

Journal of Entrepreneurship & Project Management

ISSN Online: 2616-8464



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ISSN: 2616-8464

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How to cite this article: Mutesi F., & Akims, M. A. (2026). Agile Management Practices and Project Performance in Rwanda: A Case Study of The Kigali Innovation City Project. *Journal of Entrepreneurship & Project Management*, Vol 10(2) pp. 69-84. <https://doi.org/10.53819/81018102t2585>

Abstract

This study investigates the effect of agile management practices on the performance of the Kigali Innovation City Project in Rwanda. The research was guided by three specific objectives: to assess the effect of strategic agility on project performance, to examine the effect of operational agility on project performance, and to evaluate the impact of stakeholder agility on project performance. The study adopted a mixed-methods approach, combining quantitative and qualitative data collection methods. A sample of 178 respondents was drawn from a target population of 320, comprising project staff and workers. Data were collected through structured questionnaires, key informant interviews, and documentary review. Quantitative data were analysed using descriptive and inferential statistics, including multiple regression analysis, while qualitative data were analysed using thematic content analysis. The results showed that the strategic agility did not have a significant influence on the Kigali Innovation City Project ($\beta = -0.005$, $p = 0.952$). The results also showed that operational agility does not have a significant impact on the project performance ($\beta = 0.085$, $p = 0.330$). Results showed that the agility of stakeholders positively and significantly affects the performance of the Kigali Innovation City Project ($\beta = 0.213$, $p = 0.009$). The study concludes that agile management practices collectively contribute to project performance, but the contribution is uneven across the three dimensions examined. The study recommends that the management of the Kigali Innovation City project should continue and improve its stakeholder engagement practices that have helped it to succeed. The project should institutionalise the agility mechanisms of the stakeholders and establish a stakeholder engagement framework consisting of

<https://doi.org/10.53819/81018102t2585>

regular consultation and feedback mechanisms and collaborative decision-making mechanisms that allow the stakeholders to adjust their support and needs as per changing project requirements. This framework should outline the respective roles and responsibilities of all the stakeholder groups involved in the development of the project, including government, private investors, international partners, local businesses and community representatives, and the channels and frequency of communication for each stakeholder group.

Keywords: Agile management practices, strategic agility, operational agility, stakeholder agility, project performance, Kigali Innovation City, Rwanda

1.0 INTRODUCTION

Globally, project performance has become a critical concern for organisations, governments, and development partners. The failure of projects to achieve their intended objectives can often be attributed to the lack of agile management practices among other factors (Project Management Institute, 2020; Trzeciak & Banasik, 2022). Agile management practices have been identified as a key competency for linking project objectives and results, enabling organisations to respond effectively to changing circumstances and optimise resource utilisation. The Project Management Institute (2020) emphasises that agile methodologies facilitate project teams in software development and other sectors to work quickly and cooperatively, ensuring that projects deliver value within the constraints of time, cost, and quality.

In the United States of America, numerous studies have explored the influence of agile management practices on project performance, producing mixed results. Nguyen, Mohamed and Mostafa (2024) found that firms capable of adapting to changes in funding sources, demographics, and demands were more successful in achieving their mission than those that remained rigid and inflexible. Similarly, Gomes et al. (2022) examined the effect of agile management practices on project success in Saudi Arabia, establishing that agile organisations tend to perform well in implementing quality projects. In Europe, Gupta (2022) investigated strategic agility in Germany, noting that it denotes a firm's competence to adjust overall strategy in response to changes in customer needs, technology, and competition.

In Africa, significant progress has been made in strengthening the performance of project quality, with initiatives aimed at improving cost efficiency, timely execution, service delivery, and innovation technologies (Amina & Ngugi, 2022). In the East African region, project success is measured in terms of impact on cost efficiency, timely execution, service delivery, quality of innovation technologies, and availability of technological infrastructures (Ali & Akkaş, 2023).

In Rwanda, the government has initiated several projects aimed at improving infrastructural development. One such project is the Kigali Innovation City Project, initiated in 2019 with the aim of improving infrastructural development by enhancing access to water, electricity, sanitation, and roads (MININFRA, 2022). In Kigali, agile management practices become essential for ensuring that the project is able to meet its goals and objectives in a rapidly changing landscape of funding, policy, technology, and social needs. A lack of management agility can lead to project failure, as it prevents the project from responding to changing circumstances and adjusting to new challenges.

The research problem underpinning this study is the poor performance observed in most projects implemented in Rwanda (Alliouli & Mourdi, 2023). Low project performance has been attributed

to limitations in the application of agile management practices (Endres, Huesig & Pesch, 2022). Infrastructural development projects in Kigali have failed to achieve their objectives between 2021 and 2024, with 29% not succeeding in 2021, 33% in 2022, and 49% in 2023 (City of Kigali, 2024). At the same time, the project completion rate remains low, with only 72% of projects achieving their intended outcomes (Zavyalova, Sokolov & Lisovskaya, 2020).

Previous studies on this concept have been largely generalised, conducted outside Rwanda; even the few studies conducted in Rwanda (Mutabazi, 2022; Ndizihiwe, 2022; Kirori, 2023) demonstrated positive correlations between project management practices and project success but did not clearly establish the influence of specific agile strategy, operational, and stakeholder agile practices on project performance. Furthermore, previous studies (Trzeciak & Banasik, 2022; Weichbroth, 2022; Alloui & Mourdi, 2023) adopted qualitative approaches, which necessitated the use of a mixed approach in infrastructural development projects.

In light of these considerations, the researcher sought to bridge methodological, literature, contextual, and theoretical gaps by investigating the influence of agile management practices on the performance of the Kigali Innovation City Project using a mixed-methods approach. Specifically, the assess the effect of strategic agility, operational agility, stakeholder agility of project on the performance of the Kigali Innovation City Project. The follow hypotheses were tested:

H₁: Strategic agility of project has a statistically significant effect on the performance of the Kigali Innovation City Project.

H₂: Operational agility of project has a statistically significant effect on the performance of the Kigali Innovation City Project.

H₃: Stakeholder agility of project has a statistically significant effect on the performance of the Kigali Innovation City Project.

2.0 LITERATURE REVIEW

2.1 Theoretical Framework

2.1.1 Organisational Adaptation Theory

Organisational adaptation theory has its roots in the field of organisational sociology, with development traced back to the work of prominent scholars such as Leong, May Yee, Baitsegi, Palanisamy, and Ramasamy (2023). The theory seeks to explain how organisations respond and adapt to changes in their external and internal environments. It suggests that organisations need to adapt to survive and thrive in dynamic and uncertain environments, and that the ability to adapt is crucial for an organisation's long-term success.

According to Faith and Yusuf (2024), organisational adaptation theory is based on four key assumptions. First, it assumes that organisations are open systems that face uncertainty and change from the external environment. Second, it assumes that organisations need to adapt to survive and thrive amidst uncertainties. Third, it assumes that adaptation is a continuous process that involves strategic choices. Fourth, it assumes that leadership, culture, and learning are crucial for adaptation.

In this study, organisational adaptation theory provides insights into how projects and organisations function, develop, and adapt to changes in the external environment. It is an

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important field of study for project managers and organisational leaders who want to optimise their organisational processes, structures, and strategies.

2.1.2 Situational Theory

The situational approach, also known as contingency theory, argues that effective leadership is contingent upon the match between leadership style and situational context. Situational theorists propose that there is no one-size-fits-all model to management and that managers need to adapt their management styles based on the specific conditions they are encountering. The model was initially formulated by Hersey and Blanchard in 1969 as the "Life Cycle Theory of Leadership" and has since been further developed and refined by various researchers (Sathe & Panse, 2023).

Situational theory relies on three key assumptions. The first assumption is that leadership is not fixed but flexible and agile. The second assumption is that different situations require different leadership styles. The third assumption is that followers' readiness level is important, defined as their capacity and commitment to successfully complete a task or achieve a goal (Sathe & Panse, 2023).

In this study, situational theory offers a mechanism for articulating these assumptions by acknowledging that there are multiple ways of addressing issues and that managers need to examine conditions and the maturity level of followers to determine what approach is most effective.

2.1.3 Triple Constraints Theory

The triple constraints theory has been adopted for at least 50 years, with its origins traceable to the Theory of Constraints advanced by Garvey, Samuel and Pelaez (2021). According to this theory, time, cost, and scope all affect project performance. The theory is a fundamental tenet in project management that pinpoints the interconnectedness and trade-offs among three key factors of a project: time, cost, and scope. The theory proposes that these three constraints are interrelated, and any change in one constraint inevitably impacts the other two, thus requiring careful management to balance and optimise the quality of project outcomes.

According to Sonar et al. (2022), the three components of the triple constraints are cost, time, and scope. Time refers to the project schedule or the duration required for completing the project, including setting deadlines, establishing milestones, and managing the project timeline. Cost includes budgeting, estimating costs, and managing project expenses. Changes in project cost, such as budget overruns or cost savings, can impact the project's financial performance and budget constraints. Scope refers to the deliverables, features, and requirements that define the project's outcomes.

The triple constraints theory is relevant for this study as it serves as a guiding principle for project managers to make informed decisions and trade-offs among time, cost, and scope based on project priorities, stakeholder expectations, and available resources.

2.2 Empirical Literature

2.2.1 Strategic Agility and Project Performance

Most previous studies have evidenced a positive influence of strategic agility on project performance. Chathuranga, Wickramarachchi, and Jayasinghe (2023) carried out a study on the influence of strategic agility on project success in the construction sector, finding that higher levels of strategic agility, including the ability to modify project plans and strategies in response to

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changing circumstances, positively influenced project performance. Similarly, Chathuranga et al. (2023) undertook research in the information technology sector and established that organisations exhibiting higher levels of strategic agility were more likely to achieve successful project outcomes and meet project objectives.

However, some studies have reported a negative influence of strategic agility on project performance. Agbejule and Lehtineva (2022) conducted a study on the impact of strategic flexibility on project outcomes within the aerospace and defence sector, finding an absence of hard evidence favouring agile project management playing a significant role in startup performance. Altuwaijri and Ferrario (2022) found that excessive strategic agility negatively influenced project performance by increasing project complexity and causing delays in project completion.

2.2.2 Operational Agility and Project Performance

Several scholars have demonstrated a clear influence of operational agility on project success. Sarangee et al. (2022) studied project operational agile management and project performance in large construction projects, finding that operational agility, including the capacity to quickly respond to adjustments in project scope and requirements, positively impacted project performance. Sharma et al. (2022) conducted research on operational agility and its effect on project implementation in the infrastructural sector, finding that 87.9% of participants confirmed that poor financial assistance and scarcity of financial means strongly influence project execution.

Stanitsas and Kirytopoulos (2023) carried out research on the role of project operational agility on project success in Greece, finding that 87.9% of respondents evidenced that firms had implemented their projects and attained their objectives through the use of operational agility and skilled stakeholders. The study concluded that the application of operational agility strongly affected project success.

2.2.3 Stakeholder Agility and Project Performance

Several studies have found that stakeholder agility positively affects project performance. Gupta (2022) undertook research on construction projects, establishing that stakeholder agility, in terms of their ability to adjust their expectations, requirements, and behaviours, significantly influenced project performance, resulting in improved project outcomes. Marques, dos Reis Morais, Alves and Gonçalves (2023) carried out research on IT projects, finding that stakeholder agility, in terms of their ability to adjust their requirements and expectations, positively influenced project success.

Faith and Yusuf (2024) conducted a study on new product development projects, finding that stakeholder agility had both positive and negative effects on project performance, depending on the stage of the project. However, Holbeche (2023) conducted research on construction projects and found that stakeholder agility did not significantly influence project performance, as other factors such as project complexity and management effectiveness played a more dominant role.

2.3 Conceptual Framework

The conceptual framework for this study illustrates the relationship between agile management practices (independent variable) and project performance (dependent variable). Agile management practices are represented by three constructs: strategic agility, operational agility, and stakeholder agility. Project performance is measured by four indicators: project cost efficiency, project timely execution and service delivery, quality of innovation technologies, and availability of technological infrastructures.

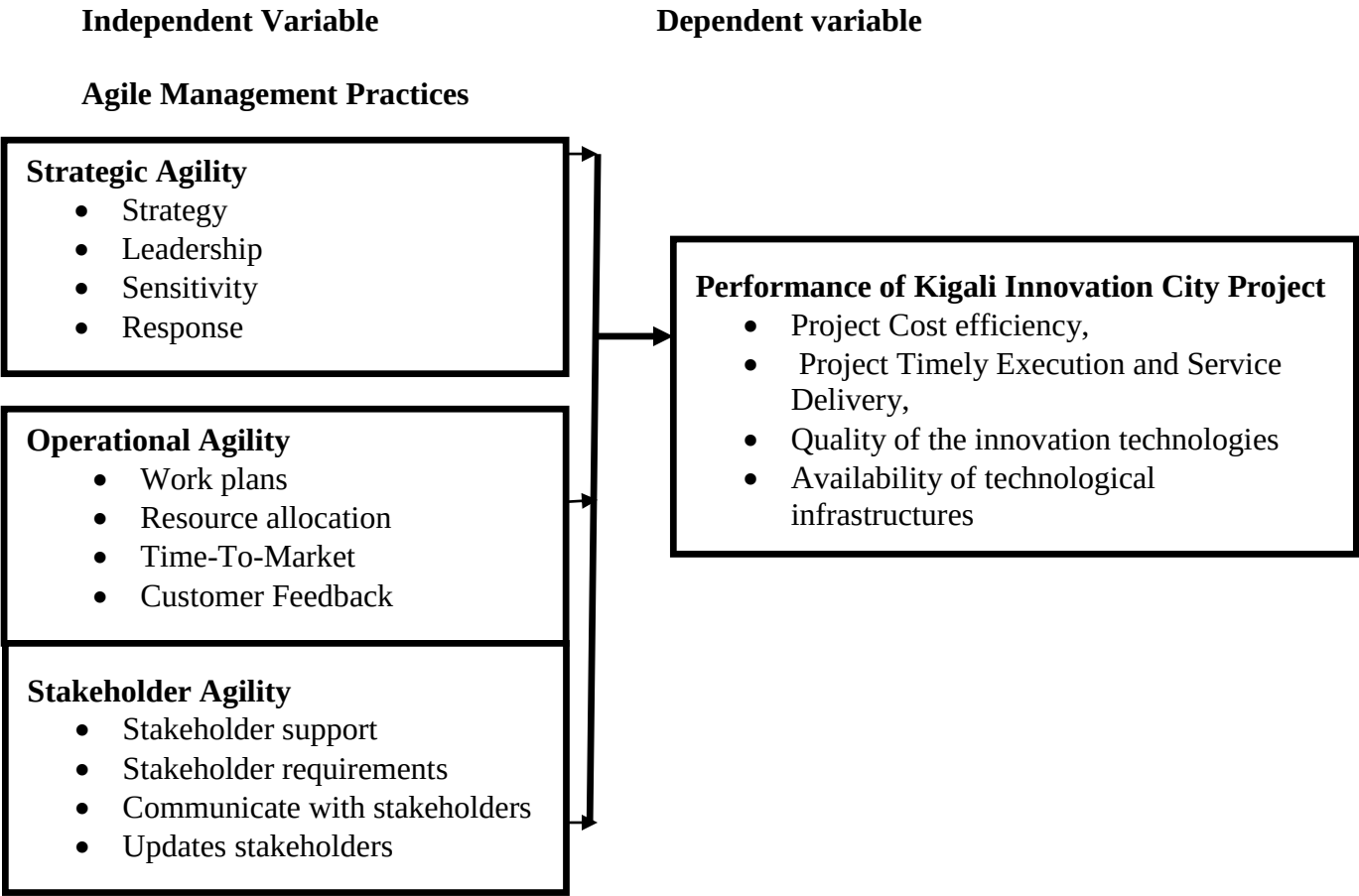


Figure 2. 1 Conceptual Framework
Source: Author (2025)

3.0 METHODOLOGY

3.1 Research Design

The research design for this study involved the use of both correlation and case study methods with quantitative and qualitative approaches. The correlation method was used to investigate the association between agile management practices and project performance, while the case study method was used to gain an in-depth understanding of the contextual dynamics of agile management in project performance in Rwanda, using the Kigali Innovation City Project as a case study.

3.2 Target Population and Sample

The study focused on the Kigali Innovation City Project, with a target population of 320 people, comprising 15 project staff and 305 workers. The sample size was determined using Yamane's (1967) simplified sampling formula:

$$n = N / (1 + N(e)^2)$$

Where n is the required sample size, N is the target population, and e is the sampling error (0.05). This yielded a sample size of 178 respondents, comprising 15 project staff (selected purposively) and 163 workers (selected using simple random sampling).

3.3 Data Collection Methods

Data were collected using three methods: structured questionnaires, key informant interviews, and documentary analysis. Quantitative data were collected using a Likert-scale questionnaire with responses ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Qualitative data were collected through semi-structured interviews with project staff and key informants, as well as through review of relevant project documents.

3.4 Reliability and Validity

Reliability was assessed by conducting Cronbach's Alpha coefficients tests using Statistical Product and Service Solutions (SPSS). A Cronbach's Alpha coefficient of ≥ 0.70 was considered acceptable. Validity was confirmed using Content Validity Index (CVI), with a threshold of ≥ 0.70 considered acceptable.

3.5 Data Analysis

Quantitative data were analysed using descriptive and inferential statistics, including Pearson correlation and multiple linear regression analysis. The regression model was specified as:

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

Where:

- Y = Project Performance
- X_1 = Strategic Agility
- X_2 = Operational Agility
- X_3 = Stakeholder Agility
- β_0 = Constant
- $\beta_1, \beta_2, \beta_3$ = Regression Coefficients
- ε = Error Term

Qualitative data were analysed using thematic content analysis, with themes derived from the research questions and literature review.

4.0 RESULTS AND DISCUSSION

4.1 Response Rate

The study achieved a high response rate of 97.5% for the questionnaire survey, with 159 out of the 163 distributed questionnaires properly filled and returned. Additionally, all 15 planned key informant interviews were successfully conducted, yielding a 100% response rate for the qualitative data collection.

4.2 Demographic Characteristics of Respondents

Table 1: Demographic Characteristics of Respondents

Characteristic	Category	Frequency	Percent
Age Category	18-24 Years	11	6.9%
	25-34 Years	9	5.7%
	35-44 Years	37	23.3%
	45-54 Years	61	38.4%
	55 Years and Above	41	25.8%
Gender	Male	77	48.4%
	Female	82	51.6%
Qualification	Certificate	33	20.8%
	Diploma	58	36.5%
	Bachelor's Degree	68	42.8%
Experience	Less than 1 Year	8	5.0%
	1-2 Years	107	67.3%
	2-3 Years	44	27.7%

Source: Field Survey (2026)

The majority of respondents (38.4%) fell within the 45-54 years age category, followed by 55 years and above (25.8%). The gender distribution was fairly balanced, with a slightly higher representation of females (51.6%) compared to males (48.4%). Most respondents (42.8%) held a Bachelor's degree, and the majority (67.3%) had been involved in the project for 1-2 years.

Table 2: Descriptive Statistics for Strategic Agility Practices

Statement	Mean	Std. Dev.
The organization regularly reviews its strategy to ensure it remains relevant and agile	3.9874	.84184
The organization's strategy is flexible enough to accommodate unforeseen circumstances	3.3899	1.38670
The organization actively seeks out feedback from stakeholders to inform its strategic decisions	3.7547	1.09497
The organization has a culture that values agility in its strategic planning	3.9686	1.17150
The leadership is agile and can change course quickly when needed.	3.8805	1.29441
The leadership is open-minded and willing to consider different viewpoints and approaches	4.0692	1.23309
The leadership is responsive to changes in the market or industry	3.6478	1.31755
The leadership is able to adjust to unforeseen challenges and still achieve its goals	3.6918	1.36386
The leadership is capable to make balance of expectations of stakeholders and respond to their changing expectations	4.1069	1.20438
Average Mean	3.8329	1.21203

Source: Field Survey (2026)

The findings also revealed a strong overall strategic agility score for the Kigali Innovation City Project, which suggests that the project team possesses ample ability to modify the strategic path

<https://doi.org/10.53819/81018102t2585>

to keep pace with the ongoing and changing demands of the project. A high mean score was achieved on leadership open to differing views ($M=4.07$), showing that leaders are open to a different and diverse set of perspectives on the issues in addition to engaging stakeholders in decision-making processes. Respondents also reported that leadership takes into account varied interests and perspectives ($M=4.11$) and the organisation is conducive to developing strategic agility ($M=3.97$), as indicated by high mean scores. However, a comparatively low mean score on leadership's ability to adapt the strategy to unpredicted and emergent situations ($M=3.39$) indicated that strategic responsiveness is not very strong during uncertain times. It suggested that leaders may have the capabilities to quickly change the strategy, but organisational infrastructure and strategies are not dynamic enough to cope with sudden crises. It suggests the need to improve strategic flexibility to improve the project's capability to sustain its performance under constantly changing circumstances. Key informants' findings supported the results on strategy and indicated that although some efforts are being made to make strategy reviews, they need to be done more frequently and speedily in an efficient and prompt manner. Additionally, decision-making processes can lag behind in responding to changes in the market and industry.

Table 3: Descriptive Statistics for Operational Agility Practices

Statement	Mean	Std. Dev.
Our project team is able to adjust work plans quickly when unexpected changes occur	4.2579	1.10930
The project team is flexible enough to modify work plans based on feedback from stakeholders	3.6792	1.37021
Our project team is capable of responding to unforeseen challenges in the project plan	4.0692	1.16987
Our project team is skilled in adapting work plans to account for changes in project scope or requirements	3.9057	1.29161
The allocation of resources can be adapted to changing project needs	3.8239	1.20932
The project team balances the needs of different project tasks when reallocating resources	3.8428	1.38040
The project team can allocates resources effectively to achieve project objectives	3.9434	1.10376
The allocation of resources is appropriate for the needs of the project	4.3585	.92970
The project team is efficient in allocating resources to complete tasks on time	4.2075	1.03774
Average Mean	4.0097	1.17799

Source: Field Survey (2026)

The descriptive analysis found a high degree of operational agility in the project, meaning that the team can readily adjust its day-to-day operations to meet project changes. Strong agreement among respondents ($M=4.36$ for resources are allocated appropriately to meet the needs of the project and $M=4.26$ for work plans can be changed promptly in response to an unexpected issue), along with effectiveness ($M=4.21$ for resources are efficiently allocated to achieve the goals of the project), indicates that the operational elements of the project can be rapidly realigned. However, relatively lower scores for $M=3.68$ for work plans can be adjusted in response to feedback from various stakeholders, suggesting the need for greater engagement of stakeholders in operational decisions. Thus, the operational agility of the Kigali Innovation City Project appears very strong. It also enables the project to cope with unexpected events in order to ensure its continuity and

speed of project outcomes. Key informant interviews provided some insight, as project managers explained that operational flexibility is key to overcoming unforeseen challenges and is influenced by leadership's and government's directions and assistance in balancing between conflicting needs. Some respondents also confirmed that operational flexibility is necessary, but the ability to make rapid decisions could be accelerated and market changes responded to more promptly.

Table 4: Descriptive Statistics for Stakeholder Agility Practices

Statement	Mean	Std. Dev.
The stakeholders have been willing to adapt their support as the project's needs change	4.2642	.88198
The stakeholders have demonstrated a willingness to adjust their expectations and requirements to better support the project	3.8176	1.25716
The stakeholders have been proactive in identifying potential issues or obstacles to the project's success and have worked to address them	4.1761	1.20932
The stakeholders have demonstrated a commitment to the project's success by providing ongoing support and feedback	4.4906	.50149
The project stakeholders are open to adjusting their requirements	4.4340	.63174
The stakeholders are willing to compromise on their requirements when necessary	4.1698	.99497
The stakeholders agile is positively affecting the Performance of Kigali Innovation City Project	4.2830	.91494
The stakeholders willingness contributed to the Performance of Kigali Innovation City Project	4.0881	1.09881
The proactive contributed to the project's success and have worked to address them	3.8868	1.19588
Average Mean	4.1789	0.96514

Source: Field Survey (2026)

With regard to stakeholder agility, there is a strong level of stakeholder agility in the Kigali Innovation City Project, which demonstrates that stakeholders' active involvement is central to its success. There was strong agreement with M=4.49 for stakeholders demonstrating constant engagement through continuous support and feedback and M=4.43 for stakeholders being willing to modify their requirements as and when necessary. Respondents also rated stakeholders as proactive to identify risks and propose solutions to support success of the project as favourable (M=4.18). Stakeholders are generally receptive to their role in the successful delivery of the project, as there are some issues in the ability of stakeholders to adjust expectations as well as the requirement for the project (M=3.82) indicates that stakeholder flexibility is not high in all the issues.

However, the findings suggest that stakeholder agility will have a positive influence on the performance of the Kigali Innovation City Project in enhancing the information exchange and solving various problems effectively to ensure project success. The findings from key informants strongly support these results, with multiple respondents pointing out that stakeholders have generally shown an excellent readiness to adjust their assistance and proactively identify and solve any problems they encounter and maintain their continued support of the project. Stakeholder flexibility has allowed for the project to swiftly respond to various needs of stakeholders, remove

obstacles, and create a favourable environment for overall cooperation, as the government representatives explained that an accommodating environment for stakeholder interaction allows us to swiftly respond to a dynamic market environment by tackling bureaucratic obstacles, removing red tape, and enhancing communication flows across government agencies.

Table 5: Descriptive Statistics on Project Performance

Statement	Mean	Std. Dev.
There is an increase and insurance of project cost efficiency in the management of Kigali Innovation City project	4.0063	1.15560
The Kigali Innovation city project was implemented timely and service services were delivered on time delivery	4.2327	.67688
The quality of outcomes of Kigali Innovation City was higher and adequate due to agile project management	2.8994	1.60771
In the implementation of Kigali Innovation City project, there was available and enough technological infrastructures achieved	3.8491	1.29355
Insurance of project cost efficiency contributed to the success of Kigali Innovation City project	3.8679	.88670
Timely and service services contributed to the success of Kigali Innovation City project	3.9119	.99609
The agile project management contributed to the success of Kigali Innovation City project	2.8239	1.19881
Available and enough technological infrastructures have contributed to the success of Kigali Innovation City project	4.2516	.68407
All factors has contributed the success of Kigali Innovation City project	3.9434	.78147
Average Mean	3.7540	1.03121

Source: Field Survey (2026)

The descriptive findings show that overall the Kigali Innovation City Project performed moderately well in timely project outcomes, with favourable scores across timely service delivery (M=4.23) and usefulness of technology in support of the project goals (M=4.25), and that all variables contribute to project success (M=3.94). The relatively low quality of outcomes (M=2.90) and agile contribution in the project success (M=2.82) indicate that although there has been much progress, there is room for improvement in terms of the consistency of outcomes, as well as to fully capitalise on the benefits of agile management. Key informants' interviews generally corroborate these results. Several participants suggested that stakeholders had shown a high degree of flexibility, engagement and commitment in striving towards the success of the Kigali Innovation City Project. Participants mentioned that they have been ready to change their attitudes and approach according to changes on the ground, anticipated the various problems, and provided feedback that assisted in project implementation and maintained their support in the pursuit of the project's objectives. They further acknowledged the level of willingness of various stakeholders in being receptive of changes which made the project resilient against problems, maintained its momentum, and enhanced the participatory problem-solving efforts. One informant observed the following: "Stakeholders' willingness and flexibility to the changing conditions made it easier for the project to maintain performance levels for optimal outcomes

Regression Analysis

To investigate how strategic agility, operational agility and stakeholder agility affect the performance of the Kigali Innovation City Project, regression analysis was performed. The analysis offers empirical support for the predictive power and the statistical significance of each dimension of agile management practices with respect to project performance variations.

Table 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.229 ^a	.052	.034	.45963

Source: Field Survey (2026)

The model summary results showed that agile management practices are positively but slightly explanatory to the performance of the Kigali Innovation City project. The results of the correlation coefficient ($R = 0.229$) indicate that there is a weak positive relationship between agile practices and project performance. Moreover, the model's coefficient of determination ($R^2 = 0.052$) suggests that 5.2 per cent of the project performance variations are explained by the three types of strategic agility, operational agility and stakeholder agility, while 94.8 per cent of the variations are not. Despite the low level of explaining the model's power, the results still indicate that agile management practices are significant factors affecting project performances and should be taken into account alongside other organisational and environmental factors.

Table 7: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.808	3	.603	2.852	.039 ^b
	Residual	32.745	155	.211		
	Total	34.552	158			

Source: Field Survey (2026)

An analysis of variance (ANOVA) showed that the model is statistically significant ($F = 2.852$, $p = 0.039$). The results of this finding point to the fact that performance of the Kigali Innovation City Project is greatly influenced by the combined impact of all three types of agility, namely strategic agility, operational agility and stakeholder agility. The statistical significance of the model indicates that the independent variables, taken together, contribute a meaningful explanation of variation in project performance. The results therefore support the importance of agile management practices as an integrated management approach for improving the performance of large-scale infrastructure projects.

Table 8: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.948	.686		2.841	.005
	Strategic Agility	-.003	.050	-.005	-.060	.952
	Operational Agility	.126	.129	.085	.978	.330
	Stakeholder Agility	.314	.119	.213	2.631	.009

Source: Field Survey (2026)

The findings demonstrated that strategic agility did not have a statistically significant influence on the performance of the Kigali Innovation City Project ($\beta = -0.005$, $p = 0.952$). The probability value is higher than the 0.05 level of significance, and thus, the study does not reject the null hypothesis (H_{01}), and it can be concluded that there is no significant difference between the use of strategic agility and project performance. This discovery indicates that those strategic actions and leadership adaptability have not been fully incorporated into the implementation of the projects, thereby not yielding measurable results. This finding offers some support for the organisational adaptation theory and situational theory that focus on the importance of ongoing adaptation and flexible leadership for the success of an organisation. The findings contradict Chaturanga, Wickramarachchi and Jayasinghe (2023) and Gupta (2022), who reported a positive contribution of strategic agility to project performance, but they are in line with the findings of Altuwaijri and Ferrario (2022) and Agbejule and Lehtineva (2022), who reported a non-determinative effect of strategic agility on project outcomes.

The results also showed that operational agility does not have a significant impact on project performance ($\beta = 0.085$, $p = 0.330$). As the probability value is more than 0.05, the study does not reject the null hypothesis (H_{02}), and hence it is concluded that there is no statistically significant relationship between operational agility and project performance. This implies that flexibility of work plans and resource allocation might not be enough to enhance project benefits without good institutional support and coordination arrangements. The finding lends limited support to the triple constraints theory and situational theory, which are focused on balancing the project resources and adapting the project management strategy to the conditions. This finding is in contrast to Sarangee et al. (2022), Sharma et al. (2022) and Stanitsas and Kirytopoulos (2023), who found that operational agility has a positive impact on project performance, which may stem from variances in organisational and contextual factors.

The findings revealed that the performance of the Kigali Innovation City Project (KIC Project) is positively affected by stakeholder agility, with a positive β coefficient of 0.213 and a p value of 0.009. The probability value $p < 0.05$ means that the study rejects the null hypothesis (H_{03}), and it is concluded that the agility of stakeholders has a significant effect on project performance. The result suggests that the proactive involvement of stakeholders, flexibility, and ongoing support are key factors in successful projects. The findings are very supportive of organisational adaptation theory and situational theory, which both stress the need for ongoing cooperation and flexibility to

<https://doi.org/10.53819/81018102t2585>

the needs of stakeholders to achieve organisational goals. The finding agrees with Gupta (2022), Marques et al. (2023), and Faith and Yusuf (2024), who found positive relationships between stakeholder agility and project performance, but disagrees with Holbeche (2023), who reported that stakeholder agility was not a significant determinant of project success.

6.0 CONCLUSION AND RECOMMENDATIONS

This research points to the importance of agile management practices on the performance of the Kigali Innovation City Project but finds that this impact is different depending on dimensions. The effects of strategic agility and operational agility were statistically not different from one another in relation to project performance, but stakeholder agility was found as an important factor driving project success. The results indicated that successful stakeholder engagement with the project, ongoing communication and stakeholders' capability of adjusting to the project requirements were important to ensure the successful project outcomes. The study emphasises that stakeholders' collaboration is a more powerful lever to improve project performance than strategic and operational modifications, thus promoting the integration and participative approach in agile project management. To this effect, the study recommends that:

- i. The Kigali Innovation City Project management should enhance the strategic planning integration in the project implementation by institutionalising environmental scanning and periodic review of strategy and facilitating an adaptive decision-making process in order to translate strategic efforts into the desired outcomes.
- ii. Project management should optimise coordinating mechanisms through improving resource management systems, improving work-plan monitoring procedures and offering continuous capacity-building programmes to allow operational adjustments to achieve measurable performance improvements.
- iii. There must be strong project management processes in place that support ongoing stakeholder engagement through communication, feedback, taking stakeholder decisions and proactive engagement with stakeholders throughout the project lifecycle to maintain and enhance project performance.

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