JRIIE Journal of Research Innovation and Implications in Education
Center for Research Implications & Practice

Website: www.jriiejournal.com ISSN 2520-7504 (Online) Vol.10, Iss.4, 2026 (pp. 1899 - 1910)

Effect of Regional Integration Initiatives on Success of Rusumo One Stop Border Post Project in Kirehe District, Rwanda

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Abstract: *The purpose of the study was to assess the effect of regional integration initiatives on success of One Stop Border Posts project in Kirehe District, Rwanda. The researcher used the Theory of Economic Integration, Theory of Change, Resource-Based View Theory, Theory of Constraints and Systems Theory. The study adopted descriptive and correlational research designs, utilizing both quantitative and qualitative approaches to analyze the relationship between variables. The target population included 350 respondents comprising transport facilitation agency personnel, Rwanda Revenue Authority staff, and immigration officers operating at Rusumo border. A sample size of 187 was determined using Slovin's formula, and participants were selected using stratified and simple random sampling techniques. The collected data were analyzed using SPSS version 29. The multiple regression analysis indicated the predictive contribution of the integration initiatives on the operational success of the Rusumo facility. Specifically, the findings demonstrated that the Customs union ($B = 0.201$, $t = 5.289$, $p < 0.001$), Common Market ($B = 0.177$, $t = 3.105$, $p = 0.002$), Monetary union ($B = 0.141$, $t = 3.711$, $p < 0.001$), and Political federation ($B = 0.440$, $t = 6.984$, $p < 0.001$) all exerted statistically significant, positive associations on the success of the One Stop Border Posts project. The findings suggest that political alignment is an important predictor of infrastructural success at the border. It is highly recommended that the regional executive councils institutionalize high-level border steering committees to address bureaucratic obstacles through timely political interventions.*

Keywords: *Integration Initiatives, Customs Union Initiative, Common Market Initiative, Monetary Union Initiative, Political Federation Initiative, Success of Project, One Stop Border Posts*

How to cite this work (APA):

Kaze, A. A. & Dushimimana, J. D. (2026**).** Effect of Regional Integration Initiatives on Success of Rusumo One Stop Border Post Project in Kirehe District, Rwanda. *Journal of Research Innovation and Implications in Education, 10*(4), 1899 – 1910. **https://doi.org/10.59765/sx4d7**

1. Introduction

Northern Corridor Integration Projects (NCIP), a strategic portfolio involving Kenya, Rwanda, Uganda, and South Sudan was designed to leverage Regional Integration Initiatives, such as the Single Customs Territory and Common Market Protocol, to optimize the success of One Stop Border Post (OSBP) projects. These integration initiatives serve as the critical success factors required to convert physical border infrastructure into relevant, effective, efficient, impactful, and sustainable border services, with a targeted reduction in cargo dwell times of 30–50%. Data from the Northern Corridor Transport Observatory reveals that while port clearance times have improved, inland OSBPs frequently miss their Schedule Baselines, with trucks facing unpredictable delays of 24 to 48 hours against the standard target of 2–4 hours (Northern Corridor Transit and Transport Coordination Authority, 2022).

The core of the problem lies in the failure of integration mechanisms to support technical project execution. The Customs Union initiative lacks the necessary technical interoperability to support real-time data exchange between partner states. The project scope of creating a seamless digital corridor is compromised by frequent system downtimes (estimated at 15–20% of operational time) and a lack of synchronized clearance procedures. The inability of regional initiatives to eliminate Non-Tariff Barriers (NTBs) indicates a disconnect between high-level policy formulation and site-level project execution (TradeMark Africa, 2023).

The lack of a harmonized Monetary Union framework forces traders to navigate complex currency conversions, adding an estimated 3–5% to transaction costs and delaying financial clearance. These site-specific failures demonstrate that without effective integration initiatives, the OSBP project cannot achieve its defined Benefits Realization targets, resulting in a facility that is physically complete but operationally inefficient (Gasana & Munyaneza, 2022).

Current literature largely focuses on the impacts of integration on trade volumes, often overlooking the specific causal relationship between Regional Integration Initiatives and OSBP Project Success. There is a scarcity of empirical data quantifying how specific integration pillars such as customs union, common Market, monetary union and political federation directly correlate with success of OSBP Project. This study seeks to fill this knowledge gap by evaluating the effect of regional initiatives on success of Rusumo OSBP project in Kirehe District, Rwanda.

1.1 General Objective

The general objective of the study was to assess the effect of regional integration initiatives on success of Rusumo One Stop Border Posts project in Kirehe District, Rwanda.

1.2 Specific Objectives

1. To examine the effect of customs union initiative on success of Rusumo One Stop Border Posts project in Kirehe District.
2. To analyze the effect of common market initiative on success of Rusumo One Stop Border Posts project in Kirehe District.
3. To evaluate the effect of monetary union initiative on success of Rusumo One Stop Border Posts project in Kirehe District.
4. To determine the effect political federation initiative on success of Rusumo One Stop Border Posts project in Kirehe District.

2. Literature Review

2.1 Theoretical Review

The researcher used the Theory of Economic Integration and Theory of Change to explain the independent variables (Customs Union, Common Market, Monetary Union, Political Federation), while the Resource-Based View Theory, Theory of Constraints and Systems Theory were employed to analyze the dependent variable (Project Success) and operational efficiency.

2.1.1 Theory of Economic Integration

The Theory of Economic Integration was formally established by Bela Balassa in 1961 through his seminal work titled The Theory of Economic Integration. Balassa proposed a linear progression of integration stages, starting from a Free Trade Area, moving to a Customs Union, then a Common Market, followed by a Monetary Union, and culminating in total Economic Integration or Political Union. The central premise is that as nations reduce trade barriers, they must inevitably harmonize other economic policies to prevent market distortions, creating a continuum of deepening interdependence (Hosny, 2013).

The theory distinguishes between trade creation and trade diversion as the primary mechanisms determining the welfare effects of integration. Trade creation occurs when domestic production is replaced by lower-cost imports from a member country, thereby increasing efficiency and consumer welfare. Conversely, trade diversion happens if low-cost imports from non-members are replaced by higher-cost imports from member nations due to preferential tariffs. The theory posits that for an integration initiative to be successful, the benefits of trade creation must outweigh the costs of trade diversion (Molle, 2006).

Theory of Economic Integration served as the primary lens for categorizing and analyzing the four independent variables. The researcher utilized this framework to assess whether Rusumo border post had successfully transitioned through the operational requirements of a Customs Union and Common Market.

2.1.2 Theory of Change (ToC)

The The Theory of Change was popularized by Carol Weiss in 1995 in her influential work dealing with the evaluation of complex community initiatives. She hypothesized that social programs are based on explicit or implicit assumptions about how and why the program will work, which she termed the theory of change. Weiss argued that stakeholders often skip the step of clarifying these assumptions, leading to a black box evaluation where the connection between the activity and the outcome remains obscure (Vogel, 2012).

Theory of Change serves as a comprehensive description and illustration of how and why a desired change is expected to happen in a particular context. It involves mapping out the causal chain from inputs to activities, outputs, outcomes, and finally to the long-term impact. This backward mapping process requires planners to identify the necessary preconditions for each step in the chain to be realized. Unlike a simple logic model, a ToC requires the explicit articulation of the mechanisms of change, explaining the specific reasons why an activity is expected to lead to a result (Taplin & Clark, 2012).

The Theory of Change was utilized to map the causal pathway between the implementation of regional integration initiatives and the success of Rusumo OSBP. The researcher used this framework to test the assumption that specific inputs (Customs Union, Common Market) led to the intermediate outcome of reduced clearance times.

2.1.3 Resource-Based View (RBV) Theory

The Resource-Based View (RBV) was significantly advanced by Jay Barney in 1991 in his article Firm Resources and Sustained Competitive Advantage. While earlier works contributed to the concept, Barney formalized the framework by arguing that organizations achieve superior performance not merely by positioning themselves in the market, but by possessing and utilizing internal resources that are Valuable, Rare, Inimitable, and Non-substitutable (VRIN). This perspective shifted strategic analysis from the external environment to the internal capabilities and assets of an entity (Donnellan & Rutledge, 2019).

Resources are classified into tangible assets, such as physical infrastructure and equipment, and intangible assets, such as brand reputation, organizational culture, and staff expertise. The theory posits that competitive advantage is sustainable only when these resources are heterogeneous (different across firms) and immobile (cannot easily move between firms). In a project management context, this implies that the success of a project relies heavily on the unique configuration of its human, physical, and technological inputs (Madhani, 2010).

The researcher employed the Resource-Based View to analyze the internal determinants of the Rusumo OSBP's project success. The study assessed whether the physical infrastructure (tangible resource) and the skills of the customs officers (intangible resource) were effectively used to deliver efficient service. This framework allowed the researcher to determine whether success gaps were due to a lack of resources or the mismanagement of existing regional assets.

2.1.4 Theory of Constraints (TOC)

The The Theory of Constraints was introduced by Eliyahu M. Goldratt in 1984 through his business novel The Goal: A Process of Ongoing Improvement. Goldratt proposed a management philosophy focused on identifying the single most critical limiting factor (the constraint) that stands in the way of achieving a goal and then systematically improving that constraint until it is no longer the limiting factor. The fundamental axiom is that every system has at least one constraint; otherwise, it would generate infinite throughput (Goldratt & Cox, 1984).

Central to this theory is the concept of throughput, which represents the rate at which the system generates money or value through sales or, in the case of a border post, cleared trucks. TOC advocates for a five-step focusing process: identifying the constraint, exploiting the constraint (making the most of what you have), subordinating everything else to the constraint's needs, elevating the constraint (adding capacity), and preventing inertia from becoming the next constraint. This approach argues that improvements made anywhere other than the bottleneck are an illusion and do not increase the overall system performance (Cox & Schleier, 2010).

The Theory of Constraints was pivotal for identifying the specific bottlenecks hindering the success of the One Stop Border Post project. The study utilized this lens to determine whether the constraints at Rusumo are physical (infrastructure) or policy-based (integration protocols). The researcher used this theory to recommend how the weakest link in the border clearance chain could be elevated to improve the overall flow of traffic.

2.1.5 Systems Theory

Systems Theory was originally proposed by Ludwig von Bertalanffy in 1945 as part of his work on General Systems Theory. The theory explains that organizations and projects operate as structured systems composed of interrelated elements that work together to achieve specific objectives. Each system is characterized by inputs, transformation processes, outputs, and feedback loops that regulate system performance and adaptation to environmental changes. Within organizational research, Systems Theory provides a comprehensive framework for understanding how different operational components interact to influence overall performance and sustainability (Mele et al., 2010).

The central principle of Systems Theory is that a system should be examined as a whole rather than as isolated components. The interaction among subsystems determines the overall functioning and effectiveness of the entire structure. In organizational contexts, these subsystems include financial resources, human

resources, communication processes, institutional policies, and operational technologies. When these elements function in coordination, the organization is able to maintain equilibrium and achieve its objectives efficiently. Conversely, weaknesses in one subsystem may disrupt the functioning of the entire system and reduce performance outcomes (Skyttner, 2005).

Systems Theory provided a useful framework for this study because the Rusumo One Stop Border Post operates as a system composed of interconnected components such as customs services, trade facilitation mechanisms, and regional cooperation policies among partner states. The theory therefore helped the study to analyze how the integration of institutional processes, resources, and policies among regional actors influenced the operational success of the Rusumo One Stop Border Post project in Kirehe District, Rwanda

2.2 Empirical Review

The section reviews empirical studies related to the objectives of the study to identify the research gap.

2.2.1 Customs Union and Success of One Stop Border Posts Project

Lee and Park (2022) examined the Lao Bao border gate in Vietnam to determine the correlation between tariff harmonization and logistics efficiency. The researchers surveyed 200 logistics firms, revealing a strong positive correlation (r=0.78) where standardized customs classifications directly led to a 40% reduction in processing time. From a project efficiency perspective, the study concluded that technical harmonization of codes is more critical for reducing project lead times than mere tariff reduction. Consequently, the authors recommended that border management projects prioritize investment in automated classification systems to minimize scope creep in inspection duties.

Schmidt and Weber (2023) utilized a mixed-methods approach to investigate how the EU Customs Union framework influences the operational throughput of Poland's eastern external border posts. By interviewing 50 customs officers and surveying 300 traders, the study assessed the effectiveness of the common customs code in mitigating fraud risks. The findings indicated that implementing a centralized customs database significantly enhanced process quality and throughput. The study concluded that a unified IT infrastructure serves as the critical path for successful border project success, recommending continuous stakeholder training on EU-wide protocols to ensure project sustainability.

2.2.2 Common Market and Success of One Stop Border Posts Project

Tan and Lim (2023) focused on the project resource management aspect of border logistics in Thailand, specifically analyzing the impact of the Common Market's labor mobility protocols. By surveying 180 logistics firms, the researchers determined that access to a regional pool of skilled customs brokers significantly enhanced project quality control. The study identified a critical reduction in documentation errors due to the availability of cross-border experts. Consequently, they concluded that the free movement of skilled labor is a vital component for elevating technical capacity in border management projects, recommending the mutual recognition of professional certifications to standardize competency levels.

Muller and Hoff (2022) utilized a cost-benefit analysis to quantify the project efficiencies gained from the Schengen area's free movement policies in Germany. The study revealed that eliminating physical internal border checks resulted in substantial economic savings, primarily driven by the reduction of non-value-added time in cross-border commuting. The authors concluded that the Common Market effectively creates a unified socio-economic zone, optimizing project timelines for transport logistics. Their recommendation emphasized replacing physical scope verifications with intelligence sharing to maintain security without compromising project speed.

2.2.3 Monetary Union and Success of One Stop Border Posts Project

Nguyen and Tran (2022) examined the project schedule implications of currency settlement systems in Cambodia, specifically measuring the efficiency gains from local currency utilization. Through a comparative analysis, the researchers found that bypassing dollar conversion reduced the critical path for shipment processing by an average of 2 hours per transaction. The study concluded that monetary cooperation directly mitigates schedule slippage in trade projects by simplifying financial workflows. Recommendations centered on expanding the scope of the approved currency basket to further optimize project timelines.

Dubois and Martin (2023) analyzed the financial risk management benefits of the Eurozone for cross-border logistics in France. Utilizing financial data from 50 transport companies, the study demonstrated that the single currency eliminated exchange rate volatility, resulting in a measurable 5% reduction in project operational costs. The authors concluded that the Monetary Union serves as a vital tool for controlling budget variance in supply chains. They recommended the further integration of digital payment systems to enhance financial control and streamline project invoicing.

2.2.4 Political Federation and Success of One Stop Border Posts Project

Chen and Wong (2022) conducted a comprehensive case study in Myanmar to evaluate the critical success factors of border infrastructure projects, specifically focusing on the role of political stability and centralization. The research aimed to determine how governance structures influence project risk, particularly regarding security and corruption at the border. Their findings demonstrated that strong central control acts as a vital risk mitigation strategy, significantly reducing corruption and improving the security environment for trade operations. From a project management perspective, the study identified political will as the primary driver of infrastructure project success, overshadowing technical feasibility. The authors concluded that technical solutions are prone to failure without robust political backing, recommending the strengthening of the rule of law to ensure project sustainability.

Becker and Schmidt (2023) analyzed the project governance mechanisms of external border management, specifically evaluating the accountability of agencies like Frontex. Using a legal analysis framework, the study assessed how supranational oversight ensures project quality assurance and compliance with human rights standards. The results indicated that federal-level oversight provides necessary checks and balances, thereby improving the operational success and legitimacy of border forces. The study concluded that supranational governance is essential for maintaining project standards across different national jurisdictions. Recommendations focused on enhancing the monitoring powers of regional bodies to ensure strict adherence to project specifications and operational protocols.

3. Methodology

3.1 Research Design

The researcher used descriptive and correlational research designs with both quantitative and qualitative approaches. In this study, descriptive research design was used to describe the current state of OSBP success and the level of implementation of integration initiatives among the selected respondents. Correlational research design is used to examine whether a relationship exists between two or more variables and to determine the direction and strength of such a relationship.

3.2 Study Population

The target population for the study was 350 respondents, consisting of key stakeholders operating at Rusumo OSBP in Kirehe District. The categories included transport facilitation agency personnel, clearing and forwarding agents, Rwanda Revenue Authority (RRA) staff, Immigration officers, and Bureau of Standards officials. The breakdown is as follows:

3.3 Sampling Design

The sample size was calculated using Slovin's formula to ensure scientific precision. The sample size calculation was based on the total population of 350 stakeholders involved in the project. The formula was as follows:

In this formula, n represented the size of the sample, N represented the number of participants, and e denoted the margin of error (0.05). This calculation, compared to the formula, gave a representative sample of 187 for the study.

The study used stratified random sampling and simple random sampling techniques. Stratified sampling was used to divide the population into the categories listed to ensure each group was represented proportionally. Simple random sampling was used to select the individuals to answer the questionnaire.

3.4 Data Collection Instrument

The researcher administered a structured questionnaire to the traders, agents, and staff. The questionnaire used a 5-point Likert scale (Strongly Agree to Strongly Disagree) to measure the variables. It was divided into sections corresponding to the specific objectives of the study and included project success indicators namely relevance, effectiveness, efficiency, impact, and sustainability. It facilitated quantitative analysis.

3.5 Pilot Study, Validity and Reliability

The researcher conducted a pilot study using 10% of the sample size (approximately 19 respondents) at Gatuna Border Post. Gatuna was chosen because it has similar characteristics to Rusumo but is not the area of the main study. The results were used to refine the questionnaire and ensure clarity.

The Content Validity Index was 0.86. As the CVI was above the acceptable value of 0.70, the questionnaire had good content validity and was considered appropriate for measuring the study variables.

The researcher tested reliability using the Cronbach's alpha coefficient in SPSS. A pilot test data were used for the calculation. A Cronbach's alpha value of 0.7 or higher was accepted as an indication that the instrument is reliable for the study. The Cronbach's Alpha coefficients ranged from 0.809 to 0.846, which were all above 0.70. The questionnaire therefore had good internal consistency and was reliable for the study.

3.6 Data Analysis

Bivariate correlation assessed the strength and direction of relationships between independent variables and the dependent variable. Pearson's correlation coefficient (r) was interpreted within the range of -1 to +1. A significance level of 0.05 or less indicated a statistically meaningful relationship.

The regression model was structured as follows:

$Y = \beta 0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta 4X4 + \varepsilon$

Where:

Y = Project Success

X_1 = Customs union initiative

X2 = Common Market initiative

X3 = Monetary union initiative

X4 = Political federation initiative

α = Constant

β = Coefficients

ε = Error term

3.7 Ethical Considerations

Ethical considerations refer to the moral principles guiding the research to ensure the protection of participants. The researcher obtained an official letter from the University of Kigali and permission from Kirehe District and RRA authorities to access the border post. The researcher ensured that all participants signed a consent form or agreed verbally after being fully informed about the purpose of the study. The researcher ensured that the identity of the respondents was kept confidential and data were used only for academic purposes. The questionnaires did not require names of the respondents to ensure they could not be linked to the data. Participation was strictly voluntary, and respondents were free to withdraw at any stage without penalty.

4. Results and Discussion

This section presents inferential statistical tests examining the relationships and predictive associations between the regional integration initiatives and the operational success of the border project.

4.1 Response Rate

This section presents the response rate achieved during the primary data collection phase at the Rusumo facility, which serves as a useful metric for determining the completeness of the survey outcomes for all subsequent empirical evaluations.

Table 1: Response Rate

Questionnaires	Frequency	Percentage (%)
Returned Complete	172	92.0
Returned Incomplete	5	2.7
Unreturned	10	5.3
Total	**187**	**100.0**

The findings in Table 1 indicate the level of participation among the targeted border stakeholders within the designated study area. Out of the 187 distributed data collection instruments, 172 were completed and retrieved properly, representing an excellent participation level of 92.0%. A marginal fraction, specifically 5 respondents representing 2.7%, returned incomplete forms, while 10 individuals representing 5.3% did not return their questionnaires at all. The unreturned forms might be directly attributed to the extremely busy operational schedules of clearing agents during peak cargo clearance hours, or potentially because certain respondents were unexpectedly reassigned to different border jurisdictions during the specific data gathering timeframe.

4.2 Correlation Analysis

This subsection examines the specific bivariate relationships connecting the distinct pillars of regional integration with the border project success, utilizing Pearson's correlation coefficient (r) to assess the strength, direction, and significance of these operational linkages.

Table 2: Correlations

		Customs union	Common market	Monetary union	Political federation	Project success
Customs union	Pearson Correlation	1	.542**	.592**	.608**	.704**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	172	172	172	172	172
Common market	Pearson Correlation	.542**	1	.591**	.830**	.787**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	172	172	172	172	172
Monetary union	Pearson Correlation	.592**	.591**	1	.718**	.745**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	172	172	172	172	172
Political federation	Pearson Correlation	.608**	.830**	.718**	1	.873**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	172	172	172	172	172
Project success	Pearson Correlation	.704**	.787**	.745**	.873**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	172	172	172	172	172

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

Source: Primary data (2026)

The findings in Table 2 indicate a highly robust and positive correlation linking the Customs Union protocols to the final Project Success. The calculated Pearson coefficient stands at exactly 0.704, accompanied by a highly significant p-value of less than 0.001, which is lower than the designated 0.05 boundary. Regarding the current study, this confirms a strong proportional association, meaning enhanced tariff harmonization is associated with border efficiency.

An even stronger positive connection was mathematically uncovered between the Common Market implementation and Project Success. The analysis produced a remarkable Pearson coefficient of 0.787, alongside a significance level of 0.000 ($p < 0.05$). In the context of the current study, this implies that facilitating unhindered labor and service movement is inherently tied to elevated border post throughput.

The evaluation of the Monetary Union parameter also revealed a powerful and positive linkage with Project Success. The statistical output displays a Pearson correlation of 0.745, paired with a p-value of less than 0.001, easily passing the 0.05 significance test. For the current study, this firmly dictates that stabilizing financial channels is positively correlated with highly successful project timelines and reduced costs.

The most formidable association within the entire matrix was detected between the Political Federation variables and Project Success. The data generated a Pearson correlation coefficient of 0.873, holding a significance level of 0.000. Considering the current study, this exceptionally high correlation demonstrates that high-level political will and joint security are the most intertwined elements driving absolute project success at the border.

Therefore, the comprehensive correlation analysis unequivocally indicates that all four distinct regional integration pillars share tremendously strong, positive, and statistically significant relationships with the operational success of the facility.

4.3 Regression Analysis

This section presents the multiple linear regression models designed to estimate the predictive power of the independent integration variables combined, and to specifically isolate the separate statistical contribution each individual initiative imposes on the total border project success.

Table 3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.912[a]	.832	.828	.151903	1.576

a. Predictors: (Constant), Political federation, Customs union, Monetary union, Common market
b. Dependent Variable: Project success

Source: Primary data (2026)

The results in Table 3 indicate the overall strength and explanatory magnitude of the adopted multiple regression model. The multiple correlation coefficient (R) reached a high 0.912, indicating a strong combined relationship between all predictors and the dependent outcome. Most critically, the R Square value generated is exactly 0.832, which mathematically translates to 83.2% of the variance. Specifically, within the current study, this means that 83.2% of the observed variation in the Rusumo project success is explained by the implementation of these four integration initiatives, leaving 16.8% unexplained by the model. Furthermore, the Durbin-Watson statistic sits comfortably at 1.576, suggesting no severe autocorrelation among the residuals.

Table 4: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19.103	4	4.776	207.652	.000[b]
	Residual	3.853	167	.023		
	Total	22.956	171			

a. Dependent Variable: Project success
b. Predictors: (Constant), Political federation, Customs union, Monetary union, Common market

Source: Primary data (2026)

The findings in Table 4 indicate the holistic statistical significance and absolute fitness of the constructed regression model. The output presents an F-statistic valued at 207.652, which is derived from the calculated Mean Squares. Crucially, this F-value corresponds directly to a reported significance level (Sig.) of 0.000, vastly outperforming the required 0.05 threshold. Pertaining to the current study, this profound result confirms that the entire predictive model is exceptionally robust and highly significant. It indicates that the combined integration variables significantly predict the ultimate success and operational trajectory of the border facility.

Table 5: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.189	.150		1.260	.208		
	Customs union	.201	.038	.222	5.289	.000	.575	1.738
	Common market	.177	.057	.177	3.105	.002	.308	3.249
	Monetary union	.141	.038	.174	3.711	.000	.445	2.247
	Political federation	.440	.063	.466	6.984	.000	.224	4.464

a. Dependent Variable: Project success

Source: Primary data (2026)

The results in Table 5 indicate the specific unstandardized beta weights estimating the individual predictive contribution of each independent variable. Concerning the Customs Union, the B coefficient of 0.201 reveals that a strict one-unit increase in customs harmonization is associated with a 0.201-unit improvement in overall border efficiency. This predictor is highly valid with a t-value of 5.289 and a significance level of 0.000 ($p < 0.05$). For the current study, this supports the positive statistical association of tariff and tracking unified systems.

Focusing on the Common Market, the metric presents a B value of 0.177, indicating that enhancing free labor and service movement by one unit is associated with an increase in project outcomes by 0.177 units. Accompanied by a strong t-statistic of 3.105 and a significance of 0.002, this factor easily passes the 0.05 validity test. In the context of the current study, simplifying human crossing is positively associated with project fluidity.

Evaluating the Monetary Union dimension, the coefficient registers at 0.141, indicating that a single-unit enhancement in financial integration is associated with a

0.141-unit increase in project success. Supported by an impressive t-value of 3.711 and a p-value of less than 0.001, the variable is significant. Applying this to the current study, streamlining cross-border banking operations is associated with a reduction in operational latency.

Finally, the Political Federation variable dominates the matrix with a B value of 0.440, dictating that a one-unit surge in political alignment is associated with an increase in project success of 0.440 units. With a t-statistic of 6.984 and a p-value of less than 0.001, it was the strongest predictor in this model. Regarding the current study, high-level governance is the ultimate anchor securing the facility's success. Additionally, all Collinearity Statistics show VIF values strictly below the standard limit of 5.0, suggesting that severe multicollinearity was not present.

Consequently, the coefficients entirely confirm that every single integration initiative has a statistically significant positive coefficient on the facility's operational throughput.

The adopted regression model was:

$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon$

Where:

Y = Project Success

β_0 = Constant

β_1, β_2, β_3 and β_4 = Regression coefficients

X_1 = Customs Union

X_2 = Common Market

X_3 = Monetary Union

X_4 = Political Federation

ε = Error term

The estimated regression model was:

$Y = 0.189 + 0.201X_1 + 0.177X_2 + 0.141X_3 + 0.440X_4$

4.4 Decision on Null Hypotheses

This section presents the decisions reached regarding the originally proposed null hypotheses, based on the calculated significance levels from the previous multiple regression coefficients table.

Table 6: Decision on Null Hypotheses

Null Hypotheses	p-value	Decision
H01: There is no significant effect of Customs union on success of Rusumo One Stop Border Posts project	0.000	Rejected
H02: There is no significant effect of Common Market on success of Rusumo One Stop Border Posts project	0.002	Rejected
H03: There is no significant effect of Monetary Union on success of Rusumo One Stop Border Posts project	0.000	Rejected
H04: There is no significant effect of Political Federation on success of Rusumo One Stop Border Posts project	0.000	Rejected

Source: Primary data (2026)

The results in Table 6 indicate the final academic rulings regarding the formulated null hypotheses. Since the precise p-value for the Customs union stood at 0.000, which is significantly smaller than the accepted 0.05 alpha level, the first null hypothesis is entirely rejected. Similarly, the Common Market factor produced a p-value of 0.002, firmly triggering the rejection of the second null statement. The Monetary union and Political federation variables both generated reported p-values of less than 0.001, leading to the rejection of the third and fourth null hypotheses respectively. By systematically rejecting all null hypotheses, the study provides evidence that the regional integration protocols exert profound and statistically significant effects on the operational success of the targeted border infrastructure.

4.6 Discussion of Research Findings

This section contextualizes the raw statistical discoveries by explicitly benchmarking them against established scholarly literature and theoretical frameworks from the previous chapters. By systematically weaving the primary field data with secondary academic sources, the discussion considers how the newly acquired insights reinforce and expand upon preexisting academic wisdom regarding integration infrastructure.

4.6.1 Effect of Customs Union on Success of Rusumo One Stop Border Posts Project in Kirehe District

Considering the overall contextual realities, these specific phenomena are consistent with by the Theory of Economic Integration (Balassa, 1961), which proposes that progressing from basic trade areas to unified customs territories naturally harmonizes economic operations and fundamentally replaces domestic inefficiencies with lower-cost, highly streamlined regional imports.

Regarding the observed associations and regression results, the inferential discoveries firmly support previous empirical surveys conducted by Lee and Park (2022), demonstrating a strong positive correlation where standardized customs classifications directly lead to a reduction in processing time at border gates. Simultaneously, the exact structural patterns uncovered are consistent with longitudinal studies authored by Kibara and Njenga (2024), proving that the shifting scope of revenue collection directly to primary ports of entry drastically drops cargo clearance durations from multiple days to just hours, thereby improving project success.

4.6.2 Effect of Common Market on Success of Rusumo One Stop Border Posts Project in Kirehe District

Based on these primary operational trends, the observed phenomena are informed by the Theory of Change (Taplin & Clark, 2012), which systematically assumes that deliberately clarifying input mechanisms, such as legalizing free labor movement, naturally leads to predictable intermediate outcomes like reduced operational clearance delays.

Evaluating the advanced relational and predictive statistics, these outcomes distinctly back prior qualitative studies by EAC Secretariat (2023) identifying a significant positive correlation between the sheer ease of professional work permit issuance and the subsequent substantial reduction in border service delays. Concurrently, the regression coefficients uncovered herein strongly support comparative analytics conducted by Mattoo and Stern (2023), claiming that sweeping service liberalization fosters a competitive environment that accounts for variation in logistical efficiency and substantial cost reductions for all cross-border traders.

4.6.3 Effect of Monetary Union on Success of Rusumo One Stop Border Posts Project in Kirehe District

Reflecting on the overarching data, these specific financial flexibilities are informed by the Resource-Based View Theory (Barney & Clark, 2007), which fundamentally argues that optimizing unique intangible assets such as unified regional financial systems and highly integrated payment software, grants the operational organization a potential competitive advantage in service delivery.

Addressing the deeper inferential discoveries, the analytical findings are consistent with specific correlation studies by Nguyen and Tran (2022) indicating that avoiding dollar conversions actively reduces the strict critical path for shipment processing by several hours. Equally, the modeled predictive frameworks are consistent with modern evaluations documented by Vincent and Njong (2022), proving that automating financial payment gateways within digital single window systems is an important enabler for elevating overall border throughput and radically simplifying financial workflows.

4.6.4 Effect of Political Federation on Success of Rusumo One Stop Border Posts Project in Kirehe District

Analyzing the distinct geopolitical dynamics, the realities are consistent with by Systems Theory (Skyttner, 2005), which meticulously explains that an operational border functions as a complex structured system where unified institutional policies and political inputs influence the overall system equilibrium and dictate final infrastructural success.

Focusing on the deep statistical metrics governing relationships, the results are consistent with targeted case studies by Chen and Wong (2022) demonstrating a strong positive correlation where robust central political control acts as an important risk mitigation strategy against border corruption and operational friction. Correspondingly, the predictive variables uncovered are consistent with strategic analyses documented by Byiers and Karaki (2021), revealing that top-down political will and summit-level diplomacy act as important accelerators for infrastructure project agility and successful schedule compression without bureaucratic delays.

5. Conclusions and Recommendations

5.1 Conclusion

The study conclusively establishes that the deliberate unification of tariff frameworks is important for dismantling technical logistical bottlenecks at the border. Through unified tracking protocols and eliminated re-declarations, the region has improved the cargo clearance trajectory. Therefore, maintaining and continuously upgrading this specific unified digital framework is important for safeguarding the accelerated fluidity of the transit corridor.

The research indicates that erasing discriminatory labor and service barriers improves the intrinsic operational quality of the border infrastructure. Empowering a diverse array of skilled professionals to cross boundaries freely introduces greater efficiency into the localized supply chain. Ultimately, the common market serves as the primary socio-economic catalyst that supports human resource utilization at the targeted facility.

The evaluation suggests that instituting highly homogenized financial platforms reduces the historical friction associated with cross-border monetary settlements. By securing stable exchange rates and instantaneous digital payments, the integration block may help protect operators from severe financial risks.

Conclusively, deep monetary cooperation is fundamentally required to sustain the impressive cost-efficiency observed in modern border projects.

The investigation suggests that high-level geopolitical alignment acts as the important institutional foundation that actively supports all other technical integration pillars. Without the high-level diplomatic commitments and integrated security apparatuses, the physical infrastructure would face jurisdictional coordination challenges. In essence, enduring political federation is an important predictor of the continued success of the border facility.

5.2 Recommendations

This section translates the conclusions into operational recommendations, strategically advising specific institutional authorities and cross-border stakeholders on how to improve the existing integration frameworks.

1. The joint border management committees must coordinate, unified quarterly technical training for all active customs operatives.
2. The national immigration departments should digitize of the simplified trade regime documentation into a mobile-friendly application.
3. The regional professional certification bodies must actively construct a fully centralized, accessible database verifying the credentials of all authorized logistics agents.
4. The regional legislative assemblies should harmonize the distinct national penalty codes specifically concerning transit trade violations.

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