

Research Article

# Assessment on the Impact of Trade Tariff on Procurement and Supply in Sierra Leone

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## Abstract

Trade tariffs are a crucial policy tool in Sierra Leone for raising money, controlling imports, and safeguarding homegrown businesses. Tariffs, however, provide difficulties for supply chain and procurement operations even though they might promote economic expansion. Improving supply chain operations and guaranteeing efficient public service delivery depends on an understanding of how tariffs affect procurement. Targeting various levels of authorities, including procurement officers, suppliers, and logistics specialists within the MTI, a cross-sectional design was used. Out of 57 employees, 50 responders were chosen by stratified random sampling. Structured questionnaires were used to gather the data, and SPSS version 26 was used for descriptive statistics and Pearson's correlation analysis. The results indicated that for the majority of respondents, tariffs—especially Value-Added Tax (38%) and excise charges (30%)—significantly raised procurement costs by 20–30%. Tariffs "always" cause delays in procurement timeframes, according to 58% of respondents. Additionally, 40% of respondents said that budget planning was frequently disrupted, and 52% said that tariffs significantly restricted access to overseas suppliers. In Sierra Leone, trade tariffs seriously impede supply chain and procurement activities, especially in the MTI. In the end, they undermine efficiency by raising prices, delaying deadlines, and limiting supplier possibilities. Building supplier and procurement officer capability, standardising tariff laws, investing in digital tariff-tracking systems, and establishing exclusions for necessities are all necessary to address these issues. These changes could improve the effectiveness of procurement and promote more general economic growth.

## Keywords

Trade Tariffs, Procurement Efficiency, Supply Chain, Sierra Leone, Customs, Ministry of Trade and Industry

## 1. Introduction

Research over the years has demonstrated that nations all over the world rely on one another to successfully maintain their states [1]. For instance, Sierra Leone and Guinea, Canada and America, China and America, and France and Burkina Faso rely on one another for the supply of excess

goods, labour, and services that the other is unable to produce. Trade tariffs on imported goods have grown in importance as a government instrument for revenue mobilisation in this interconnected global world. Trade tariffs are levied by governments on imported products and services

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as a means of controlling trade, safeguarding home industries, and raising money [2].

National Public Procurement Act 2016 defined procurement as the acquisition by any means of goods, work, or services by a procuring entity using public funds. By shielding domestic companies from overseas competition, tariffs can provide immediate advantages [3]. Countries mostly use this tax scheme to lower trade deficits, which is consistent with the aforementioned [4]. For instance, the trade war between the United States and China aims to increase revenue, safeguard domestic industries, promote the consumption of goods made locally, and control competition between foreign and domestic businesses in addition to lowering the trade deficit between the two nations. Trade tariffs can have positive economic effects, but they can also have negative effects. For instance, if everything else is equal, a decline in the supply of commodities relative to demand is likely to result in higher prices [5]. This poses several difficulties, especially in supply chain management and procurement, where not much research has been done.

For developing nations, trade tariffs are frequently an ineffective way to impose taxes. Increased procurement costs, supply chain disruption, reduced competition from overseas suppliers, and delivery delays resulting from paperwork compliance of some tariff-taxed products are some of the major ramifications [6, 7]. Delivery delays, unhappy customers, higher contract administration and finishing costs, etc. can result from this [8].

According to [9], the Ministry of Trade and Industry (MTI) is the central governmental body in charge of developing and managing policies pertaining to market regulation, industrial development, private sector development, and national and international trade in Sierra Leone. The Ministry is housed in the Youyi Building in Sierra Leone's capital, Freetown. Promoting economic variety, boosting commercial competition, and guaranteeing ethical corporate practices are all made possible by this ministry. In the areas of trade, special economic zones, regional and international trade integration, standards and quality infrastructure, SMEs, and private sector growth, MIT advises the government [10].

The ministry's goal, according [11] is to create an inclusive economy driven by the private sector that balances the efforts of the government and the people. Leading inclusive growth and development through institutional reforms for the successful implementation of policies, strategies, and programs to boost private investment, liberalise domestic trade, harmonise national policies with regional and global initiatives, industrial growth, increase Sierra Leone's competitiveness internationally, and diversify the country's economy are all part of its mission.

This case study investigates the Ministry's role, mandate, and policies to understand the broader implications of tariff measures on the public procurement system in Sierra Leone. The emphasis will be on how tariff regimes affect lead times,

procurement prices, sourcing choices, and the Ministry's attempts to strike a balance between market accessibility and trade protection.

Effective supply chain management and procurement are essential in today's increasingly globalised economy to guarantee prompt and economical delivery of goods and services to final consumers. However, trade policies, particularly the introduction of taxes on imported commodities, cause major interruptions to these operations in Sierra Leone [12]. Although trade tariffs are intended to safeguard domestic businesses and raise money for the government, they frequently have unforeseen repercussions, such as higher operating costs, supply chain delays, and limited access to necessities, particularly in public institutions [13].

Furthermore, food, cement, iron rods, and petroleum products—all crucial inputs for manufacturing, construction, and agriculture—have become more expensive due to Sierra Leone's excessive reliance on tariffs as a source of income [12]. Procurement effectiveness is undermined by policy ambiguities, high compliance costs, and a lack of local options for enterprises and government agencies, even in the face of regional trade agreements like ECOWAS and the African Continental Free Trade Area (AFCFTA) [14]. Trade tariffs have been the subject of much research, particularly on ECOWAS and the Africa Continental Free Trade Area (AFCFTA), but little is known about how they affect supply chain operations and procurement, especially in a crucial organization like the Ministry of Trade. Therefore, using the Ministry of Trade and Industry as a case study, this paper aims to examine how trade tariffs affect procurement and supply chain processes in Freetown.

## 2. Literature Review

### 2.1. Theoretical Framework

#### 2.1.1. Principal-agent Theory for Supply, Procurement, and Trade Tariffs

A critical examination of responsibility delegation within businesses is offered by the principal-agent (PA) theory. Fundamentally, the idea looks at how a principal, like the government or regulatory body, interacts with agents, including suppliers, procurement officers, and customs authorities. This is especially true when the focus is on problems resulting from asymmetric knowledge, competing interests, and difficulties in keeping an eye on and enforcing compliance [15]. The contract acts as a link between the procuring entities (principal) and the agents (suppliers) in Sierra Leone's commerce and procurement systems.

A useful analytical tool for comprehending the interactions between implementers (agents) and policymakers (principals) in Sierra Leone's public trade and procurement systems is the principal-agent (PA) theory. Procurement policies and goals are established by principals such the National Public Procure-

ment Authority (NPPA) and the Ministry of Trade and Industry (MTI). On the other hand, these orders must be carried out by agents such as procurement officers, customs officials, and local councils [16, 17].

Information asymmetry, in which agents have greater operational knowledge than principals, is a fundamental problem in principal-agent relationships. In the absence of efficient monitoring procedures, this mismatch frequently results in moral hazard, goal misalignment, and decreased accountability [18].

The following serious agency issues are revealed in Sierra Leone when trade tariffs are implemented with the primary goals of safeguarding domestic businesses, making money, or adhering to regional accords like the ECOWAS Common External Tariff [12].

### 2.1.2. Theory of Comparative Advantage

According to David Ricardo's (1817) theory of comparative advantage [19], nations should focus on providing commodities and services that they can produce more effectively than others and trade for those that they cannot. Siddiqui K (2018) [20] concurs with Ricardo (1817) regarding the importance of exports in commerce.

This theory holds that trade tariffs cause suboptimal resource allocation by distorting comparative advantages, which disrupts global efficiency. In Sierra Leone, imposing high tariffs on imported machinery or essential inputs (like cement or petroleum products) can prevent the country from benefiting from more competitively priced goods available on the global market. This theory suggests excessive tariffs serve as barriers and may ultimately reduce national welfare, especially in economies with underdeveloped industrial capacity [12].

### 2.1.3. Strategic Trade Theory and Protectionism

Contractor FJ (2025) [3] refers to protectionism as economic policies, including tariffs, that shield domestic industries from foreign competition. Strategic Trade Theory builds on this by suggesting that governments can use trade policy to nurture emerging industries until they become competitive [16]. Protectionist policies often target imports, but they can also have an impact on product standards and government subsidies in international trade, which may help local businesses. According to Rasure E, (2025) [17], it often results in higher procurement costs, restricted supplier options, and inefficiencies in public service delivery, especially where domestic alternatives are either unavailable, limited in supply or substandard. This is clear in developing nations like Sierra Leone, where hefty tariffs are imposed on imported goods or inputs to support domestic companies. However, in procurement-driven industries like construction, agricultural, or energy infrastructure sectors that depend on effective supply chains, the short-term outcome is higher project costs and delays.

### 2.1.4. Theory of Supply Chain Disruption

This theory addresses how unplanned events such as policy

changes, natural disasters, or global economic shocks disrupt supply chains [18, 19]. Tariffs are a type of regulatory disruption that affects inventory control systems, supplier relationships, shipping routes, and procurement tactics. Organizations like the Ministry of Trade may be forced to re-evaluate vendor contracts, sourcing nations, or delivery schedules if a trade tariff raises the cost of goods, lengthens the time it takes for customs clearance, or forces suppliers to change operations. This theory highlights the necessity of risk management, resilience-building strategies, and supply chain agility in public procurement processes.

### 2.1.5. Institutional Theory

According to [20], this theory states that organisations function inside a larger institutional framework that is influenced by norms, laws, and regulations. Trade tariff policies, customs, laws, and public procurement regulations form the institutional framework within which ministries operate. Institutional theory helps explain why public entities like the MTI often experience procurement constraints not because of internal inefficiencies alone but due to structural, regulatory, and policy limitations that are hard to navigate without systemic reform.

The ideas provide insightful information on how supply chain operations, procurement, and trade tariffs are related. Protectionism defends tariffs for local industrial growth against more developed and advanced industries, while comparative advantage cautions against tariffs that disrupt efficient trade. TCE and Supply Chain Disruption provide as examples of how tariffs affect cost effectiveness, supplier collaboration, and logistics. Lastly, Institutional Theory places the difficulties in the context of a larger framework for governance and policy. These theories support the need for evidence-based policy changes and offer the theoretical foundation for assessing how tariffs affect the Ministry of Trade's procurement procedures.

## 2.2. Empirical Literature

The relationship between public procurement strategies and tariff regimes has been studied empirically. According to [21], regional integration initiatives like ECOWAS have not been able to sufficiently harmonise with the member state tariff regimes. According to the publication, this has caused uncertainty in the region's policy execution. According to the report's findings, ministries frequently postpone procurement operations to get ministerial clarifications or tariff exemptions, which affects the delivery schedule. In their analysis of Nigeria's Ministry of Works and Housing, [22] noted that procurement managers had to switch from planned to emergency procurement techniques due to erratic tariff schedule adjustments, which had an impact on value for money. Due diligence and competitive bidding are frequently circumvented by these reactive techniques, leading to exorbitant costs and possible corruption. In [12] agrees with [22] in which he found

out in his research that tariff-related customs delays led to procurement setbacks in Sierra Leone. These interruptions reduced agricultural output and undermined food security goals by delaying the acquisition of seeds for planting. The report highlights the importance of proactive customs liaison and early procurement preparation.

In the work of [21] it concur with [22], that supply chains are subjected to uncertain tariff regimes experience supplier renegotiations, increased complexity, and delivery failures. In unstable economies with insufficient institutional capability, such distortions have the potential to disrupt entire procurement ecosystems. During the 2018 trade war with China, [24], evaluated the effect of tariff trade barriers on the U.S. operating performance. The study looks at how domestic businesses' operational performance is impacted by trade friction brought on by tariff trade barriers. The influence of trade tariffs on different firm performance indicators of U.S. enterprises was investigated using a difference-in-difference methodology. The study's conclusions indicate that American companies with direct supply chain partners in China perform poorly in terms of profitability and inventory.

The study "Enhancing Supply Chain Resilience Through Predictive Modelling and Root Cause Analysis in Project Management" by [25]. According to their analysis, ministries and agencies lacked the predictive tools necessary to foresee changes in tariffs. Supply chains were therefore still susceptible to unexpected price spikes and transit delays. They advise funding the development of institutional capacity, especially in the areas of procurement forecasting and tariff analytics. Additionally, [26] underlined that the majority of Sierra Leone's public procurement personnel lack customs and trade policy training. Strategic mismatches between trade policy realities and procurement plans are a result of this knowledge gap.

Despite extensive studies on the effects of trade tariffs, there are still notable gaps. Few studies directly explore the decision-making processes of procurement officers within ministries operating under active tariff regimes. Similarly, limited research has been done on how real-time trade policy changes are incorporated into procurement planning tools or strategies. In Sierra Leone, the empirical literature on how ministries align their procurement strategies with fluctuating tariffs remains sparse, particularly in the Ministry of Trade and Industry. These gaps underscore the importance of this study and its potential contribution to procurement reform in tariff-sensitive environments.

### 3. Research Methodology

This study adopted a mixed method using a cross-sectional

design. A cross-sectional design involves the collection of data at a single point in time from a defined population to examine the prevalence of conditions, characteristics, or relationships between variables [27]. It provides a "snapshot" of the situation, making it suitable for assessing the impact of trade tariffs on procurement and supply chain operations within the Ministry of Trade and Industry (MTI) in Freetown.

Structured questionnaires with closed-ended questions were used as the primary data collection instrument, focusing on numerical variables such as procurement costs, delays, and tariff-related challenges. The use of descriptive and inferential statistical techniques supports the identification of trends, associations, and relationships between tariffs and procurement outcomes.

The research population 57 staff which comprises key stakeholders directly involved in or affected by trade tariffs, procurement, and supply chain operations within the Ministry of Trade and Industry (MTI) in Freetown, Sierra Leone. This targeted group was chosen because they have firsthand knowledge of how tariffs affect supply chain logistics, policy execution, and procurement efficiency. The following groups were specifically the focus of the study:

The statistical method of figuring out the bare minimum of participants needed for a study is known as sample size. From the population of 57, sample size of 50 respondents from MTI is used to collect data using the Yamane Formula.

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

where N is the overall population size (57 employees in this scenario).

n is the necessary sample, and

e is the margin of error, which is 5% or 0.05.

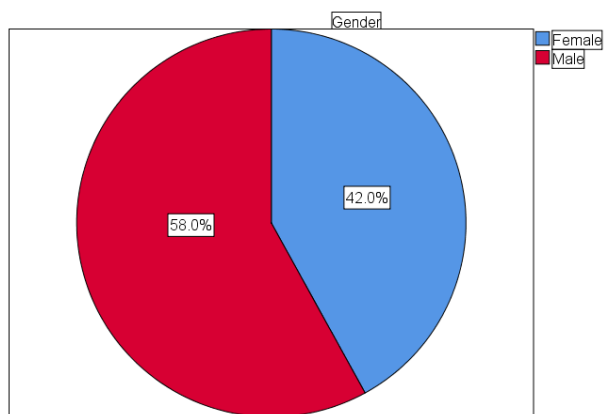
$$N = 57/1 + 57(0.0025)$$

$$= 50 \text{ sample size of staff at MTI}$$

## 4. Analysis and Discussion of Research Results

### 4.1. Response Rate

The researchers distributed 50 questionnaires and get a returned of all the questionnaire from the field translating to the response rate of 100.0%. This is confirmed by Mugenda and Mugenda (2003) who responded that for simplification a response rate of 50% is sufficient for scrutiny and exposure, 60% is good and a response rate of 70% and over is excellent.



Source: output from SPSS version 25

Figure 1. Displays Respondents' Gender Pattern.

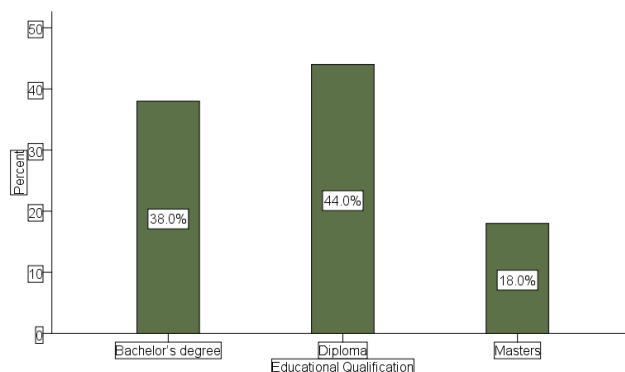
The majority of respondents (58.0%) were men and 42.0% were women, as seen in Figure 1.

#### 4.1.1. The Respondents' Educational Status

The purpose of the study was to determine the targeted respondents' level of education. The study's conclusions are shown below.

Out of the fifty respondents who completed the questionnaire, 19 (38.0%) have a bachelor's degree, 22 (44.0%) have

a diploma or certificate, and 9 (18.0%) have a master's degree, as shown in Figure 1. as seen above in Figure 2.



Source: output from SPSS version 25

Figure 2. Displays Respondents' Educational Status.

#### 4.1.2. How Tariff Policies Interact

When asked how often they interacted with tariff policy, the majority of respondents (38.0%) claimed they did so "monthly," followed by "rarely" (30.0%), "weekly" (22.0%), and "daily" (10.0%).

Table 1. Displays how frequently you contact with tariff rules at work.

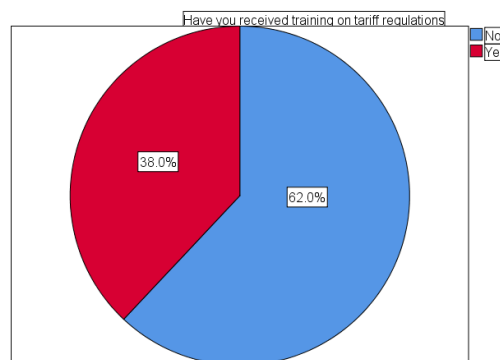
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Daily	5	10.0	10.0
	Monthly	19	38.0	48.0
	Rarely	15	30.0	78.0
	Weekly	11	22.0	100.0
	Total	50	100.0	100.0

Source: output from SPSS version 25

#### 4.1.3. Training on Tariff Regulation

When respondents were asked to state whether they have received training on tariff regulation, the majority (62.0%) responded negatively that they have not been receiving training on tariff regulation, and 38.0% responded positively to the statement.

Responses about Tariff Regulation Training are displayed in "Figure 3."



Source: output from SPSS version 25

Figure 3. Display of Responses on Tariff Training.

## 4.2. Analyzing the Impact of Trade Tariff Structure on Supply and Procurement Efficiency

This study's primary goal is to investigate how the Ministry of Trade and Industry's procurement and supply chain efficiency are impacted by trade tariff structure. The results are shown below.

### 4.2.1. Trade Tariffs That Primarily Impact the Procurement Activity of Respondents

“Table 1.” below reveals that trade tariffs mostly affect Value-Added Tax (VAT) on Imports, with 38.0%, followed by 30.0% that affected excise duties, and 22.0% that were affected by anti-dumping tariffs.

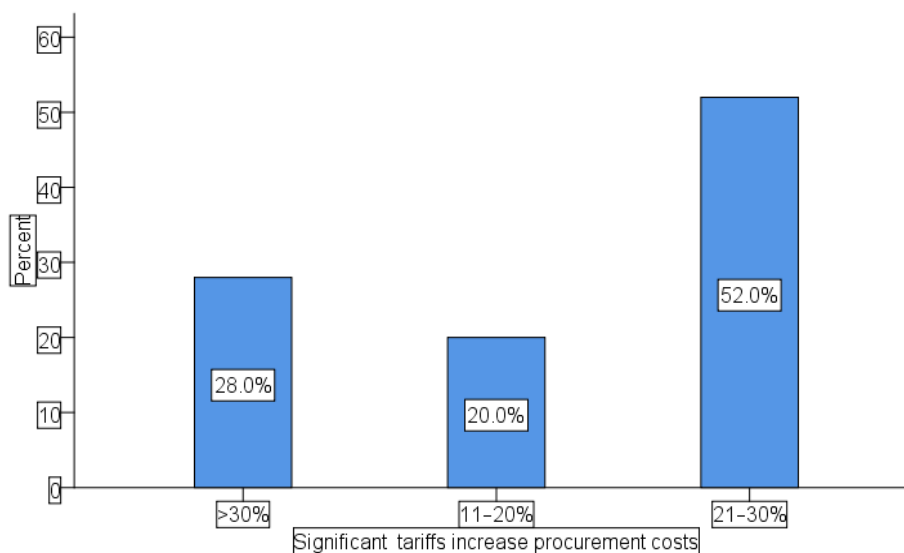
*Table 2. Shows responses on the trade tariffs most affect the respondents' procurement activities.*

	Frequency	Percent	Valid Percent	Cumulative Percent
Anti-Dumping Tariffs	11	22.0	22.0	22.0
ECOWAS Common External Tariff (CET)	5	10.0	10.0	32.0
Valid Excise Duties	15	30.0	30.0	62.0
Value-Added Tax (VAT) on Imports	19	38.0	38.0	100.0
Total	50	100.0	100.0	

Source: output from SPSS version 25

### 4.2.2. Tariffs Significantly Raise the Cost of Procurement

Tariffs raise procurement costs by 20–30%, according to 52.0% of respondents. Furthermore, 20.0% said that tariffs can raise expenses by 11–20%, while 28.0% said that tariffs raise costs by more than 30%. “Figure 4.” below provides an illustration of these conclusions.



Source: output from SPSS version 25

*Figure 4. Shows the Significant way tariffs increase procurement costs.*

### 4.2.3. Frequency of How Tariffs Delay Procurement Timelines

According to “Table 3.” 58.0% of respondents said that tariffs "always" delay procurement deadlines, compared to 20.0% who said they "frequently" and 22.0% who said they "occasionally."

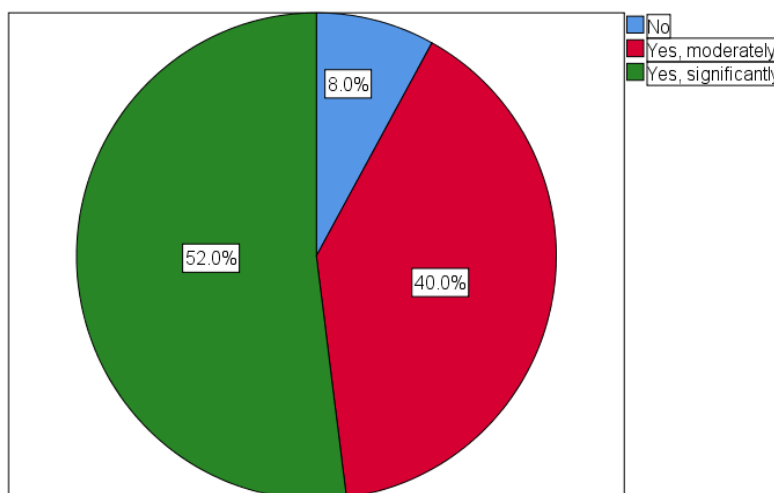
**Table 3.** Shows the frequency of how tariffs delay procurement timelines.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	29	58.0	58.0
	Frequently	10	20.0	78.0
	Occasionally	11	22.0	100.0
	Total	50	100.0	100.0

Source: output from SPSS version 25

#### 4.2.4. How Tariffs Limit Respondents' Access to Foreign Suppliers

While 40.0% of respondents said that tariffs moderately restrict their access to international suppliers, the majority of respondents (52.0%) agreed that tariffs severely limit their access to overseas suppliers.



Source: output from SPSS version 25

**Figure 5.** Shows responses on how Tariffs Limit Respondents' Access to Foreign Suppliers.

#### 4.2.5. How Do Tariffs Affect Procurement Budget Planning

Tariffs have a moderate effect on budget planning for procurement, according to 40.0% of respondents, and a major disruption (many changes) on budget planning for procurement, according to 38.0%.

**Table 4.** Displays responses regarding the effects of tariffs on procurement budget planning.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Major disruptions (frequent revisions)	19	38.0	38.0
	Minimal impact	11	22.0	60.0
	Moderate disruptions	20	40.0	100.0
	Total	50	100.0	100.0

Source: output from SPSS version 25

### 4.3. Challenges in Managing Procurement and Supply Chain Under Existing Tariff Policies

The second goal is to evaluate how difficult it is for the Ministry of Trade and Industry to manage supply chains and procurement under current tariff regulations. The results are shown below.

#### 4.3.1. Frequency of Tariff Classifications Causes Confusion

According to the findings, 60.0% of respondents said that tariff "always" classifications are confusing, and 28.0% said that tariff "frequently" classifications are confusing.

*Table 5. Shows responses on how often tariff classifications cause confusion.*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Always	30	60.0	60.0	60.0
	Frequently	14	28.0	28.0	88.0
	Occasionally	6	12.0	12.0	100.0
	Total	50	100.0	100.0	

Source: output from SPSS version 25

#### 4.3.2. The MTI Offers Precise Guidelines Regarding Tariff Modifications

The majority of respondents (50.0%) said "affirmative (Yes, always)" when asked if the MTI offers clear guidance on tariff increases, while 40.0% said "sometimes."

*Table 6. Shows how does the MTI provide clear guidance on tariff changes.*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	5	10.0	10.0	10.0
	Sometimes	20	40.0	40.0	50.0
	Yes, always	25	50.0	50.0	100.0
	Total	50	100.0	100.0	

Source: output from SPSS version 25

#### 4.3.3. Level of Adequacy of the Current Tools for Tracking Tariff Impacts

As indicated in "Table 7." below, the majority of respondents (50.0%) said that the current methods for measuring tariff impacts are "Somewhat inadequate," while 30.0% said that they are "Very inadequate."

*Table 7. Shows the level of adequacy of the current tools for tracking tariff impacts.*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Adequate	10	20.0	20.0	20.0
	Somewhat inadequate	25	50.0	50.0	70.0
	Very inadequate	15	30.0	30.0	100.0
	Total	50	100.0	100.0	

Source: output from SPSS version 25

#### 4.3.4. Whether Inter-agency Coordination Gaps Worsen Tariff Challenges

50.0% of respondents said "Yes, significantly," and 28.0% said "Yes, moderately," when asked if interagency coordination gaps make tariff difficulties worse.

*Table 8. Shows responses on whether inter-agency coordination gaps worsen tariff challenges.*

		Frequency	Percent	Valid Percent	Cumulative Percent
	Missing	6	12.0	12.0	12.0
	No	5	10.0	10.0	22.0
Valid	Yes, moderately	14	28.0	28.0	50.0
	Yes, significantly	25	50.0	50.0	100.0
	Total	50	100.0	100.0	

Source: output from SPSS version 25

#### 4.4. Policy Recommendations for Optimising Tariffs

The third goal is to make policy and regulatory suggestions for trade tariff optimisation that will improve the supply chain and procurement efficiency. The study's conclusions are shown below.

##### 4.4.1. The Most Effective Reform for Increasing Procurement Efficiency

When asked which reform would increase procurement efficiency the greatest, 32.0% of respondents said streamlined customs procedures and 42.0% said training for procurement staff.

*Table 9. Shows the reform that most improves procurement efficiency.*

		Frequency	Percent	Valid Percent	Cumulative Percent
	Digital tariff tracking systems	4	8.0	8.0	8.0
	Streamlined customs procedures	16	32.0	32.0	40.0
Valid	Tariff exemptions for critical goods	9	18.0	18.0	58.0
	Training for procurement staff	21	42.0	42.0	100.0
	Total	50	100.0	100.0	

Source: output from SPSS version 25

##### 4.4.2. Sierra Leone Reduces Tariffs to Boost Procurement

When asked if lowering tariffs in Sierra Leone could increase procurement, the majority (60.0%) said "Yes, but only for essential goods," while 40.0% said "Yes, across all sectors," as shown in "Table 10" below.

*Table 10. Shows responses on whether Sierra Leone reduce tariffs to boost procurement.*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes, across all sectors	20	40.0	40.0	40.0
	Yes, but only for essential goods	30	60.0	60.0	100.0

	Frequency	Percent	Valid Percent	Cumulative Percent
Total	50	100.0	100.0	

Source: output from SPSS version 25

#### 4.4.3. How Well Pre-clearance Procedures Work to Cut down on Delays

The effectiveness of pre-clearance systems in cutting down on delays was rated by the respondents. Of them, 40% thought it was "moderately effective," and 60% said it was "highly effective."

*Table 11. Shows how effective would pre-clearance systems be in reducing delays.*

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Highly effective	30	60.0	60.0
	Moderately effective	20	40.0	100.0
Total		50	100.0	100.0

Source: output from SPSS version 25

#### 4.4.4. MTI Implements a Centralised Database for Procurement and Tariffs

40.0% of respondents "strongly agree" and 12.0% "disagree" with the assertion that the MTI should implement a consolidated procurement-tariff database.

*Table 12. Shows whether the MTI should adopt a centralised procurement-tariff database.*

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Missing	5	10.0	10.0
	Agree	19	38.0	48.0
	Disagree	6	12.0	60.0
	Strongly agree	20	40.0	100.0
Total		50	100.0	100.0

Source: output from SPSS version 25

#### 4.4.5. Does Supplier Diversification Reduce the Risk of Tariffs

We questioned the respondents on the possibility of reducing tariff risks through supplier diversification. In response to the statement, 38.0% said "Yes, moderately," while 62.0% said "Yes, significantly."

*Table 13. Shows responses on supplier diversification mitigates tariff risks.*

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes, moderately	19	38.0	38.0
	Yes, significantly	31	62.0	100.0

	Frequency	Percent	Valid Percent	Cumulative Percent
Total	50	100.0	100.0	

Source: output from SPSS version 25

#### 4.5. Discussion

Males made up 58.0% of the respondents, while women made up 42.0%. This gender disparity is consistent with research demonstrating that trade, logistics, and procurement are still dominated by males, frequently as a result of sociocultural and occupational norms that affect labour force participation [28]. According to [29], the under-representation of women may restrict the diversity of viewpoints when creating and executing tariff-related policy.

The majority of respondents had a bachelor's degree (38.0%) or a diploma (44.0%), with 18.0% having a master's degree. This suggests a sample that is typically well-educated, which is in line with the findings in [30, 37], who underlined that procurement officers with greater levels of education are better able to understand and apply trade legislation. The distribution of respondents by department—standards (22.0%), commerce (20.0%), and finance/consumer affairs (8.0%)—reflects the multisectoral character of MTI's tariff policy implementation.

Procurement officers made up the largest group (40.0%), followed by supply chain/logistics experts (22.0%), suppliers (18.0%), and policymakers (20.0%). Because tariff regulations impact several phases of the procurement and supply chain process, from supplier negotiations to customs clearance, this diversity of roles is essential [23]. According to data on work experience, 60.0% of respondents had less than a year of experience, 20.0% had between one and five years, 8.0% had between six and ten years, and 12.0% had more than ten years. Given that more experience is frequently linked to better procurement efficiency and policy compliance, the high percentage of less experienced employees may provide a problem for the implementation of tariff policies [36, 31].

One particularly significant conclusion was that only 38.0% of respondents had received training on tariff control, compared to 62.0% who had not. This is consistent with previous research showing that insufficient capacity building is a major barrier to efficient tariff management and trade facilitation in developing nations [32]. The complexity of the ECOWAS Common External Tariff (CET), which necessitates both technical knowledge and practical skills to be implemented effectively, makes the absence of training especially worrying [37]. Staff may find it difficult to adjust procurement tactics to tariff changes without sufficient training, which could compromise the effectiveness of the supply chain.

Overall, the respondents' professional and demographic traits indicate that although MTI and its stakeholders have a

reasonably educated staff, there are still gaps in professional experience, gender balance, and tariff-related training. The Ministry may be better equipped to handle supply chain and procurement operations under current and future tariff regimes if these weaknesses are filled via focused capacity improvement.

The most impacted tax, according to our research, is VAT on imports (38.0%), followed by excise taxes (30.0%) and anti-dumping tariffs (22.0%). These findings are consistent with more general conceptions of tariff arrangements. Although there isn't much academic research on Sierra Leone's tax mix, theoretical frameworks claim that because tariffs are based on import value, which includes levies, they frequently increase VAT costs. Tariffs raise the VAT base and compound expenses, much like a hidden upstream tax [27].

Our study's results showed that tariffs increased procurement costs by 20–30% (51.8%), >30% (27.3%), and 11–20% (20.9%). This is consistent with research from around the world that indicates substantial cost pass-through; for instance, tariffs have increased the price of intermediate goods by 10–30% in the United States [35]. Sharp rises brought on by surges in import tariffs are confirmed by Producer Price Index data [36]. Tariffs lower margins and increase consumer prices by driving up production and procurement costs throughout supply chains [37, 38]. These trends imply that the experiences of your respondents align with global data, emphasising the financial strains brought on by tariff shocks.

Tariffs, according to 58.0% of respondents, always cause delays in procurement schedules. This pattern is consistent with international research showing that tariffs induce delays and disrupt supply networks. For example, tariffs are known to cause supply chain disruptions, delaying customs clearance and straining logistics, which is consistent with our findings [7, 40]. High non-tariff trade costs and ineffective customs procedures have been identified as major obstacles to timely imports, particularly in Sierra Leone [12].

52.0% of our respondents stated tariffs severely restrict access to international suppliers, whilst 40.0% thought the impact was mild. This is consistent with research showing that tariffs can limit supplier options, impede market access, and deter interaction with foreign suppliers [35]. Sourcing flexibility and access to overseas suppliers are further limited in Sierra Leone by the high costs and inefficiencies associated with border processes [12].

Lastly, research demonstrating that tariffs introduce volatility into cost forecasts, necessitating frequent budget modifications, is consistent with the conclusion that 40.0% suffered

moderate disruptions to budget planning and 38.0% encountered major (frequent revisions) disturbance [23]. Given Sierra Leone's high trade costs, even modest reductions in import delays can improve welfare and stable fiscal planning [12].

According to our statistics, 60.0% of respondents said they are always confused by tariff categories, and another 28.0% said they are usually confused. This is consistent with research showing that tariff classification is intrinsically unclear and prone to error. For instance, PwC points out that "the classification of goods is not always unambiguous," necessitating in-depth product and classification knowledge, and that incorrect classification might result in significant expenses or regulatory errors [41]. Even regions that use the exact Harmonised System (HS) codes, like EU member states, frequently interpret them differently because of differences in administrative methods and sectional notes, according to a more thorough analytical study [42].

According to our study's findings, 30.0% of respondents said MTI occasionally offers clear advice on tariff increases, compared to 50.0% who said it usually does. This is encouraging, but it also supports the conclusion that, even when assistance is given, it is not always enough to provide a consistently clear understanding. According to [43], studies on tariff systems frequently highlight the significance of formalised and easily accessible guidelines to lessen ambiguity and discrepancies in implementation.

The literature confirms this worry; procurement experts emphasise the need for better real-time, data-driven tools that help predict and respond to tariff-induced disruptions. Half of respondents (50.0%) evaluated existing tools as "somewhat inadequate," while 30.0% saw them as "very inadequate." For example, industry study highlights that procurement teams now have to deal with ongoing volatility and cannot "absorb every new headline." Instead, they need to implement responsive, reliable solutions (such as AI-powered analytics) to handle complexity [44]. According to reports, procurement teams wind up spending more time "firefighting than forecasting" as a result of unclear contracts and opaque sourcing frameworks, particularly under quickly changing tariff regimes [45].

According to your statistics, 28.0% believe that inadequate inter-agency coordination moderately exacerbates tariff-related issues, while 50.0% believe it greatly exacerbates them. This result was in great agreement with the public sector coordination literature. In order to manage interdependencies and prevent confusion, inefficiency, and resource waste, effective coordination is essential, especially amongst customs, trade, finance, and supply chain agencies [38]. Tariff administration and trade facilitation can be seriously hampered by a lack of harmonised systems and insufficient integration between customs and trade enforcement authorities, as demonstrated by a case study from the Philippines [46].

The reform most likely to increase efficiency, according to 42.0% of respondents, is training for procurement personnel. This is consistent with other earlier research; for example, a

Ghanaian study discovered that procurement training enhances overall organisational performance and process efficiency, highlighting the strategic significance of funding capacity building [47]. Training and more general HR development were found to be statistically significant predictors of public procurement success in a study conducted among Tanzanian procurement professionals [48].

Simplified customs processes were identified by 32.0% of respondents as a crucial reform item. According to a study, expenses may be greatly reduced and clearance times can be reduced by up to 50% by optimising customs through automation and technology such EDI and single window systems (Sarker, 2025). According to research conducted on Ghana's Tema Port, the average delivery order issuance time decreased from 11 days to 9 days with the implementation of a single-window customs management system [49].

According to our poll, 40.0% of respondents support tariff reduction in all sectors, whilst 60.0% support it just for necessities. This was also reported in evidence from other investigations. Targeted tariff reduction, particularly on important imports, might alleviate cost pressures without significantly compromising revenue or abruptly exposing domestic markets, according to broader economic research [50].

According to the results, 40.0% of respondents thought pre-clearance systems would be moderately effective, while 60.0% thought they would be highly effective. Supporting data from UNCTAD case studies from China shows how the use of AI and single windows in accelerated customs procedures, such as pre-clearance and green lanes, greatly improves clearing efficiency [51]. Under GIZ and UNCTAD's Trade Facilitation initiative, Bosnia and Herzegovina demonstrated a 30% decrease in clearance times following the implementation of risk-based customs procedures and pre-arrival data processing [52].

According to this poll, 12.0% of respondents disagreed with the use of a centralised database, while 40.0% strongly agreed. Although there aren't many direct studies on these centralised databases, the literature on public procurement highlights how centralisation can improve supervision, decrease duplication, and increase transparency—especially when combined with e-procurement platforms [53]. Although they are not the same, centralised purchasing models also emphasise advantages like uniformity and cost savings, despite certain bureaucratic disadvantages.

We discovered that the frequency of delays and cost increases were substantially correlated negatively. Cost increases and restricted supplier access were positively and significantly correlated, while delay frequency and restricted supplier access were negatively and significantly correlated. This implies that, as was previously mentioned, higher tariff-related cost increases are linked to fewer delays but more restricted access to international providers. A study conducted in Kenya found a strong positive association ( $r = 0.878$ ) between procurement training and supply chain effectiveness,

suggesting ongoing skill development initiatives [54]. Research (e.g., Dadzie et al., 2024) similarly emphasises that procurement training greatly enhances process outcomes in more general scenarios.

## 5. Summary of Findings, Conclusion and Recommendations

All 50 surveys were returned, giving the study a 100% response rate. According to the demographic profile, the majority of respondents were male (58.0%), over 40 (42.0%), and reasonably educated (44.0% diploma, 38.0% bachelor's, and 18.0% master's). The majority of responders were procurement officials (40.0%), followed by logistics specialists (22.0%), legislators (20.0%), and suppliers (18.0%). A sizable percentage (60.0%) had worked for less than a year, indicating little exposure to the workplace. There is a capacity building gap, as the majority of respondents (62.0%) stated they had not received training on tariff regulation.

VAT on imports (38.0%), excise taxes (30.0%), and anti-dumping tariffs (22.0%) were the tariffs that had the biggest impact on procurement activities. Tariffs were shown to raise procurement costs; 52.0% reported cost increases of 20–30%, 28.0% reported increases of over 30%, and 20.0% reported increases of 11–20%. Tariffs were also found to cause delays in procurement deadlines, with 58.0% of respondents stating that delays "always" occur and 20.0% stating "frequently."

Tariffs severely restrict access to international suppliers, according to more than half (52.0%), while 40.0% claimed they just somewhat restrict access. Tariffs caused disturbances to budget planning, with 40.0% reporting moderate disruptions and 38.0% reporting substantial disruptions necessitating frequent modifications. Tariff categories were a significant problem: 28.0% claimed they "frequently" caused confusion, while 60.0% said they "always" did.

This study has shown that trade tariffs have a major impact on supply chain efficiency and procurement at Sierra Leone's Ministry of Trade and Industry. The results show that tariffs, especially VAT on imports, excise taxes, and anti-dumping laws, regularly raise the cost of procurement, cause delays, restrict access to foreign providers, and interfere with budgetary planning. These consequences are made worse by issues including unclear tariff classifications, insufficient instruments for monitoring tariff impacts, and poor interagency collaboration. The study does, however, also point out specific areas for development, such as supplier diversification tactics, centralised procurement–tariff databases, improved pre-clearance systems, expedited customs processes, and focused training for procurement personnel. The data emphasises how effective legislative changes, capacity building, and operational innovations can significantly lower tariff-related inefficiencies, improving supply chain resilience and procurement results.

The secret to enabling more effective, affordable, and robust procurement systems in Sierra Leone's public sector is

tariff policy reform, institutional capacity building, and updated trade facilitation procedures.

## 6. Recommendations (for Policy)

- 1) To increase employee competency and lower operational inefficiencies, MTI must provide frequent, organised training sessions on trade policy, ECOWAS CET, and tariff laws.
- 2) For procurement and supply chain processes to be more efficient, transparent, and cost-effective, the Ministry must implement digital technologies such as pre-clearance systems and single-window platforms.
- 3) In order to reduce misunderstanding and enhance decision-making, MTI must establish a centralised, real-time procurement-tariff database.
- 4) In order to ease procurement cost pressures and preserve revenue streams from non-important sectors, the Ministry must lower tariffs on key imports.
- 5) To harmonise tariff policy and reduce bureaucratic inefficiencies, MTI should enhance cooperation between the Ministry of Trade, customs, finance, and other pertinent departments.

## Abbreviations

MTI	Ministry of Trade and Industry
AFCFTA	African Continental Free Trade Area
ECOWAS	Economic Community of West African States
NPPA	National Public Procurement Authority
UNCTAD	United Nations Conference on Trade and Development
IMF	International Monetary Fund
VAT	Value Added Tax

## Author Contributions

**Albert Caulker:** Conceptualization, Data curation, Methodology, Validation, Writing – original draft

**Sharka Satto Makieu:** Funding acquisition, Project administration, Resources, Writing – review & editing

## Conflicts of Interest

The authors declare no conflicts of interest.

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