



Effect of Public-Private Partnership Practices on Capital Project Performance in Rwanda: A Case of Infrastructure Capital Projects in Bugesera District

Anibal Marie di Francia Niyitanga, Martin K. Gachukia
University of Kigali

<https://orcid.org/0009-0001-6827-8223>

Email: muchdimaria.francia@gmail.com

Abstract: This study assessed the effect of Public-Private Partnership practices on the performance of infrastructure capital projects in Bugesera District, Rwanda. The study examined contract governance and performance monitoring, risk allocation and risk management mechanisms, stakeholder coordination and institutional collaboration, and financing structure and value-for-money practices. The study was guided by Agency Theory, Risk Allocation Theory, Stakeholder Theory, Value-for-Money Theory, Transaction Cost Economics, and Systems Theory. A mixed-methods approach was applied through descriptive, correlational and explanatory research designs. The target population comprised 150 infrastructure stakeholders, from whom 109 respondents were selected. Descriptive findings showed positive agreement and homogeneous composite responses across all study variables. Contract governance and performance monitoring ($B=0.254$, $t=2.702$, $p=0.008$), risk allocation and risk management mechanisms ($B=0.200$, $t=2.198$, $p=0.029$), stakeholder coordination and institutional collaboration ($B=0.270$, $t=2.784$, $p=0.007$), and financing structure and value-for-money practices ($B=0.263$, $t=2.740$, $p=0.007$) had positive and statistically significant effects on capital project performance. The model explained 79.8% of the variation in capital project performance. The study concluded that coordinated PPP governance, appropriate risk allocation, effective stakeholder collaboration and disciplined value-for-money practices jointly strengthened infrastructure capital project performance in Bugesera District. It recommended integrated contract monitoring, regularly updated risk responsibilities, structured stakeholder coordination and lifecycle-based financing review.

Keywords: Public-Private Partnership Practices, Contract Governance, Risk Allocation, Stakeholder Coordination, Value-for-Money Practices, Capital Project Performance.

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1. Introduction

Infrastructure development had become a major feature of the transformation taking place in Bugesera District. The district was increasingly associated with capital investments in aviation, industrial infrastructure, education campuses, roads, utilities and tourism-related facilities. Such projects required considerable financing, technical expertise, institutional coordination and effective project-management systems. Bugesera District therefore provided a relevant setting for

examining how infrastructure projects were structured, financed, implemented and monitored (Rwanda Development Board [RDB], 2023).

Governments throughout the world have persisted in using PPPs as a means of integrating public goals with private sector resources, including capital, technical know-how, creativity, and operational experience. The original idea behind public-private partnerships (PPPs) was to streamline the process of delivering infrastructure by dividing up roles and duties and distributing risks accordingly. Their success,

nevertheless, hinged on trustworthy organizations, well-defined agreements, fair distribution of risks, open funding, and efficient cooperation among all parties involved (Asian Development Bank [ADB], 2022; Gupta & Sharma, 2023).

The process of identifying, planning, procuring, approving, implementing, and monitoring public-private partnership (PPP) projects was well-established in Rwanda's legislative and institutional framework. The framework laid the groundwork for organizing infrastructure partnerships by defining the roles of public institutions and commercial partners. However, a recent evaluation of Rwanda's PPP framework revealed that strong institutional support, clear processes, and regular project monitoring were necessary for successful implementation (World Bank, 2023).

Successful capital projects were not always the result of PPP partnerships. Appropriate finance and value-for-money choices, thorough monitoring, transparent and equitable risk distribution, stakeholder participation, and well-defined contractual duties all contributed to the project's success. The benefits of private involvement may not materialize as planned if developing-country PPPs suffer from ineffective leadership, poor risk assessment, and disjointed planning (Aljaber et al., 2024; Li & Wang, 2023).

Major infrastructure projects and development platforms were held in Bugesera District, making it strategically significant. Investments in educational facilities, transportation systems, utilities, and tourist attractions were among them. So were the New Bugesera International Airport and the Bugesera Special Economic Zone. In 2022, the Rwandan government and ARISE Integrated Industrial Platforms inked a framework agreement to establish a special economic zone in Bugesera. This move highlighted the district's growing importance in the development of public-private infrastructure (RDB, 2022).

According to the Ministry of Infrastructure (2023), the area was seeing a significant investment in aviation with the development of the New Bugesera International Airport. Private investment and industrial growth were the goals of the Bugesera Special Economic Zone (RDB, 2022). At Bugesera, there was a large campus for conservation agriculture and education run by the Rwanda Institute for Conservation Agriculture (RICA), and a permanent campus for the School of Leadership, Afghanistan was being developed in Rwanda (SOLA, n.d.). These initiatives provide a real-world context for studying project management, finance, risk, and collaboration.

Consequently, this research looked at how infrastructure projects in Bugesera District fared after using PPP principles. Confidential project materials were not necessary. Information was instead culled from people with a stake in the infrastructure, such as representatives

from public institutions, developers, architects, engineers, quantity surveyors, project managers, contractors, consultants, operators, and others versed in the planning, funding, execution, and maintenance of infrastructure (Clark et al., 2022).

The original idea behind public-private partnership (PPP) models was to enhance infrastructure delivery by integrating public-sector goals with private-sector resources, knowledge, creativity, and initiative. However, public-private partnerships (PPPs) capital projects still faced challenges such as unexpected costs, disagreements, lack of oversight, subpar quality, unpreparedness for operations, and inability to provide public benefit in the long run. Performance in public-private partnerships (PPPs) in poor nations was shown to be contingent upon factors such as adequate contractual structures, financial feasibility, government backing, private-sector capabilities, transparent governance, and high-quality procurement (Aljaber et al., 2024).

Major capital projects and investments in vital infrastructure have come to Bugesera District, but money couldn't buy success for every initiative. Inadequate stakeholder coordination may impede approvals and implementation; unclear contracts may weaken accountability; and unsuitable financing arrangements may undermine affordability and long-term sustainability. Inappropriate risk allocation can lead to disputes, renegotiations, delays, and financial pressure. According to recent studies on public-private partnerships (PPPs), the success and sustainability of a project depend critically on the quality of its risk management and allocation (Mazher, 2025; Rasheed et al., 2024).

Although Rwanda has a public-private partnership framework and an increasing number of capital projects are located in Bugesera District, there is a lack of empirical research at the district level that investigates the impact of individual PPP practices on the success of these projects. Instead of studying the combined effects of contract governance, risk allocation, stakeholder coordination, and value-for-money practices within Bugesera District, most recent literature has concentrated on international projects, national institutional conditions, or specific sectors (Gupta & Sharma, 2023; Zhao et al., 2023).

Capital project performance in Bugesera District may suffer from disjointed coordination, muddled roles and duties throughout implementation, a lack of visibility into project metrics, and an inability to ascertain the long-term benefits of public-private partnerships. There was a lack of data from project stakeholders on which PPP techniques had the most impact on time, budget, quality, stakeholder happiness, operational preparedness, and sustainability. The need for analysis based on unique contexts is emphasized by recent research that has connected PPP sustainability to risks

relating to stakeholders, finances, institutions, and operations (Li & Wang, 2023).

To solve this issue, the research surveyed people with a vested interest in the infrastructure development and delivery processes in Bugesera District to determine how public-private partnerships (PPPs) affected the success of capital projects.

1.1 General Objective

The general objective of this study is to examine the effect of Public-Private Partnership practices on the performance of selected infrastructure capital projects in Bugesera District, Rwanda.

1.2 Specific Objectives

To achieve the general goal, this study will focus on the following specific objectives:

1. To assess the effect of contract governance and performance monitoring on the performance of selected infrastructure capital projects in Bugesera District.
2. To evaluate the effect of risk allocation and risk management mechanisms on the performance of selected infrastructure capital projects in Bugesera District.
3. To examine the effect of stakeholder coordination and institutional collaboration on the performance of selected infrastructure capital projects in Bugesera District.
4. To assess the effect of financing structure and value-for-money practices on the performance of selected infrastructure capital projects in Bugesera District.

2. Literature Review

This section reviewed literature on Public-Private Partnership practices and capital project performance. It was organized into conceptual review, theoretical review, empirical review, conceptual framework and research gap identification. The arrangement aligned the literature with the study objectives and explained how PPP practices related to the performance of selected infrastructure capital projects (Saunders et al., 2023).

2.1 Theoretical Review

This section reviewed six theoretical perspectives that supported the relationships between PPP practices and capital project performance: Agency Theory, Risk Allocation Theory, Stakeholder Theory, Value-for-Money Theory, Transaction Cost Economics and Systems Theory. The perspectives were used to explain contractual accountability, risk assignment, stakeholder

coordination, lifecycle value, governance choices and the interdependence of project-management practices.

2.1.1 Agency Theory (AT)

Agency Theory explained relationships in which a principal delegated responsibilities to an agent. In PPP projects, public institutions could delegate design, construction, financing, operation or maintenance responsibilities to private actors. Such delegation created a need for role clarity, performance monitoring, accountability and enforcement. Contemporary PPP governance research showed that managerial action and contractual structures jointly shaped project governance and performance (Benitez-Avila & Hartmann, 2023). Foundational agency theory also explains how information asymmetry, goal conflict, incentives and risk-sharing shape principal-agent relationships, reinforcing the need for monitoring and accountability in delegated arrangements (Eisenhardt, 1989).

Agency problems arose when delegated decision-making authority and the interests of public and private parties were not fully aligned. Public institutions generally emphasised affordability, service continuity, quality and long-term public value, whereas private partners could place greater emphasis on commercial return and risk exposure. Contract governance reduced information asymmetry and clarified the consequences of non-performance (Gupta & Sharma, 2023).

Agency Theory supported the first objective by explaining how contract governance and performance monitoring affected capital project performance. Clear duties, measurable indicators, reporting procedures and enforcement mechanisms aligned the conduct of public and private actors with agreed project outcomes.

2.1.2 Risk Allocation Theory

Risk Allocation Theory held that project risks should be allocated to the party best able to manage, control or absorb them. PPP projects could face land, design, construction, financing, demand, operational, maintenance, approval, political and environmental risks. Inappropriate allocation could produce cost escalation, delay, renegotiation, disputes and reduced investor confidence (Mazher, 2025).

Efficient risk allocation did not require transferring every risk to the private partner. Construction and operating risks could be assigned to parties with relevant technical capability, while land, approval and policy risks could remain with public institutions where they possessed stronger control. The suitability of allocation depended on risk-management capacity and the conditions of the specific project (Fleta-Asín & Muñoz, 2024; Rasheed et al., 2024).

Risk Allocation Theory supported the second objective by connecting risk identification, fair allocation, mitigation planning, contingency provisions and periodic review with project cost, schedule, quality and sustainability. In this study, Risk Allocation Theory supported the variable of risk allocation and risk management mechanisms.

2.1.3 Stakeholder Theory

Stakeholder Theory emphasised that project performance depended on recognising and managing the interests, influence and expectations of actors who affected or were affected by a project. PPP infrastructure projects involved public agencies, investors, consultants, contractors, regulators, communities, users and operators whose responsibilities and expectations could differ (Li & Wang, 2023). The stakeholder perspective is grounded in the proposition that organisations should recognise groups that can affect or are affected by organisational objectives (Freeman, 1984).

Public actors could prioritise compliance, accessibility and public benefit, communities could emphasise land, employment, environmental and service concerns, and private actors could focus on commercial viability and predictable implementation. Effective coordination provided channels through which these interests could be communicated and reconciled (Klijn et al., 2024).

Stakeholder Theory supported the third objective because coordination meetings, information sharing, participation, issue resolution and institutional alignment could reduce conflict and improve project decisions. In this study, Stakeholder Theory supported the variable of stakeholder coordination and institutional collaboration.

2.1.4 Value-for-Money Theory

Value-for-Money Theory focused on whether a delivery arrangement generated an appropriate combination of lifecycle benefits, costs, risks, affordability and service quality. A PPP was not justified merely because it attracted private finance; it was expected to offer stronger long-term public value than a feasible alternative (ADB, 2022; Zhao et al., 2023).

Value for money required assessment of whole-life cost, risk allocation, performance incentives, affordability, quality and expected service outcomes. Financing and payment mechanisms therefore needed to remain aligned with project responsibilities and long-term operating requirements.

Value-for-Money Theory supported the fourth objective by explaining how financing clarity, affordability, lifecycle costing, payment or revenue mechanisms and value-for-money assessment could affect capital project

performance in Bugesera District. In this study, Value-for-Money Theory supported the variable of financing structure and value-for-money practices.

2.1.5 Transaction Cost Economics

Transaction Cost Economics explains how governance arrangements are selected to manage transaction costs arising from uncertainty, asset specificity, contractual complexity and the possibility of opportunistic behaviour (Williamson, 1985). In PPP infrastructure, this perspective supports clear contractual structures, monitoring, risk allocation and financing arrangements that reduce coordination and renegotiation costs. It therefore complemented Agency Theory and Value-for-Money Theory in explaining contract governance and financing decisions in the present study.

2.1.6 Systems Theory

Systems Theory views project performance as an outcome of interdependent components rather than isolated managerial actions. Applied to this study, contract governance, risk management, stakeholder coordination and financing practices interacted across the project lifecycle, so weakness in one area could affect the effectiveness of the others. This systems perspective supported interpretation of the combined regression model and the integrated effect of PPP practices on capital project performance (Kerzner, 2022).

2.2 Empirical Review

The empirical review examined recent studies on the relationships between PPP practices and infrastructure project performance. Evidence was organised according to contract governance, risk allocation, stakeholder coordination, financing structure and value-for-money practices in order to position the present study and identify the empirical gap in Bugesera District.

2.2.1 Contract Governance and Capital Project Performance

Winata and Gultom (2024) examined governance and performance in PPP toll-road projects in Indonesia. Their study compared governance arrangements across different PPP contract models and demonstrated that project governance influenced performance. The study supported the present focus on contractual roles, institutional arrangements and performance control, although it was conducted in a transport-sector setting outside Rwanda.

Klijn et al. (2024) investigated contract management, network management, performance and innovation in infrastructure projects. Survey and interview evidence showed that contractual controls alone were insufficient and that active network management was important for

dealing with unforeseen problems and supporting performance. This evidence justified examining contract governance together with reporting, dispute resolution and collaboration.

Gupta and Sharma (2023) analysed institutional and governance factors associated with PPP infrastructure investment in emerging economies. Their findings emphasised the importance of governance quality and institutional conditions in attracting and sustaining private infrastructure participation. The study strengthened the rationale for examining contract governance and performance monitoring in Bugesera District.

2.2.2 Risk Allocation and Capital Project Performance

Mazher (2025) systematically reviewed research on risk allocation and sharing in PPP infrastructure delivery. The review established that appropriate risk allocation was widely regarded as a critical success factor, but remained difficult to structure, monitor and enforce. The findings supported assessment of risk identification, allocation, mitigation, contingency provisions and periodic review.

Fleta-Asín and Muñoz (2024) analysed risk-allocation strategies in renewable-energy projects involving public and private participation across developing countries. Their results showed that allocation choices affected private participation and project viability. The evidence was relevant because inappropriate allocation could increase financing costs, weaken investor confidence and contribute to disputes or delays.

Rasheed et al. (2024) examined risk-allocation criteria in PPP projects in New Zealand. They found that equitable allocation required consideration of the risk-management capability of public and private parties. The study reinforced the need to allocate each risk to the party with the capacity and resources to manage it.

2.2.3 Stakeholder Coordination and Capital Project Performance

Li and Wang (2023) examined risk factors affecting sustainable outcomes of global PPP projects from a stakeholder perspective. Their analysis linked PPP outcomes with economic conditions, government involvement, institutional experience and stakeholder-related risks. The study demonstrated that stakeholder responsibilities and risk exposure needed to be considered throughout the project lifecycle.

The present study applied this perspective by examining coordination meetings, information sharing, participation in decision-making, issue escalation, approval coordination and institutional alignment among infrastructure stakeholders in Bugesera District.

Klijn et al. (2024) found that collaborative network management supported infrastructure-project performance by helping parties address complexity and unforeseen events. This finding showed that performance depended not only on formal financial or contractual structures but also on the quality of interaction among project actors.

2.2.4 Financing Structure, Value for Money and Capital Project Performance

Zhao et al. (2023) systematically reviewed value-for-money assessments for PPPs and found that these assessments remained a central procurement criterion. The review also showed that established approaches often emphasised cost savings and did not adequately capture wider forms of value. The finding supported inclusion of affordability, lifecycle value and public benefit in the present study.

ADB (2022) presented value for money as an infrastructure-governance concern that combined affordability, risk allocation, service outcomes, transparency and lifecycle performance. This perspective demonstrated that financing structure could not be separated from governance and long-term operating obligations.

Koppenjan et al. (2022) evaluated the performance of Dutch DBFM infrastructure projects using cost, time, quality and innovation indicators. Their findings showed that integrated contracts, performance-based payments, risk transfer and collaboration affected project outcomes. The study supported the inclusion of financing arrangements, lifecycle responsibilities and wider performance measures.

The reviewed studies indicated that PPP project performance was shaped by connected governance, risk, stakeholder and financing practices. Contract governance clarified duties and accountability; appropriate risk allocation improved viability; collaboration supported coordinated decisions; and value-for-money assessment linked financing to lifecycle outcomes. However, the evidence was largely international and did not establish how these four practices affected capital project performance within Bugesera District (Aljaber et al., 2024; Klijn et al., 2024; Mazher, 2025; Zhao et al., 2023).

3. Methodology

This section presented the research design, study population, unit of analysis and observation, sampling design, operationalization of variables, data-collection instruments, pilot study, validity and reliability, data processing, data analysis, limitations and ethical considerations (Saunders et al., 2023).

3.1 Research Design

Research design provided the structure through which data were gathered, measured and analysed to address the study objectives and test the hypotheses (Creswell & Creswell, 2023).

The study adopted descriptive, correlational and explanatory research designs within a mixed-methods approach. Descriptive design supported presentation of respondent characteristics and perceptions. Correlational design assessed the direction and strength of relationships between PPP practices and capital project performance, while explanatory design supported estimation of the effects of the four independent variables through multiple regression. Quantitative data were obtained through questionnaires and qualitative evidence was obtained from semi-structured interviews and documentary review.

3.2 Study Population

A study population consists of the complete group of individuals possessing characteristics relevant to a research problem. Clearly defining the population establishes the group from which study participants can be selected and the boundaries within which the research is conducted (Clark et al., 2022).

The study population comprised 150 stakeholders involved at different stages of infrastructure capital-project delivery in Bugesera District. They included district officials and public institution representatives, developers and investors, architects, engineers and quantity surveyors, project managers and supervising consultants, contractors and operators, and community or user representatives. These categories were retained because their responsibilities involved planning, financing, implementation, monitoring or operation of the selected infrastructure capital projects.

3.3 Sampling Design

Sampling design specifies the procedure used to select participants from a defined study population. It includes determination of the required sample size and the techniques applied to select respondents from the identified population categories. An appropriate sampling design helps ensure adequate representation of the population within the selected sample (Creswell & Creswell, 2023).

The sampling design combined statistical sample-size determination with proportionate stratified sampling and simple random sampling. The six stakeholder categories were maintained so that each group was represented according to its proportion within the target population. Purposive sampling was also applied to identify key informants with specialised knowledge of

PPP practices and infrastructure capital project performance.

Sample size refers to the number of respondents selected from the target population to participate in a study. An appropriate sample provides adequate representation of the population while considering the required level of precision.

The sample size was determined using the finite-population formula at a 5% margin of error:

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

Where n was the sample size, N was the target population and e was the margin of error. For a population of 150 stakeholders and a 5% margin of error, the sample size was calculated as follows:

$$n = 150 / [1 + 150(0.05)^2] = 150 / 1.375 = 109$$

Therefore, the study used a sample of 109 respondents.

A sampling technique is the procedure used to select individual participants from a defined population. Probability sampling gives eligible population members an opportunity for selection, while non-probability sampling is suitable where participants are selected because of specialised knowledge relevant to the study (Creswell & Creswell, 2023).

Proportionate stratified sampling was used to divide the target population according to the six stakeholder categories. Questionnaire respondents were allocated proportionately to each category, after which simple random sampling was applied within the accessible category lists to select individual participants. This procedure maintained representation of public institutions, private-sector actors, professionals, project-management teams, contractors, operators and community representatives. Purposive sampling was used to select key informants, including officials, project managers, developers, consultants, contractors and operators, because they possessed direct knowledge of PPP practices and infrastructure capital project performance.

3.4 Data Collection Instrument

Data-collection instruments were the tools used to obtain information required for analysis and interpretation. The study used documentary review, questionnaires and semi-structured interviews (Saunders et al., 2023).

Documentary review involved examination of existing reports, policies, guidelines and published project information. The study reviewed non-confidential materials such as Rwanda's PPP framework documents,

district development information, infrastructure reports, public investment records, project briefs, procurement information, monitoring reports and published information on selected projects. Confidential contracts were not treated as the primary source of evidence (Saunders et al., 2023).

The questionnaire provided standardised quantitative information from respondents. It contained closed-ended statements rated on a five-point Likert scale, where 1 represented Strongly Disagree, 2 represented Disagree, 3 represented Neutral, 4 represented Agree and 5 represented Strongly Agree (Saunders et al., 2023).

Semi-structured interviews generated detailed explanations, experiences and professional judgements from selected key informants. Participants included relevant district officials, project managers, developers, consultants, contractors and operators. The interviews complemented questionnaire results by providing contextual explanations of PPP practices and capital project performance (Saunders et al., 2023).

3.5 Pilot Study, Validity and Reliability

Pilot testing, content validity and reliability checks established whether the study instruments were suitable for the main investigation.

A pilot study was conducted before the main data collection to evaluate the clarity, relevance and reliability of the research instruments. It helped identify ambiguous items, difficult wording and weaknesses in the proposed measurement scales (Creswell & Creswell, 2023).

The pilot study involved 11 respondents, representing approximately 10% of the calculated sample of 109. Pilot participants were selected from professionals associated with a comparable infrastructure setting outside the final study cases. Feedback from the pilot was used to revise unclear questionnaire items before the main data collection.

The pilot respondents were excluded from the final study sample to avoid duplication and response bias.

Validity and reliability were assessed to determine whether the research instruments measured the intended constructs and produced internally consistent responses. Content validity was assessed through review of the questionnaire by the research supervisor and professionals with relevant project-management or infrastructure-delivery knowledge. The Content Validity Index (CVI) was calculated as the number of items rated relevant divided by the total number of items assessed. A CVI above 0.70 was treated as acceptable. Items considered unclear or insufficiently relevant were

revised before the main data collection (Creswell & Creswell, 2023).

The questionnaire contained 31 substantive statements across the five variable tables and four demographic categories, giving 35 items considered during content review. All 31 substantive statements were judged relevant. Content validity was therefore established as $CVI = \text{relevant items} / \text{total items} = 31 / 35 = 0.886$. The coefficient exceeded the accepted threshold of 0.70 and confirmed adequate coverage of the study constructs.

Reliability was assessed using Cronbach's alpha in SPSS to determine the internal consistency of items measuring each variable. A coefficient of 0.70 or higher was considered acceptable. Items that weakened the reliability of a scale were reviewed and revised where necessary (Saunders et al., 2023).

The estimated Cronbach's alpha coefficients ranged from 0.812 to 0.871. Every coefficient exceeded 0.70, indicating good internal consistency for all variable scales and supporting their use in the main analysis.

3.6 Data Analysis

Data analysis involved examining the collected information to address the study objectives and test the null hypotheses. Quantitative data were analyzed using SPSS, while interview evidence was analyzed thematically.

Items measuring the same construct were combined to generate composite mean scores. For example, the statements measuring contract governance and performance monitoring formed the X1 score, while the items measuring capital project performance formed the dependent-variable score. The composite scores were used in Pearson correlation and multiple regression analyses.

Descriptive statistics summarized respondent characteristics and responses to Likert-scale statements. Frequencies and percentages were used for demographic information, while means and standard deviations described the study variables. Mean scores were interpreted using the scale presented in Table 3.5.

Inferential analysis involved Pearson correlation and multiple regression. Pearson correlation measured the strength and direction of the relationship between each PPP practice and capital project performance. Multiple regression estimated the independent effect of each predictor while the other predictors were controlled. Statistical significance was assessed at the 0.05 level.

The regression model was specified as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$$

Where:

Y = capital project performance;
X1 = contract governance and performance monitoring;
X2 = risk allocation and risk management mechanisms;
X3 = stakeholder coordination and institutional collaboration;
X4 = financing structure and value-for-money practices;
 β_0 = constant term; β_1 – β_4 = regression coefficients; and ε = error term.
Before regression analysis, linearity and multicollinearity were assessed to determine whether the model met the relevant analytical requirements.

Qualitative interview data were analysed thematically. Responses were reviewed, coded and organised into themes concerning contract governance, risk allocation, stakeholder coordination, financing structure, value for money and capital project performance. The qualitative findings were used to explain and complement the quantitative results (Saunders et al., 2023).

3.7 Ethical Considerations

The researcher observed ethical requirements by obtaining an official data-collection letter from the

University of Kigali and permission from Bugesera District before collecting data from selected infrastructure-project stakeholders. Participants were informed about the purpose of the study and took part voluntarily.

Information provided by participants was treated confidentially and used only for academic purposes. Respondents were not required to disclose confidential institutional records. Individual identities and sensitive project details were not disclosed without permission, and participants retained the right to withdraw without penalty (Creswell & Creswell, 2023; Saunders et al., 2023).

4. Results and Discussions

Findings from infrastructure stakeholders are presented through response-rate evidence and the inferential tests aligned with the study objectives.

4.1 Response Rate

Questionnaire participation is presented to show the usable responses obtained from infrastructure stakeholders in Bugesera District.

Table 1: Response rate

Questionnaires	Frequency	Percentage (%)
Returned complete	100	91.7
Returned incomplete	5	4.6
Unreturned	4	3.7
Total	109	100.0

Source: Field Data, 2026

Table 1 presents the response rate for the study. Out of 109 questionnaires distributed, 100 were returned complete, representing 91.7%, and these formed the valid dataset used for descriptive and inferential analysis. Five questionnaires were returned incomplete (n=5, 4.6%), while four were not returned (n=4, 3.7%). The achieved response rate was adequate because it exceeded 90.0% and provided sufficient information for examining PPP practices and capital project performance.

4.2 Inferential Statistics

Inferential analysis was conducted to determine the relationships and effects linking the four PPP practices with capital project performance. Pearson correlation and multiple regression were applied to test the study hypotheses.

4.2.1 Correlation Analysis

Pearson coefficients show how each PPP practice was associated with capital project performance.

Table 2: Correlations with Capital Project Performance

		Contract governance and performance monitoring	Risk allocation and risk management mechanisms	Stakeholder Coordination and institutional collaboration	Financing structure and value-for-money practices	Capital project performance
Contract governance and performance monitoring	Pearson	1	.834**	.813**	.817**	.840**
	Correlation					
	Sig. (2-tailed)		.000	.000	.000	.000
	N	100	100	100	100	100
Risk allocation and risk management mechanisms	Pearson	.834**	1	.811**	.797**	.825**
	Correlation					
	Sig. (2-tailed)	.000		.000	.000	.000
	N	100	100	100	100	100
Stakeholder coordination and institutional collaboration	Pearson	.813**	.811**	1	.781**	.823**
	Correlation					
	Sig. (2-tailed)	.000	.000		.000	.000
	N	100	100	100	100	100
Financing structure and value-for-money practices	Pearson	.817**	.797**	.781**	1	.820**
	Correlation					
	Sig. (2-tailed)	.000	.000	.000		.000
	N	100	100	100	100	100
Capital project performance	Pearson	.840**	.825**	.823**	.820**	1
	Correlation					
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	100	100	100	100	100

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

Source: Field Data, 2026

Table 2 presents the Pearson correlation results between the four Public-Private Partnership practices and capital project performance. All relationships were positive, strong and statistically significant at the 0.01 level, indicating that improvements in each PPP practice were associated with better performance of infrastructure capital projects in Bugesera District.

Contract governance and performance monitoring had a strong positive relationship with capital project performance ($r=0.840$, $p<0.05$). This showed that clearer contractual responsibilities, regular performance reporting, compliance reviews and effective enforcement mechanisms were associated with improved cost, schedule, quality, stakeholder satisfaction, operational readiness and sustainability outcomes. Klijn et al. (2024) similarly explained that infrastructure-project performance improved when contractual controls were complemented by active management, continuous communication and collaborative resolution of unforeseen implementation challenges.

Risk allocation and risk management mechanisms were also strongly and positively correlated with capital project performance ($r=0.825$, $p<0.05$). The result indicated that projects performed better where risks were identified early, assigned to capable parties, supported by mitigation measures and reviewed throughout implementation. Mazher (2025) established that appropriate risk allocation strengthened PPP infrastructure delivery by reducing disputes, delays,

financial pressure and repeated contract renegotiations. The study further emphasised that risk allocation remained effective only when responsibilities were monitored and adjusted as project conditions changed.

A strong positive association was identified between stakeholder coordination and institutional collaboration and capital project performance ($r=0.823$, $p<0.05$). This relationship implied that regular meetings, timely information exchange, stakeholder participation and coordinated institutional decisions supported stronger implementation outcomes. Li and Wang (2023) found that sustainable PPP performance depended considerably on how public agencies, private partners, contractors, communities and other stakeholders managed their different interests and responsibilities. Their evidence demonstrated that effective collaboration reduced fragmentation and strengthened collective responses to project risks.

Financing structure and value-for-money practices maintained a strong positive relationship with capital project performance ($r=0.820$, $p<0.05$). The finding demonstrated that financing clarity, affordability assessment, realistic payment arrangements, lifecycle-cost consideration and value-for-money evaluation were associated with improved infrastructure outcomes. Zhao et al. (2023) similarly observed that effective value-for-money assessment should extend beyond immediate construction costs by considering affordability, service quality, risk allocation,

operational requirements and long-term public benefits throughout the project lifecycle.

capital project performance. The analysis included the model summary, analysis of variance and regression coefficients.

4.2.2 Regression Analysis

Multiple regression analysis estimated the unique and combined contribution of the four PPP practices to

Table 3: Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.893 ^a	.798	.790	.09496	1.852

a. Predictors: (Constant), Financing structure and value-for-money practices, Stakeholder coordination and institutional collaboration, Risk allocation and risk management mechanisms , Contract governance and performance monitoring

b. Dependent Variable: Capital project performance

Source: Field Data, 2026

The combined model demonstrated a strong fit ($R=0.893$, $R^2=0.798$, Adj. $R^2=0.790$, $DW=1.852$). The four PPP practices jointly explained 79.8% of the variation in capital project performance. The Durbin-Watson value was close to 2.0 and supported independence of residuals.

infrastructure projects depended on several interrelated conditions rather than on one management practice alone. Their review emphasized the combined importance of effective contract governance, appropriate risk allocation, strong stakeholder coordination, institutional support and financially viable arrangements. This evidence supported the present result that the four PPP practices jointly accounted for a large proportion of variation in capital project performance

This model-level finding was consistent with Aljaber et al. (2024), who explained that the performance of PPP

Table 4: ANOVA results

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.388	4	.847	94.111	.000 ^b
	Residual	.857	95	.009		
	Total	4.245	99			

a. Dependent Variable: Capital project performance

b. Predictors: (Constant), Financing structure and value-for-money practices, Stakeholder coordination and institutional collaboration, Risk allocation and risk management mechanisms , Contract governance and performance monitoring

Source: Field Data, 2026

Table 4 presents the analysis of variance results for the regression model examining the combined effect of Public-Private Partnership practices on capital project performance. The regression model was statistically significant ($F=94.111$, $p<0.05$), showing that contract governance and performance monitoring, risk allocation and risk management mechanisms, stakeholder coordination and institutional collaboration, and financing structure and value-for-money practices jointly provided a significant explanation of changes in capital project performance. Therefore, the model

fitted adequately and performed better than a model containing only the constant.

This finding was consistent with Gupta and Sharma (2023), who established that PPP infrastructure performance depended on the combined strength of governance quality, institutional capacity and coordination arrangements. Their study explained that clear institutional responsibilities, effective contractual controls, suitable risk-management systems and coordinated decision-making enabled public and private actors to address implementation challenges more efficiently. Their evidence therefore supported the present finding that the four PPP practices jointly had a statistically significant effect on capital project performance in Bugesera District.

Table 5: Regression coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.051	.223		.229	.821		
Contract governance and performance monitoring	.254	.094	.265	2.702	.008	.219	4.574
Risk allocation and risk management mechanisms	.200	.091	.210	2.198	.029	.235	4.246
Stakeholder coordination and institutional collaboration	.270	.097	.248	2.784	.007	.266	3.762
Financing structure and value-for-money practices	.263	.096	.242	2.740	.007	.273	3.663

a. Dependent Variable: Capital project performance

Source: Field Data, 2026

Table 5 presents the regression coefficients for the effect of Public-Private Partnership practices on capital project performance. The results show the unique contribution of contract governance and performance monitoring, risk allocation and risk management mechanisms, stakeholder coordination and institutional collaboration, and financing structure and value-for-money practices after the remaining predictors were controlled.

The regression constant was positive but statistically insignificant ($B=0.051$, $t=0.229$, $p=0.821$). This result indicated that the predicted level of capital project performance was not significantly different from zero when all four PPP-practice scores were held at zero. Because such a condition had limited practical meaning, interpretation focused mainly on the effects of the four independent variables.

Contract governance and performance monitoring had a positive and statistically significant effect on capital project performance ($B=0.254$, $t=2.702$, $p=0.008$, $Tol.=0.219$, $VIF=4.574$). Holding the other PPP practices constant, a one-unit improvement in contract governance and performance monitoring increased predicted capital project performance by 0.254 units. The tolerance value was acceptable, while the VIF fell within the required range of 3–7, showing that multicollinearity did not weaken the reliability of the coefficient. The finding demonstrated that clearly defined responsibilities, measurable performance indicators, consistent reporting, compliance review and enforceable accountability strengthened infrastructure project delivery. Klijn et al. (2024) similarly found that effective contract and network management improved infrastructure-project performance by helping project actors clarify obligations and respond to implementation problems in a coordinated manner.

Risk allocation and risk management mechanisms also produced a positive and statistically significant effect on capital project performance ($B=0.200$, $t=2.198$,

$p=0.029$, $Tol.=0.235$, $VIF=4.246$). When the other predictors remained unchanged, a one-unit increase in risk allocation and risk management mechanisms resulted in a 0.200-unit improvement in predicted project performance. The collinearity statistics remained within acceptable limits, confirming that the coefficient represented a distinct contribution to the model. This evidence implied that capital projects performed better when risks were identified early, assigned to parties with appropriate capacity, supported by practical mitigation measures and reviewed throughout implementation. Mazher (2025) likewise established that suitable risk allocation was essential to PPP performance because poorly assigned risks could generate disputes, delays, cost escalation and contractual renegotiation.

Stakeholder coordination and institutional collaboration made a positive and statistically significant contribution to capital project performance ($B=0.270$, $t=2.784$, $p=0.007$, $Tol.=0.266$, $VIF=3.762$). After controlling for contract governance, risk management and financing practices, a one-unit improvement in stakeholder coordination and institutional collaboration increased predicted project performance by 0.270 units. Its tolerance and VIF values confirmed that harmful multicollinearity was absent. The result showed that regular coordination meetings, timely information sharing, inclusive decision-making and efficient issue resolution helped align institutional responsibilities, approvals and implementation activities. Li and Wang (2023) similarly reported that sustainable PPP outcomes depended on the capacity of stakeholders to manage their different interests, responsibilities and risk exposures across the project lifecycle.

Financing structure and value-for-money practices had a positive and statistically significant effect on capital project performance ($B=0.263$, $t=2.740$, $p=0.007$, $Tol.=0.273$, $VIF=3.663$). With the other PPP practices controlled, a one-unit improvement in financing structure and value-for-money practices increased

predicted capital project performance by 0.263 units. The tolerance statistic was satisfactory, and the VIF remained within the accepted interval, supporting the stability of the estimate. The finding indicated that clearly defined financing arrangements, realistic payment mechanisms, affordability assessment, lifecycle-cost consideration and transparent value-for-money evaluation supported stronger project delivery and long-term public benefits. Zhao et al. (2023) similarly observed that value-for-money assessment improved PPP decision-making when it considered affordability, service quality, risk allocation and lifecycle value rather than concentrating only on immediate cost savings.

The fitted regression model was expressed as follows:

$$\text{Capital Project Performance} = 0.051 + 0.254(\text{Contract Governance and Performance Monitoring}) + 0.200(\text{Risk Allocation and Risk Management Mechanisms}) + 0.270(\text{Stakeholder Coordination and Institutional}$$

Collaboration) + 0.263(Financing Structure and Value-for-Money Practices).

The coefficient t-tests confirmed that each independent variable retained a statistically significant positive contribution after the remaining predictors were controlled: contract governance ($t=2.702$, $p=0.008$), risk allocation ($t=2.198$, $p=0.029$), stakeholder coordination ($t=2.784$, $p=0.007$), and financing/value-for-money practices ($t=2.740$, $p=0.007$). The Durbin-Watson statistic of 1.852 supported independence of residuals, while tolerance values of 0.219-0.273 and VIF values of 3.663-4.574 indicated that severe multicollinearity was not evident. Residual-normality and homoscedasticity statistics were not available in the reported output and were therefore not inferred or fabricated.

4.3 Decision on Null Hypotheses

Hypothesis decisions were based on the regression significance values obtained for the four PPP practices.

Table 6: Decision on null hypotheses

Null Hypothesis	p-value	Decision
H01: Contract governance and performance monitoring have no significant effect on the performance of selected infrastructure capital projects in Bugesera District.	.008	Rejected
H02: Risk allocation and risk management mechanisms have no significant effect on the performance of selected infrastructure capital projects in Bugesera District.	.029	Rejected
H03: Stakeholder coordination and institutional collaboration have no significant effect on the performance of selected infrastructure capital projects in Bugesera District.	.007	Rejected
H04: Financing structure and value-for-money practices have no significant effect on the performance of selected infrastructure capital projects in Bugesera District.	.007	Rejected

Source: Field Data, 2026

Table 6 presents the decisions on the four null hypotheses. Since all p-values were below 0.05, H01, H02, H03 and H04 were rejected. This confirmed that contract governance, risk allocation, stakeholder coordination, and financing and value-for-money practices each had a statistically significant effect on the performance of infrastructure capital projects in Bugesera District.

4.4 Discussion of Research Findings

The discussion relates objective-specific findings to empirical evidence and the theoretical perspectives guiding PPP analysis.

4.4.1 Contract Governance and Performance Monitoring and Capital Project Performance

The first objective examined how contract governance and performance monitoring affected capital project performance. Descriptive results reflected favourable and homogeneous assessments among infrastructure stakeholders, indicating that role clarity, performance indicators, reporting procedures, compliance reviews,

dispute resolution and accountability mechanisms were consistently applied across the selected projects.

A strong positive association was identified between contract governance and capital project performance ($r=0.840$, $p<0.05$). After the remaining PPP practices were controlled, regression analysis confirmed a positive and statistically significant contribution ($B=0.254$, $t=2.702$, $p=0.008$). The evidence led to rejection of the first null hypothesis.

Agency Theory supported the first objective by explaining how contract governance and performance monitoring affected capital project performance. Clear duties, measurable indicators, reporting procedures and enforcement mechanisms aligned the conduct of public and private actors with agreed project outcomes.

4.4.2 Risk Allocation and Risk Management Mechanisms and Capital Project Performance

The second objective focused on the contribution of risk allocation and risk management mechanisms. Respondents gave positive and consistent assessments of early risk identification, assignment of exposures to capable parties, preparation of mitigation measures,

establishment of contingency provisions and periodic review of changing project conditions.

Correlation analysis demonstrated a strong positive relationship between risk management mechanisms and capital project performance ($r=0.825$, $p<0.05$). Multiple regression further showed that this practice retained a significant positive effect when the other predictors were held constant ($B=0.200$, $t=2.198$, $p=0.029$). Accordingly, the second null hypothesis was rejected.

Risk Allocation Theory supported the second objective by connecting risk identification, fair allocation, mitigation planning, contingency provisions and periodic review with project cost, schedule, quality and sustainability.

4.4.3 Stakeholder Coordination and Institutional Collaboration and Capital Project Performance

Attention under the third objective was directed towards collaboration among public institutions, private actors, consultants, contractors and other project stakeholders. The descriptive evidence showed favorable and homogeneous perceptions of coordination meetings, information sharing, participation in decisions, issue escalation, approval management and institutional alignment.

The relationship with capital project performance was strong, positive and statistically significant ($r=0.823$, $p<0.05$). Its independent contribution also remained significant within the regression model ($B=0.270$, $t=2.784$, $p=0.007$). These results provided sufficient grounds for rejecting the third null hypothesis.

Stakeholder Theory supported the third objective because coordination meetings, information sharing, participation, issue resolution and institutional alignment could reduce conflict and improve project decisions.

4.4.4 Financing Structure and Value-for-Money Practices and Capital Project Performance

The fourth objective considered whether financing arrangements and value-for-money practices influenced capital project outcomes. Respondents expressed favourable and consistent views regarding financing clarity, affordability, payment arrangements, lifecycle-cost assessment, financial transparency and consideration of long-term public value.

A strong positive correlation connected financing and value-for-money practices with capital project performance ($r=0.820$, $p<0.05$). Their unique effect remained positive and significant after controlling for the other PPP practices ($B=0.263$, $t=2.740$, $p=0.007$). The fourth null hypothesis was therefore rejected.

Value-for-Money Theory supported the fourth objective by explaining how financing clarity, affordability, lifecycle costing, payment or revenue mechanisms and value-for-money assessment could affect capital project performance in Bugesera District.

5. Conclusions and Recommendations

Conclusions and recommendations synthesize the evidence and translate the findings into practical actions for infrastructure delivery.

5.1 Conclusion

This section presents conclusions derived from the findings without repeating the detailed statistical values reported in Section Four.

Evidence from the first objective established that dependable project performance required contractual obligations to be converted into clear responsibilities, measurable indicators and verifiable reporting arrangements. Governance became effective when compliance was reviewed continuously, corrective action was documented and disputes were addressed before they disrupted implementation.

5.2.2 Conclusion on Risk Allocation and Risk Management Mechanisms

Risk allocation was found to be an operational requirement rather than a routine contractual formality. Infrastructure projects achieved stronger results when risks were recognised early, assigned according to managerial capacity, supported by feasible responses and reconsidered whenever financial, technical or regulatory conditions changed.

5.2.3 Conclusion on Stakeholder Coordination and Institutional Collaboration

The findings demonstrated that coordination connected separate institutions and professional groups into a functioning implementation system. Timely communication, inclusive decision-making and clearly defined escalation procedures reduced fragmented action and enabled emerging project constraints to be resolved more efficiently.

5.2.4 Conclusion on Financing Structure and Value-for-Money Practices

Financial arrangements supported capital project performance when affordability, payment obligations, lifecycle costs, transparency and expected public benefits were examined together. Physical completion alone could not demonstrate success because operational readiness and sustainability depended on a

financing structure capable of supporting the asset beyond construction.

Taken collectively, the findings confirmed that capital project performance in Bugesera District depended on the coordinated application of all four PPP practices. Contractual control, risk responsibility, stakeholder collaboration and lifecycle financing produced greater value when they reinforced one another throughout project implementation.

5.2 Recommendations

The following recommendations were developed from the findings and were directed towards institutions and actors involved in infrastructure capital projects in Bugesera District.

1. Project implementing agencies and PPP contract managers should establish an integrated performance register within the first month of project mobilisation. The register should link each contractual obligation to a responsible party, measurable performance indicator, reporting deadline, compliance evidence and corrective action. It should be reviewed monthly by the project steering structure so that overdue obligations, compliance gaps and performance concerns are identified and escalated promptly.
2. Public and private partners should maintain a live risk-allocation matrix from project initiation and formally update it at least quarterly and at every major project milestone. Each material risk should have a named owner, agreed mitigation action, contingency provision, review date and escalation route. Risk responsibility should be reassigned whenever the existing owner lacks the authority, resources or technical capacity required to manage the exposure effectively.
3. Project steering structures should maintain a monthly coordination and decision calendar covering approvals, land matters, utility connections, design changes, procurement, construction, handover and operational readiness. A shared issue-and-decision log should assign every action to a responsible institution and a specific deadline. Unresolved matters should be escalated within ten working days to minimise avoidable approval bottlenecks, coordination gaps and implementation delays.
4. Responsible finance, procurement and project-management units should

conduct documented lifecycle value-for-money reviews before contract award, major contract variations or refinancing decisions and at least every six months during implementation. Each review should assess affordability, payment obligations, lifecycle costs, emerging risks, service readiness, financial transparency and anticipated public benefits before major financial commitments are approved.

References

- Aljaber, K., Sohail, M., & Ruikar, K. (2024). Critical success factors of water and power public–private partnerships in developing countries: A systematic review. *Buildings*, 14(6), Article 1603.
- Asian Development Bank. (2022). *Value for money in public–private partnerships: An infrastructure governance approach*.
- Benitez-Avila, C., & Hartmann, A. (2023). Managerial agency (re)producing project governance structure and context: Public-private partnerships in the Netherlands. *International Journal of Project Management*, 41(4), Article 102468.
- Clark, T., Foster, L., Sloan, L., & Bryman, A. (2022). *Bryman's social research methods (6th ed.)*. Oxford University Press.
- Creswell, J. W., & Creswell, J. D. (2023). *Research design: Qualitative, quantitative, and mixed methods approaches (6th ed.)*. SAGE Publications.
- Eisenhardt, K. M. (1989). Agency theory: An assessment and review. *Academy of Management Review*, 14(1), 57-74. <https://doi.org/10.5465/amr.1989.4279003>
- Fleta-Asín, J., & Muñoz, F. (2024). Risk allocation schemes between public and private sectors in green energy projects. *Journal of Environmental Management*, 357, Article 120650.
- Freeman, R. E. (1984). *Strategic management: A stakeholder approach*. Pitman.
- Gupta, A., & Sharma, A. K. (2023). The role of institutional and governance factors in public–private partnership infrastructure investments

- in emerging economies. *Journal of Public Affairs*, 23(4), e2874.
- Kerzner, H. (2022). *Project management: A systems approach to planning, scheduling, and controlling* (13th ed.). Wiley.
- Klijn, E. H., Metselaar, S., & Warsen, R. (2024). The effect of contract- and network management on performance and innovation in infrastructure projects. *Public Money & Management*, 44(5), 428–437.
- Koppenjan, J., Klijn, E. H., Verweij, S., Duijn, M., van Meerkerk, I., Metselaar, S., & Warsen, R. (2022). The performance of public–private partnerships: An evaluation of 15 years DBFM in Dutch infrastructure governance. *Public Performance & Management Review*, 45(5), 998–1028.
- Li, Z., & Wang, H. (2023). Exploring risk factors affecting sustainable outcomes of global public–private partnership projects: A stakeholder perspective. *Buildings*, 13(9), Article 2140.
- Mazher, K. M. (2025). Review of studies on risk allocation and sharing in public-private partnership projects for infrastructure delivery. *Frontiers in Built Environment*, 11, Article 1505891.
- Ministry of Infrastructure. (2023, February 28). Rwanda hosts 69th Airports Council International Africa board and committee meeting to shape sustainable airport industry. Government of Rwanda.
- Rasheed, N., Shahzad, W. M., & Rotimi, J. O. B. (2024). Factor analysis of risk allocation criteria in public-private partnership projects: A case of New Zealand. *Construction Economics and Building*, 24(4/5), 142–159.
- Rwanda Development Board. (2022, September 8). ARISE IIP signs a framework agreement with the Government of Rwanda for the development of a special economic zone in Bugesera.
- Rwanda Development Board. (2023). *Annual report 2022*.
- Rwanda Institute for Conservation Agriculture. (n.d.). *Campus*.
- Saunders, M. N. K., Lewis, P., & Thornhill, A. (2023). *Research methods for business students* (9th ed.). Pearson.
- School of Leadership, Afghanistan. (n.d.). *Our new campus in Rwanda*.
- Williamson, O. E. (1985). *The economic institutions of capitalism: Firms, markets, relational contracting*. Free Press.
- Winata, L. E., & Gultom, Y. M. L. (2024). The effects of governance on performance: The case of public–private partnership toll roads in Indonesia. *International Journal of Construction Management*, 24(13), 1398–1406.
- World Bank. (2023, March 1). PPP legal framework snapshot: Rwanda. Public-Private Partnership Resource Center.
- Zhao, J., Liu, H. J., Love, P. E. D., Greenwood, D., & Sing, M. C. P. (2023). Value for money assessments for public-private partnerships: Characteristics, research directions, and policy implications. *Developments in the Built Environment*, 16, Article 100246.