the creation of a good monitoring system, 65.7% agreed with good monitoring and evaluation reporting system. A multivariate analysis indicated positive correlation between good monitoring system and project quality ($r=0.887$, p -value=0.000), time ($r=0.848$, p -value=0.00) and with cost efficiency ($r=0.906$, p -value=0.000). Results for conduct monitoring on a daily basis indicated that carry out monitoring and evaluation was associated with project quality ($r=0.955$, p -value=0.000), with service delivery ($r=0.928$, p -value=0.000) and with cost efficiency ($r=0.924$, p -value=0.000). Findings felt that 68.3% agreed with adequate team members, 76.0% agreed with staff motivation that motivate them toward consistent performance, 64.4% agreed with training opportunities, and 65.3% agreed that adequate project fund for team member salaries. The study recommended that company's senior staffs should identify well all the key elements needed in designing project and share project design to all stakeholders involved. In addition, the company's Owners should ensure that team management is efficiently and effectively developed in terms of financial team, human skills and production team; as the findings r that an improvement in project team management practice is needed to increase project performance.

Keywords: *Project Implementation Practices, Project Design, Project Monitoring, Project Team Management, Project Performance*

1.0 Introduction

In Rwanda some projects did not perform well among the reasons of failure are poor planning, inappropriate objectives and targets, inadequate project implementation practices, coordination of activities, team and poor feasibility study (RDB, 2013). Masaka farm, is a 7 years (2018-2024) project funded by a local company Africa to Africa Green Solutions with the purpose to produce vegetables and fruits (horticulture) and poultry farming to raise chicken. From season 2018 A to 2020 B Africa to Africa Green solutions faced a huge loss of 90% due to the challenges faced during the implementation of the Masaka farm project.

Different factors cause challenges and failure to some projects during the initial phase of the implementation practices; project stakeholders evidenced that 10% of project implemented did not succeed due to the lack of proper project design and monitoring

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practices. Therefore, 30% failed use the lack of proper team management. A study was conducted in Kenya by Ouma (2012) felt that near 33 percent of projects did not attained their expected objectives. Njama (2015) established a positive effect of availability of funds, stakeholder involvement and organizational leadership on monitoring and evaluation effectiveness. Studies of Ouma (2012) and Njama (2015) did not establish effects of project implementation practices including project design, project monitoring, and project team management on project performance.

In Kigali, most of SMEs project failed to achieve their expected targets. Only 29% are attained high level of sustainability in 2016, in 2017 were 33 percent, and 49% in 2019 (City of Kigali, 2020). It was against that gap that the study assessed the effects of project implementation practices on project performance of Masaka Farm within Africa to Africa Green Solutions Ltd. Rwanda.

1.1 Research Objectives

- i. To determine effect of project design practice on Masaka farm project performance;
- ii. To identify effect of project monitoring practice on Masaka farm project performance;
- iii. To assess effect of project team management practice on Masaka farm project performance.

2.0 Literature Review

2.1 Review of Empirical Studies

A study conducted by Machari (2013) on agriculture projects assessed factors influencing performance. This research adopted a correlation research study on 345 participants. This research findings demonstrated that using a budget of 250,000 USD and most of beneficiaries were hundred persons who participated in the project execution. This research concluded that process of the project design had an important influence on the performance of the National Agriculture and Livestock Extension Program (NALEP) project, followed by project initiation process, project execution and project monitoring & evaluation. This research felt that managers for those project allocated 76% of timeframe on its implementation through effective team management.

In addition, the inefficient project design and inadequate management of changing the baseline project plans had a major negative impact on the implementation of the project and even on the overall projects performance. The author recommended that project design must be elaborated cautiously as this is the phase where the allocation of team is defined (Macharia, 2017).

Kiragu (2013) conducted a study at the level of the project implementation. He investigated factors associate with control of project design calendar during the period of execution. The study showed that the main factors of the planned schedule control were the funders' policies, project complexity and its associated risks. Different factors cause challenges and failure to some projects during the initial phase of the implementation practices; project stakeholders evidenced that 10% of project implemented did not succeed due to the lack of proper project design and monitoring practices. Therefore, 30% failed use the lack of proper team management. This failure is mostly attributed to the approaches that are adopted and used during the implementation. It is recommended that project plans and designs must be based on these factors at the preparation phase (Kiragu, 2013).

Heintz (2015) conducted a study on designing project management. The study concluded the existence of a research gap for project management and effective strategies use by project managers. This research study showed that a designedly project management is a form of solving wicked problems where more than 33 percent of implemented project did not attain their expected outcomes.

Innocent, (2013) conducted a research on effect of monitoring on economic success of poverty reduction project in Rwanda; a case study of one cow per poor family project in Gatsibo district. According to George and Mallery (2003) demonstrated the following rules of thumb where $\alpha > 0.9$, excellent, > 0.8 , good, > 0.7 acceptable and > 0.5 not acceptable. However, the Cronbach Alpha would be > 0.7 for being relevant and acceptable. This research study revealed that monitoring system when well-done leads to better project performance. But that is not the way it was done in Gatsibo district even if some achievements were gained where people got cows and milk, money and manures. Data were collected, analyzed based on researcher's objectives.

Poor systems of monitoring and evaluation were used. Poor selection of project beneficiaries also involved the favoritism and corruptions where cows were given to people who are not needy. Some cows were sold by the people who got them, this was more especially those given to the rich people. Performance has been achieved but it could have been good when all those problems had been solved. Moreover, the most factor ranked for 43.614% of total variance and second factor 80.174 for the total variance. The adequate sampling strategy had been examined using Kaiser-meyer-Olkin Measure of sampling suitability.

The suggestion drawn was that monitoring and evaluation should be the main importance tool and done in appropriate manner as far as the project objectives are concerned. There should be good practice of selecting who are to be given cows, monitoring should be done regularly to comply with the better project objectives (Twahirwa, 2013). A study was conducted in Kenya by Ouma, (2012) on factors influencing the effective monitoring of projects. The study indicated that the monitoring evaluation officers themselves, their abilities and training were critical in the accomplishment of the organizational goals.

Njama (2015) carried out a research on factors affecting M&E system and project performance. However, the study assessed the effect of M&E system, stakeholder involvement and organizational leadership. In this regard, the Levene statistic for equal variance for assumption of homoscedasticity.

Mariette, (2015) did a study on project team management practices and labor retention in Rwandan manufacturing industries a case study of Sulfo-Rwanda industries limited. This study examined the responsibilities of project team management practices on workforce retention. The study findings show the project team management practices applied in Sulfo-Rwanda industries Ltd.

They were recruiting and selecting personnel, capacity building, human resource relation and welfare and rewards and salaries and the level of success. The results also disclosed that the team management practices that influence labor retention are: recognition and rewards, human relations practices, health, safety and well-being practices as well as remuneration and incentive practices. The correlation between team management practices and project success has been significant ($r=0.701$, $p<0.01$). In context, of lack of adequate project success team management framework has a negative impact on project performance.

Obadia, (2018) carried out a research on team management on project performance for execution in Rwanda. The resource planning, availability and maximization were taken into consideration. The allocation of restricted team was relied on priority provided to each of project activities. The study established a higher multicollinearity indicated where inter-relationship for independent was more than 0.0, 0.9 and 0.7. In Rwanda, it has been indicated that most of project did not success owing to poor resource planning, when it emanates from the level of execution , many of the activities were not realized on time owing to poor team management. Findings demonstrated that team management had an effect on project success for its execution.

2.2. Theoretical Framework

The theoretical framework shows an understanding of theories related to project implementation practices and project performance. The study was guided by theories of change and constraint.

This research used theory of change developed by Ellen in 2014. A theory of change helps you define the need you are trying to meet, the changes you want to make, and what you plan to do. The theory of change helps managers to have clarity outcome chain and explains which strategies have been chosen (Harries, 2014). According to Paina, (2017), theory of change is used to inform project implementation and innovation. The following methods are necessary to construct a theory of change in relation to both project implementation practices and project performance: planning, communication, learning, and accountability. By planning the process, establishing timetables, and planning team, as well as articulating your long-term outcomes, it assists in the development of a theory of change based on project performance and project execution.

This study also used the theory of constraint developed by Elsevier in 2014. The theory of constraints states that a minor number of constraints stops any management system from accomplishing more among its aims. The theory identified challenges, then rearranges itself to deal with it (Elsevier, 2014). The triple constraint theory in project management illustrates that every project works within scope, time, and cost. A change in one factor will consistently affect the others. It is vital for the manager to balance or make equilibrium of these triple aspects and manage expectations so everyone comprehends the value to achieve performance of the project (Van, 2012).

The above theories enabled the researcher to establish the conceptual framework as follows:

2.3 Conceptual Framework

The conceptual framework is presented in Figure 1

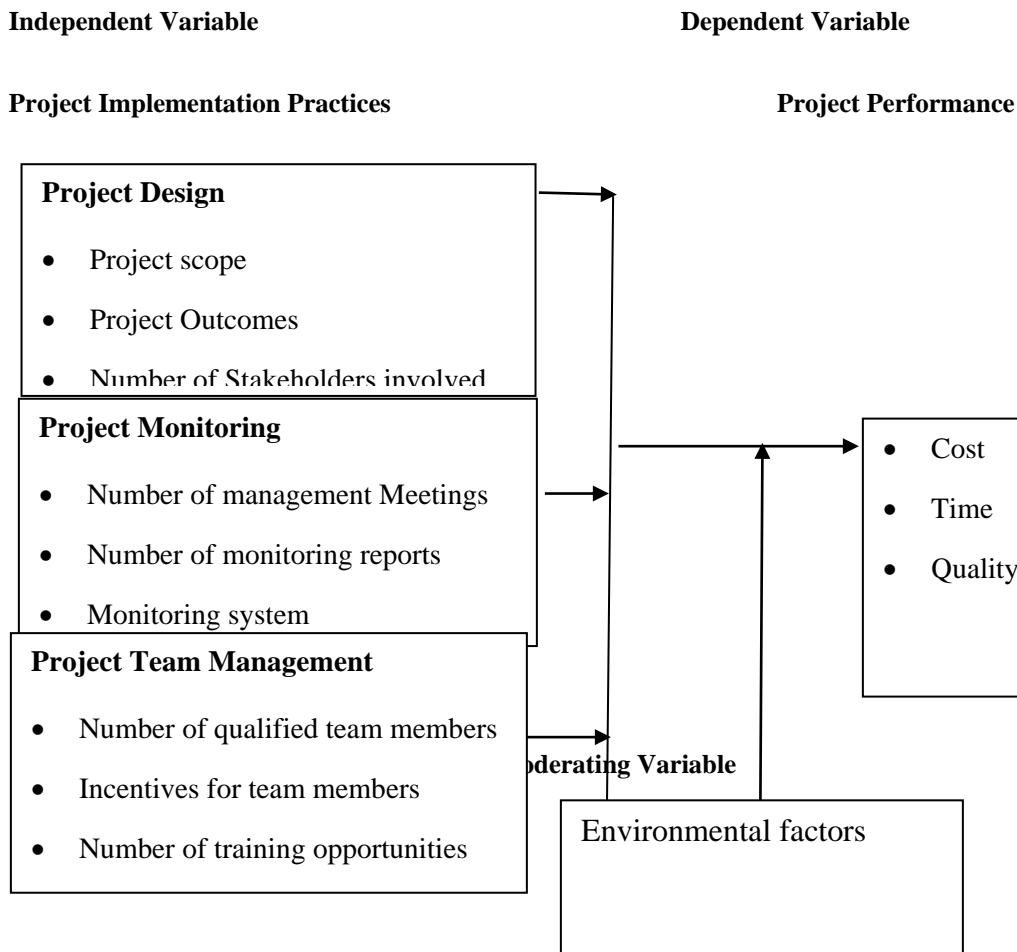


Figure 1 represents correlation between the predicting factors and the outcome. Project implementation practices can lead to project performance. The concept model indicates the existence of correlation between project design, project monitoring and project team management practices and project performance with the influence of other intervening factors.

The empirical literature indicated positive relationship between project implementation practices on project, organization performance, and this study measured the outcome of project implementation practices on project performance using a case study of Masaka farm project.

3. 0 Research Methodology

This study used the descriptive method with both qualitative and quantitative approaches. The research design helped to draw inferences related of project implementation practices and project performance at Masaka farm supported by Africa to Africa Green Solutions Ltd in Rwanda through the use of percentages, frequencies, mean, standard deviation, correlation and regression analysis. The study targeted senior staff of 2AG solutions Ltd who have an experience in project management, as well as company agronomists and farmers working in the Masaka farm, the target population was 108 employees using a sampling and purposive sampling techniques. For quantitative data analysis, descriptive and inferential statistics were used while qualitative data analysis applied content analysis.

4.0 Results and Discussion

4.1 Effect of Project Design Practice on Performance of Masaka Farm Project

Table 1 presents the views on effect of project design practice on performance of Masaka Farm Project.

Table 1: Correlation Analysis on Project Design Practice and Project Performance

		Good Project Scope	Project Design shared to all stakeholders	Project work plan during execution	Project Design is used during outcome evaluation	Quality of Services	Timely Delivery	Cost Efficiency and Effectiveness
Good Project Scope	Pearson Correlation		1					
	Sig.(2-tailed)							
	N		104					
Project Design shared to all stakeholders	Pearson Correlation	.935**		1				
	Sig.(2-tailed)	.000						
	N	104		104				
Project work plan during execution	Pearson Correlation	.768**		.780**	1			
	Sig. (2-tailed)	.000		.000				
	N	104		104		104		
Project Design is used during outcome evaluation	Pearson Correlation	.843**		.787**	.682**	1		
	Sig.(2-tailed)	.000		.000	.000			
	N	104		104	104		104	
Quality of Services	Pearson Correlation	.918**		.950**	.767**	.813**	1	
	Sig.(2-tailed)	.000		.000	.000	.000		
	N	104		104	104	104		104
Timely Delivery	Pearson Correlation	.941**		.939**	.744**	.798**	.958**	1
	Sig.(2-tailed)	.000		.000	.000	.000	.000	
	N	104		104	104	104	104	104
Cost Efficiency and Effectiveness	Pearson Correlation	.901**		.889**	.728**	.851**	.897**	.893**
	Sig.(2-tailed)	.000		.000	.000	.000	.000	.000
	N	104		104	104	104	104	104

**.Correlation is Significant at 0.01 level (2-tailed).

Results indicate an association between variables. Therefore, for good project scope, the study showed significant relationship between good project scope and project quality ($r=0.914$; p value=0.000); the good project scope and project timely delivery was not correlated ($r=0.901$; p value=0.000); the good project scope significantly correlated with project cost efficiency and effectiveness (0.901; p -value=0.000). Correlation analysis between the project design shared to all stakeholders and Masaka farm project performance show that the project design shared to all stakeholders is significantly associated with quality ($r=0.950$; p -value=0.000); timely service delivery ($r=0.939$; p -value=0.000), cost efficiency and effectiveness ($r=0.889$, p -value=0.000). Results for project work plan during execution, the study found significant correlation between project work plan during execution and project quality ($r=0.767$, p -value=0.000), and service delivery ($r=0.744$, p -value=0.000) and cost efficiency and effectiveness($r=0.728$, and p -value=0.000).

Results on the correlation between project design is used during outcome evaluation and project quality ($r=0.813$; p -value=0.000). In addition, project design is used during outcome evaluation significantly correlated with timely delivery ($r=0.798$; p value=0.000). Finally, project design is used during outcome evaluation was associated with cost efficiency ($r=0.851$, p -value =0.000). The relationship was positive since the level of significance was less than 0.05 meaning that an adjustment of project design is used during outcome evaluation affect performance of Masaka Farm project. For the project to be successful, it must first comprehend the steps involved in project design (Kate, 2016). Also Denis (2012) asserted that project design practice was essential in performance of projects. The results in above table indicates that the hypotheses (H1) stating the existence of association between variables and project research design and performance of Masaka farm project is accepted.

4.2 Effect of Project Monitoring Practice on Performance of Masaka farm Project

Table 2 depicts views on the effect of project monitoring practice on performance of Masaka farm Project.

Table 2: Effect of Project Monitoring Practice on Performance of Masaka farm Project

		Good Monitoring System	Monitoring reports	Conduct Management Meeting	Conduct Monitoring on a daily basis	Quality of Services	Timely Delivery	Cost Efficiency and Effectiveness
Good Monitoring System	Pearson Correlation		1					
	Sig. (2-tailed)							
	N		104					
Monitoring reports	Pearson Correlation	.970**		1				
	Sig.(2-tailed)	.000						
	N	104		104				
Conduct Management Meeting	Pearson Correlation	.664**	.666**		1			
	Sig.(2-tailed)	.000	.000					
	N	104	104		104			
Conduct Monitoring on a daily basis	Pearson Correlation	.930**	.893**	.736**		1		
	Sig.(2-tailed)	.000	.000	.000				
	N	104	104	104		104		
Quality of Services	Pearson Correlation	.887**	.853**	.812**	.955**		1	
	Sig.(2-tailed)	.000	.000	.000	.000			
	N	104	104	104	104		104	
Timely Delivery	Pearson Correlation	.848**	.826**	.837**	.927**	.958**		1

	Sig.(2-tailed)	.000	.000	.000	.000	.000	
	N	104	104	104	104	104	104
Cost Efficiency and Effectiveness	Pearson Correlation	.906**	.883**	.720**	.924**	.897**	.893**
	Sig.(2-tailed)	.000	.000	.000	.000	.000	.000
	N	104	104	104	104	104	104

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

Findings demonstrated a significant relationship between Good monitoring system and project quality ($r=0.887$, $p\text{-value}=0.000$), with service delivery on time ($r=0.848$, $p\text{-value}=0.00$) and with cost efficiency and effectiveness ($r=0.906$, $p\text{-value}=0.000$). This implies that there was correlation between two variables whereby a change in monitoring system produced a change in Masaka project performance. Results for monitoring reports, it was indicated that monitoring reports was associated with project quality (0.853 , $p\text{-value}=0.000$), with timely service delivery ($r=0.826$, $p\text{-value}=0.000$) and with cost effectiveness ($r=0.883$, $p\text{-value}=0.000$). Moreover, conduct management meeting was associated with project quality ($r=0.812$, $p\text{-value}=0.000$, with timely delivery of services ($r=-0.837$, $p\text{-value}=0.000$) and cost efficiency and effectiveness ($r=0.720$, $p\text{-value}=0.00$). Finally, results for conduct monitoring on a daily basis indicated that carry out monitoring was associated with project quality (Pearson = 0.955 , $p\text{-value}=0.000$), with timely implementation (0.927 , $p\text{-value}=0.000$) and with cost efficiency and effectiveness ($r=0.924$, $p\text{-value}=0.000$). Hence, the second alternative hypothesis (H2) stating that there was significant correlation between project monitoring and performance of Masaka farm project is accepted.

4.3 Effect of Project Team Management Practice on Performance of Masaka farm Project

Table 3 illustrates the views on the determination of the effect of project team management practice on performance of Masaka farm Project

Table 1: Effect of Project Team Management Practice on Performance of Masaka farm Project

		Adequate Team Members	Incentives given to team members	Training Opportunities for Team members	Adequate project fund for Team Members 'salaries	Quality of Services	Timely Delivery	Cost Efficiency and Effectiveness
Adequate Team Members	Pearson Correlation		1					
	Sig.(2-tailed)							
	N	104						
Incentives given to team members	Pearson Correlation	.688**		1				
	Sig.(2-tailed)	.000						
	N	104	104					
Training Opportunities for Team members	Pearson Correlation	.629**	.796**		1			
	Sig.(Sig-tailed)	.000	.000					
	N	104	104	104				
Adequate project fund for Team Members'salaries	Pearson Correlation	.873**	.754**	.773**		1		
	Sig.(2-tailed)	.000	.000	.000				

	N	104	104	104	104	
Quality of Services	Pearson Correlation	.711**	.828**	.901**	.827**	1
	Sig.(2-tailed)	.000	.000	.000	.000	
Timely Delivery	N	104	104	104	104	104
	Pearson Correlation	.701**	.793**	.919**	.806**	.958**
Cost Efficiency and Effectiveness	Sig.(2-tailed)	.000	.000	.000	.000	.000
	N	104	104	104	104	104
	Pearson Correlation	.885**	.766**	.819**	.916**	.897**
	Sig.(2-tailed)	.000	.000	.000	.000	.000
	N	104	104	104	104	104
						104

**Correlation is significant at the 0.01 level.

The findings demonstrated a positive correlation Adequate Team Members and project quality ($r=0.711$, $p\text{-value}=0.000$), with service delivery ($r=0.701$, $p\text{-value}=0.00$) and with cost efficiency and effectiveness ($r=0.885$, $p\text{-value}=0.000$). This implies the existence of association between variables whereby a change in Adequate Team Members produced a change in Masaka project performance. Results for Incentives given to team members, it was indicated that Incentives given to team members is positively associated with project quality ($r=0.828$, $p\text{-value}=0.000$), delivery on time ($r=0.793$, $p\text{-value}=0.000$), cost effectiveness ($r=0.766$, $p\text{-value}=0.000$). Moreover, training opportunities for team members was associated with project quality ($r=0.901$ and $p\text{-value}=0.000$, with timely delivery of services ($r=0.919$, $p\text{-value}=0.000$) and cost efficiency and effectiveness ($r=0.819$, $p\text{-value}=0.00$).

Finally, results for Adequate project fund for Team Members ‘salaries indicated that Adequate project fund for Team Members ‘salaries was positively impacting project quality ($r=0.827$, $p\text{-value}=0.000$), with timely delivery of services ($r=0.806$, $p\text{-value}=0.000$) and with cost efficiency and effectiveness ($r=0.916$, $p\text{-value}=0.000$). Hence, the third alternative hypothesis (H3) stating that there was significant association between project team management and performance of Masaka farm project is accepted.

5. 0 Discussion of the Research Findings

Results on the effect of project design practice on Masaka farm project performance concur with the observation and conclusion of Irfan et al., (2021); projects perform well once they are divided into smaller components where each corresponding team is given specific objectives and scope to meet their goals. After assessing how project design practice influence Masaka farm project performance, the researcher made inferential statistics for establishing the association between variables and establishing r-size effect of each measurement on Masaka farm project success. This research did not contradict the results from project to be successful, it must first comprehend the steps involved in project design (Kate, 2016). Also Denis (2012) asserted that project design practice was essential in performance of projects. The results in above table indicates that hypothesis (H1) stating that there was significant correlation between project design and performance of Masaka farm project is accepted. This study concurs with Kiragu (2013) who conducted a study at the level of the project implementation. He investigated factors associated with control of calendar of project design during the period of execution. The study showed that the main factors of the planned schedule control were the funders’ policies, project complexity and its associated risks. It is recommended that project plans and designs must be based on these factors at the preparation phase.

Results on the effect of project monitoring practice on Masaka Farm project performance were relevant in the context of Kostalova et al., (2015) where it specified that the project management was designing, coordinating and following up all types of project though project life cycle to achieve the project objectives safely and within agreed criteria for time, cost, scope and performance. Ouma, (2012) asserted that M&E officers were pertinent in attaining organizational objectives and their capacity building, skills are pertinent. The correlation findings between the project monitoring practice and performance of Masaka farm project. Hence, the second alternative hypothesis (H2) stating the existence of association between project monitoring and evaluation and project success of Masaka farm project is accepted.

Results on the effect of project team management practice on Masaka Farm Project Performance concur with the findings implying positive correlation between variables. The study concur with According to Iqbal et al., (2017), good project team members are essential for project success and project leader will be effective only in case of proper, operative and competent project team members. Once there is adequate team members, teamwork is assured. Technical skills are shared which is a good point in project management, whereby the technical skills are essential for team members to identify and solve problems during working of a project. Edward Back and Mejia-Aguilar (2013) argued that incentives stands for proactive methods to encourage behaviors toward expected results. This was the case of the current study whereby given incentives made project team members to establish cooperative, trust and thus improving and guarantying project performance. This concur with findings of Alexandrova and Ivanova, (2012) explaining that project managers had examined project design and paying attention to both organizational environment of project capacity building provided to project team managers and project performance. The correlation findings between the project team management practice and performance of Masaka farm project. Hence, the third alternative hypothesis (H3) stating that there was significant association between project team management and project performance of Masaka farm project is accepted.

6. 0 Conclusion and Recommendations

From analysis and discussion of information, it is undisputable research objective has been adequately addressed. A strong point discovered in this study was a significant correlation between the project implementation practices and its effect in the project performance in Rwanda. Concerning the determination of effect of project design practice on performance of Masaka farm project, the researcher concluded that there was a positively association between two variables. It develops a project scope, shared project design to all stakeholders involved and expected the good project outcomes to help in accomplishing their goals. The regression coefficient result for project design practice shows a strong correlation between project design and project success. It means that for every additional unit project design results in increase in project performance

The second objective which focused on project monitoring practice on the success of Masaka farm project; findings showed that the company created a good monitoring system, provides good ways and tools to report all activities and conducts management meeting to help in accomplishing their goals. The third research objective that endeavored to establish effect of project team management practice on performance of Masaka farm project. The company formed adequate team members, generated appropriate staff motivation and recognition and the company members are allowed trainings opportunities to help in accomplishing their goals. The regression coefficient result for project resource management practice. This means that the association between project team management and project performance was positive. This implies that with an improvement in project resource management, project performance increases by units.

Out of this, there are still amelioration toward project performance though the following recommendations are proposed. From the results, organization's senior staffs should identify all the key elements needed in designing project and also should share project design to all stakeholders involved. The company's Owners should ensure that team management is efficient and effective well organized. Since the finding found that an improvement in project team management practice is needed to increase project performance. Project design, project monitoring and project team management practices should be further used during implementation as the study has showed the project implementation practices contribute to project performance. Therefore, future researches should be undertaken on project implementation practice in different sectors of the study.

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