



Effect of Project Management Practices on the Performance of the Agribusiness and Food Supply Chains Project Financed by Bank of Kigali in Kigali City, Rwanda

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Abstract: This study examined the effect of project management practices on the performance of the Agribusiness and Food Supply Chains Project financed by Bank of Kigali in Kigali City, Rwanda. The study focused on three project management practices: project planning and appraisal, risk assessment and mitigation, and monitoring and evaluation. Respondents reported high levels of project planning and appraisal ($M = 4.6113$, $SD = 0.62136$), risk assessment and mitigation ($M = 4.5052$, $SD = 0.83047$), monitoring and evaluation ($M = 4.6546$, $SD = 0.67753$), and project performance ($M = 4.6361$, $SD = 0.65030$). Project performance was positively associated with project planning and appraisal ($r = .502$), risk assessment and mitigation ($r = .341$), and monitoring and evaluation ($r = .479$). The regression model was statistically significant, $F(3, 190) = 61.294$, $p < .001$, and explained 49.2% of the variation in project performance ($R^2 = .492$). Project planning and appraisal had the strongest standardized effect ($\beta = .444$), followed by monitoring and evaluation ($\beta = .367$) and risk assessment and mitigation ($\beta = .274$), all $p < .001$. The study concludes that systematic project management practices are important determinants of project performance and recommends stronger planning, proactive risk management, regular monitoring, clear milestones and continuous stakeholder engagement.

Keywords: Project Management Practices; Project Performance; Project Planning and Appraisal; Risk Assessment and Mitigation; Monitoring and Evaluation; Agribusiness; Food Supply Chains

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1. Introduction

Project management practices play a critical role in determining whether projects achieve their intended objectives within planned time, scope, cost and quality requirements. Effective project planning, risk management, monitoring and evaluation provide the structures through which objectives are clarified, resources are coordinated, implementation problems are identified, and corrective action is taken. The Project Management Institute (2021) and Kerzner (2022) emphasize that successful projects depend on systematic planning, control,

stakeholder coordination and continuous performance management.

Agribusiness and food supply-chain projects are particularly sensitive to management quality because they operate in environments characterized by seasonal production cycles, market volatility, logistical constraints, environmental uncertainty and multiple stakeholder interests. These conditions make clear planning, early risk identification and continuous monitoring essential to achieving intended project outputs and sustaining stakeholder confidence.

In Rwanda, agricultural value-chain initiatives increasingly involve collaboration among agribusinesses, financing institutions, public agencies and development partners. The Agribusiness and Food Supply Chains Project financed by Bank of Kigali provides an appropriate case for examining how core project management practices relate to project performance. In this study, Bank of Kigali is treated as the financing institution associated with the project, while the unit of analysis is the performance of the Agribusiness and Food Supply Chains Project itself.

The study therefore focuses on three project management practices: project planning and appraisal, risk assessment and mitigation, and monitoring and evaluation. Project performance is considered in terms of implementation effectiveness and stakeholder outcomes, with particular attention to time, scope, quality and stakeholder satisfaction.

1.2 Statement of Problem

Agribusiness and food supply-chain projects require coordinated planning, appraisal, risk management and continuous monitoring because they are exposed to production uncertainty, market fluctuations, seasonal cycles, logistical constraints and multiple stakeholder expectations. Although financing is important, financing alone does not ensure that a project will be implemented within planned time, scope and quality requirements or that stakeholders will be satisfied with its results.

Weak project planning may lead to unclear objectives, unrealistic schedules and poor resource allocation. Inadequate risk assessment can expose projects to avoidable operational, production, environmental and market disruptions, while weak monitoring can delay corrective action and reduce accountability. These challenges create a practical need to establish the extent to which project management practices contribute to the performance of bank-financed agribusiness initiatives.

The study addressed this gap by examining the effect of project planning and appraisal, risk assessment and mitigation, and monitoring and evaluation on the performance of the Agribusiness and Food Supply Chains Project financed by Bank of Kigali in Kigali City, Rwanda. The study integrated quantitative stakeholder perceptions with qualitative interview and documentary evidence.

1.3 Objectives of the Study

1.3.1 General Objective

The general objective of the study was to assess the effect of project management practices on the performance of the

Agribusiness and Food Supply Chains Project financed by Bank of Kigali in Kigali City, Rwanda.

1.3.2 Specific Objectives.

To evaluate the effect of project planning and appraisal on the performance of the Agribusiness and Food Supply Chains Project.

To determine the influence of risk assessment and mitigation on the performance of the Agribusiness and Food Supply Chains Project.

To assess the effect of monitoring and evaluation practices on the performance of the Agribusiness and Food Supply Chains Project.

1.4 Hypothesis of the Study

H01: Project planning and appraisal have no significant effect on the performance of the Agribusiness and Food Supply Chains Project.

H02: Risk assessment and mitigation have no significant effect on the performance of the Agribusiness and Food Supply Chains Project.

H03: Monitoring and evaluation practices have no significant effect on the performance of the Agribusiness and Food Supply Chains Project.

2. Literature Review

This section presents the conceptual review, theoretical foundations, empirical review, conceptual framework and research gap relating to project management practices and project performance.

2.1 Conceptual Review

Project management practices refer to coordinated processes used to plan and appraise project activities, identify and manage risks, monitor implementation and evaluate progress and results. Project performance refers to the extent to which a project achieves its intended implementation and outcome expectations, including timely implementation, achievement of scope, quality of outputs and stakeholder satisfaction.

2.1.1 Project Planning and Appraisal

Project planning and appraisal involve defining objectives, activities, resources, schedules, feasibility requirements and expected outputs before and during implementation. Effective planning provides a basis for implementation readiness, realistic scheduling, resource allocation and performance measurement. The Project Management Institute (2021) and Kerzner (2022) identify planning as a central process for translating project objectives into coordinated actions and measurable deliverables.

2.1.2 Risk Assessment and Mitigation

Risk assessment and mitigation involve identifying, analyzing, prioritizing and treating uncertainties that may affect project objectives. Agribusiness and food supply-chain projects may face production, operational, environmental, market and coordination risks. Risk management therefore helps project stakeholders anticipate disruptions, establish response measures and strengthen project resilience.

2.1.3 Monitoring and Evaluation

Monitoring and evaluation refer to systematic tracking of project progress, milestones, reporting, resource utilization and implementation outcomes. Monitoring provides timely information on deviations from plans, while evaluation assesses whether activities are producing intended results. The World Bank (2022) emphasizes monitoring and evaluation as mechanisms for accountability, learning and corrective action in project implementation.

2.1.4 Project Performance

Project performance is the extent to which project activities and outputs meet intended expectations. In this study, performance is interpreted through timely implementation, efficient project processes, adequacy of implementation conditions, continuity of support and overall stakeholder perceptions, with the broader conceptual dimensions of time, scope, quality and stakeholder satisfaction.

2.2. Theoretical Review

2.2.1 Project Management Theory

Project Management Theory provides the principal foundation for the study. It views projects as coordinated activities requiring systematic initiation, planning, execution, monitoring, control and closure. The theory explains how project planning and appraisal improve implementation readiness and how monitoring and evaluation support control, accountability and corrective action (Project Management Institute, 2021; Kerzner, 2022).

2.2.2 Risk Management Theory

Risk Management Theory explains the systematic identification, assessment, response and monitoring of uncertainty. The theory is relevant because agribusiness projects operate in uncertain environments, and effective risk assessment and mitigation can reduce disruptions and improve the probability of achieving project objectives (Knight, 1921).

2.2.3 Stakeholder Theory

Stakeholder Theory emphasizes that project outcomes depend on recognizing and managing the interests of groups that affect or are affected by project activities. In the Agribusiness and Food Supply Chains Project, beneficiaries, financing institutions, implementing actors and public agencies influence planning, implementation, accountability and sustainability (Freeman, 1984).

2.3. Empirical Review

2.3.1 Project Planning and Appraisal and Project Performance.

The literature reviewed in the thesis consistently associates structured project planning with improved implementation readiness and performance. Gatera et al. (2023) report that project-management support improves project outcomes among small and medium enterprises in Rwanda. Project Management Institute (2021) and Kerzner (2022) similarly show that clear objectives, realistic schedules, defined responsibilities and systematic appraisal reduce ambiguity and provide a stronger basis for implementation control.

2.3.2 Risk Assessment and Mitigation and Project Performance.

Risk management is especially important in agribusiness because project activities are exposed to environmental, operational, production and market uncertainties. Habumuremyi and Mukamana (2023) associate risk mitigation mechanisms with improved project performance in Kigali City. The risk-management perspective suggests that early identification of threats and deliberate response measures protect continuity and improve implementation reliability.

2.3.3 Monitoring and Evaluation and Project Performance.

Monitoring and evaluation provide information needed to compare actual progress with project plans, identify implementation gaps and support corrective action. The World Bank (2022) emphasizes monitoring and evaluation

as important to project accountability and performance management. Regular reviews, milestone tracking and stakeholder feedback can therefore improve decision making and increase the likelihood that project objectives are achieved.

2.4 Conceptual Framework

The conceptual framework presents the relationship between three independent project management practices and project performance as the dependent variable. In line with the revised study, the framework is restricted to three independent variables.

Table 1: Conceptual Framework

Independent Variable Project Management Practices	Dependent Variable Project Performance
Project Planning and Appraisal Risk Assessment and Mitigation Monitoring and Evaluation	Time, scope, quality and stakeholder outcomes

Source: Researcher Conceptualization (2026)

2.5. Research Gap

Despite extensive research on project management and project performance, limited empirical work has focused specifically on agribusiness and food supply-chain projects financed by commercial banks in Rwanda. Existing studies commonly examine planning, risk management or monitoring separately, while fewer studies integrate the three practices within one analytical framework. This study addresses the contextual and empirical gap by examining their combined and individual effects on the performance of the Agribusiness and Food Supply Chains Project financed by Bank of Kigali in Kigali City.

3. Methodology

3.1 Research Design

The study employed a descriptive-correlational mixed-methods research design. The descriptive component summarized project management practices and project performance, while the correlational component examined relationships among project planning and appraisal, risk assessment and mitigation, monitoring and evaluation, and project performance. Quantitative questionnaire data were complemented by semi-structured interviews and documentary review.

3.2 Study Population and Sample

The target population comprised 376 individuals connected to the Agribusiness and Food Supply Chains Project, including project beneficiaries, participating agribusiness representatives and selected project-related implementation stakeholders. The sample size was determined using the Taro Yamane (1967) formula at a 5% margin of error, producing a sample of 194 respondents. Simple random sampling was used for eligible quantitative respondents, while purposive sampling was used for key informants.

3.3 Data Collection Instruments

Primary quantitative data were collected using a structured questionnaire measured on a five-point Likert scale. Qualitative data were obtained through semi-structured interviews, while documentary review was used to provide project and implementation context. The questionnaire was pilot tested before the main study. Reliability analysis produced Cronbach’s alpha of .888, indicating high internal consistency.

3.4 Measurement of Variables

Table 1. Operationalization of study variables.

Variable	Operational focus	Role
Project planning and appraisal	Planning, feasibility, objectives, schedules and appraisal	Independent
Risk assessment and mitigation	Risk identification, assessment, treatment and monitoring	Independent
Monitoring and evaluation	Progress tracking, milestones, reporting and corrective action	Independent
Project performance	Implementation effectiveness and stakeholder outcomes	Dependent

3.5 Data Processing and Analysis

Quantitative data were checked, coded and analyzed using SPSS version 27. Descriptive statistics included frequencies, percentages, means and standard deviations. Pearson correlation analysis was used to examine associations between the independent variables and project performance. Multiple linear regression was used to estimate the relative contribution of the three project management practices. Statistical significance was assessed at the 5% level. Qualitative interview evidence was coded thematically and integrated with the quantitative findings to support interpretation.

The regression model was specified as:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

where Y represents project performance; X_1 is project planning and appraisal; X_2 is risk assessment and mitigation; X_3 is monitoring and evaluation; β_0 is the intercept; β_1 – β_3 are regression coefficients; and ε is the error term.

3.6 Validity, Reliability and Ethical Considerations

Validity was addressed through expert review, pilot testing and alignment of questionnaire items with the study objectives. Reliability was assessed using Cronbach's alpha. Participation was voluntary, respondents were informed of the academic purpose of the study, and confidentiality was maintained. Sources used in the study were acknowledged in accordance with academic integrity requirements.

4. Results and Discussion

4.1 Response Rate and Reliability

All 194 targeted respondents provided valid responses, producing a 100% response rate. Reliability analysis based on the study instrument produced Cronbach's alpha of .888, indicating high internal consistency and supporting use of the questionnaire data for subsequent analysis.

Table 2. Response rate and reliability.

Indicator	Result
Targeted respondents	194
Valid responses	194 (100.0%)
Cronbach's alpha	0.888
Cronbach's alpha based on standardized items	0.989

4.2 Respondent Characteristics

The sample was dominated by respondents aged 31–40 years (44.3%) and 41–50 years (32.0%). Male respondents accounted for 60.3% and female respondents for 39.7%. Bachelor's degree holders represented 46.4% and diploma or certificate holders 41.2%. Agriculture/agribusiness was the largest business category at 30.4%, followed by

manufacturing at 25.8% and services at 21.6%. Most participating businesses had operated for at least two years, indicating that respondents generally had sufficient operational experience to comment on project management practices and project performance.

4.3 Descriptive Statistics

Table 3. Summary descriptive statistics for study variables.

Variable	N	Mean	SD	Interpretation
Project planning and appraisal	194	4.6113	0.62136	Very high
Risk assessment and mitigation	194	4.5052	0.83047	Very high
Monitoring and evaluation	194	4.6546	0.67753	Very high
Project performance	194	4.6361	0.65030	Very high

The descriptive results show strong respondent agreement across all three project management practices and project performance. Monitoring and evaluation recorded the highest aggregate mean ($M = 4.6546$), followed by project planning and appraisal ($M = 4.6113$) and risk assessment and mitigation ($M = 4.5052$). Project performance also recorded a high aggregate mean of 4.6361. These results

indicate that respondents generally perceived the project as being supported by strong management practices and positive implementation outcomes.

4.4 Correlation Analysis

Table 4. Pearson correlation matrix.

Variable	PP&A	RA&M	M&E	Project Performance
Project planning & appraisal (PP&A)	1.000	.013	.149	.502
Risk assessment & mitigation (RA&M)	.013	1.000	.168	.341
Monitoring & evaluation (M&E)	.149	.168	1.000	.479
Project performance	.502	.341	.479	1.000

Project planning and appraisal had the strongest bivariate relationship with project performance ($r = .502$), followed by monitoring and evaluation ($r = .479$) and risk assessment and mitigation ($r = .341$). The positive coefficients indicate that stronger project management

practices were associated with better project performance. The comparatively low correlations among the three predictors also suggest that the retained variables captured distinct dimensions of project management.

4.5 Regression Results

Table 5. Model summary.

R	R Square	Adjusted R Square	Std. Error of Estimate	Durbin-Watson
.701	.492	.484	.467	2.118

Table 6. ANOVA results.

Source	Sum of Squares	df	Mean Square	F	Sig.
Regression	40.12	3	13.37	61.294	<.001
Residual	41.46	190	.218		
Total	81.58	193			

Table 7. Regression coefficients.

Predictor	B	Std. Error	β	t	p
Constant	-0.110	.151		-0.728	.468
Project planning & appraisal	.464	.055	.444	8.484	<.001
Risk assessment & mitigation	.214	.041	.274	5.215	<.001
Monitoring & evaluation	.352	.051	.367	6.916	<.001

The regression model was statistically significant, $F(3, 190) = 61.294$, $p < .001$, and explained 49.2% of the variation in project performance ($R^2 = .492$; adjusted $R^2 = .484$). Project planning and appraisal had the strongest standardized effect on project performance ($\beta = .444$, $p < .001$), followed by monitoring and evaluation ($\beta = .367$, $p < .001$) and risk assessment and mitigation ($\beta = .274$, $p < .001$). Accordingly, all three null hypotheses were rejected.

4.6 Qualitative Findings

Interview evidence reinforced the quantitative results. Participants emphasized that effective planning clarifies project objectives, expected activities, responsibilities, resources and implementation schedules. Feasibility assessment and project appraisal were viewed as important in establishing whether proposed activities were realistic and implementation-ready.

Risk assessment was considered particularly important in agribusiness because implementation is affected by market conditions, production risks, environmental factors, resource constraints and supply-chain disruptions. Participants emphasized the need for context-sensitive risk identification and practical mitigation measures throughout the project life cycle.

Monitoring and evaluation were associated with progress reviews, milestone tracking, reporting, stakeholder consultation and timely corrective action. Participants also identified challenges including inadequate documentation, limited implementation capacity, coordination difficulties and delayed reporting. Suggested improvements included stronger planning, systematic risk registers, clearer

milestones, regular monitoring visits, digital progress tracking and stronger stakeholder communication.

4.7 Discussion of Findings

The results demonstrate that project planning and appraisal are important determinants of project performance. The positive correlation ($r = .502$) and significant standardized regression coefficient ($\beta = .444$, $p < .001$) indicate that stronger planning and appraisal are associated with improved implementation outcomes. This supports Project Management Theory and is consistent with Project Management Institute (2021), Kerzner (2022) and Gatera et al. (2023), which emphasize the importance of clearly defined objectives, realistic planning and implementation readiness.

Risk assessment and mitigation also had a significant positive effect on project performance ($\beta = .274$, $p < .001$). The finding supports Risk Management Theory by showing that systematic identification and treatment of uncertainty contribute to project continuity and resilience. It is also consistent with Habumuremyi and Mukamana (2023), who associate stronger risk-mitigation mechanisms with improved project performance in Kigali City.

Monitoring and evaluation had a significant positive effect on project performance ($\beta = .367$, $p < .001$). This finding reflects the role of monitoring in accountability, learning, milestone tracking and corrective action. The result is consistent with the World Bank (2022) and the broader project-management literature, which position monitoring and evaluation as essential mechanisms for maintaining

alignment between project activities and intended outcomes.

Taken together, the three project management practices explained 49.2% of the variation in project performance. This suggests that project performance is shaped by the combined quality of planning, risk management and monitoring rather than by any single practice in isolation. The findings also align with Stakeholder Theory because effective implementation requires communication, accountability and participation among project beneficiaries, implementing actors and financing stakeholders.

5. Conclusion and Recommendations

5.1 Conclusion

The study concludes that project management practices significantly influence the performance of the Agribusiness and Food Supply Chains Project financed by Bank of Kigali in Kigali City, Rwanda. Project planning and appraisal, risk assessment and mitigation, and monitoring and evaluation all demonstrated positive and statistically significant effects on project performance. Project planning and appraisal recorded the strongest standardized effect, indicating the importance of clear objectives, realistic schedules, feasibility assessment and implementation readiness. Monitoring and evaluation strengthened accountability, progress tracking and corrective action, while risk assessment and mitigation improved the project's capacity to anticipate and respond to uncertainty.

The combined model explained 49.2% of the variation in project performance, confirming that systematic project management contributes materially to project success. The qualitative findings further showed that effective implementation depends on clear milestones, context-sensitive risk management, timely reporting, stakeholder communication and continuous performance review.

5.2 Recommendations

Based on the study's findings, the following recommendations are made:

1. Bank of Kigali and other financing stakeholders should strengthen project appraisal processes by emphasizing feasibility, clear implementation objectives, realistic schedules, resource requirements and measurable performance indicators before and during project implementation.

2. Project managers and agribusiness stakeholders should maintain active risk registers and continuously identify, assess and respond to operational, production, environmental, market and coordination risks.
3. Monitoring and evaluation systems should incorporate regular project reviews, milestone tracking, progress reporting and timely corrective action. Digital progress-tracking tools should be adopted where practical.
4. Project beneficiaries and implementing agencies should strengthen project documentation, record keeping and stakeholder communication to improve accountability and learning throughout the project life cycle.
5. Future research should examine other project-management factors, including stakeholder engagement, leadership, communication, project governance and resource management, and should extend the analysis to other sectors and geographical settings.

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