EdinBurg Peer-Reviewed Journals and Books Publishers
Journal of Finance and Accounting
Vol. 6||Issue 14||pp 1-14||November||2026
Email: info@edinburgjournals.org||ISSN: 2789-0201

Effect of Coordinated Green Customs Training on Trade Facilitation at Mombasa Port, Kenya: Moderating Role of Environmental Enforcement Capacity

George Williams Ndungu Nginyo*, Moses Nyagu, Naomi Koske
Moi University, Kenya
*Corresponding author email: willynginyo365@gmail.com

Accepted: 01 October 2026 || Published: 22 November 2026

Abstract

The study sought to determine the influence of coordinated training on trade facilitation at Mombasa Ports and to analyze the moderating effect of environmental enforcement capacity on the relationship between coordinated training and trade facilitation at Mombasa Ports. The study adopted an explanatory research design using a quantitative approach. The target population comprised 205 customs officers stationed at the Port of Mombasa, from which a sample of 136 respondents was selected using stratified random sampling. The study collected primary data through structured questionnaires and analyzed them using descriptive and inferential statistics. The study used hierarchical regression to test the research hypothesis at a 95% confidence level. As illustrated in the previous section, questionnaires were used to collect primary data, and analysis was done in SPSS version 24. The results show that coordinated training has a positive and significant influence on trade facilitation. The results show that coordinated training has a positive and significant influence on trade facilitation ($\beta = 0.447$, $p = 0.000$). The results further show that the interaction term for coordinated training and the moderating variable, environmental enforcement capacity (CTEEC), has a positive and significant effect on trade facilitation ($\beta=1.243$, $p=0.004$). The study hence concludes that coordinated training positively and significantly influences trade facilitation at Mombasa ports. Coordinated training enhances trade facilitation at Mombasa Ports by strengthening capabilities, addressing regulatory complexity, promoting awareness of the SDGs, and leveraging Green HRM to align training. The study recommends that KRA and KPA should adopt measures that would improve green customs initiatives so as to strengthen trade facilitation at Mombasa ports. This can be done by investing in coordinated training programs and capacity-building programs, as well as by simplifying operational procedures at the ports. Finally, the study recommends that the regulatory bodies involved in customs border management should strengthen environmental enforcement capacity to strengthen the influence of coordinated training on trade facilitation at the ports.

Keywords: *Coordinated training, environmental enforcement capacity and trade facilitation*

How to Cite: Nginyo, G. W. N., Nyagu, M., & Koske, N. (2026). Effect of Coordinated Green Customs Training on Trade Facilitation at Mombasa Port, Kenya: Moderating Role of Environmental Enforcement Capacity. *Journal of Finance and Accounting, 6*(14), 1-14.

1. Introduction

Trade facilitation has evolved from a technical concern to a strategic imperative, as global trade has become a dominant force in the world economy. For countries like Kenya, efficient movement of goods is critical to economic growth, yet it also carries a significant environmental footprint (KNBS, 2025). As the world confronts climate change and ecological degradation, the traditional focus on speed and efficiency in customs has expanded to include a new, non-negotiable variable: sustainability. This shift has prompted a re-evaluation of customs procedures, pushing them beyond simple revenue collection and border control to become key agents of environmental protection (Kirui & Ngugi, 2024). The result is a new paradigm of green customs initiatives, which seeks to integrate environmental regulations and policies directly into trade logistics. However, the true impact of these initiatives remains complex, as their effectiveness depends not only on their existence but also on a country's capacity to enforce them (Kilonzo, 2024). This research therefore sought to examine the intricate relationship between trade facilitation, green customs, and the role of environmental enforcement capacity in shaping Kenya's sustainable future.

Customs administration procedures, including goods declaration, documentation, and verification, have demonstrated positive and significant effects on trade facilitation in Kenya (Clark, & Bernard, 2022). However, the COVID-19 pandemic exposed critical challenges in implementing the World Trade Organisation (WTO) Trade Facilitation Agreement across East Africa, with Kenya experiencing a "policy implementation gap" that hindered effective trade facilitation policies (Olubandwa, 2022). While Kenya has made progress with initiatives like the "One Stop border post" at Namanga (Olubandwa, 2022), understanding remains limited on how environmental considerations integrate with customs operations. Meanwhile, green initiatives have gained traction in Kenya's institutional sectors, with libraries adopting partial green practices to support environmental sustainability (Mwanzu, 2022; Mwanzu et al., 2023). This research landscape suggested a critical need to examine how green customs initiatives, environmental enforcement capacity, and trade facilitation intersect in Kenya's evolving regulatory framework. Therefore, research on trade facilitation and green initiatives in Kenya revealed significant gaps that warranted further investigation.

Streamlined customs procedures in trade facilitation are believed to support international trade in environmental goods and services, though the evidence base remains small and largely comes from international trade institutions (Hicks, 2021). A high-level framework for Green Customs links circular economy policies with customs activities and innovative capabilities, helping identify capability gaps for environmental monitoring (Rukanova et al., 2022). Empirical evidence demonstrates that transportation infrastructure and logistics are core elements supporting trade facilitation, with logistics having a larger effect on trade via trade facilitation than infrastructure quality alone (Sénquiz-Díaz, 2021). Furthermore, trade facilitation procedures combined with strong institutional frameworks, including government effectiveness and regulatory quality, positively predict sustainable economic growth, particularly in Sub-Saharan Africa (Jiahao et al., 2022).

Trade facilitation has evolved from a purely technical concern to a strategic imperative, with global trade now a dominant force in the world economy (WTO, 2024). For countries like Kenya, efficient movement of goods is critical to economic growth, yet it also carries a significant environmental footprint. As the world confronts climate change and ecological

degradation, the traditional focus on speed and efficiency in customs has expanded to include a new, non-negotiable variable: sustainability. This shift has prompted a re-evaluation of customs procedures, pushing them beyond simple revenue collection and border control to become key agents of environmental protection (World Customs Organization, 2023).

1.1 Problem Statement

Trade facilitation is expected to improve gradually, driven largely by digitalization, regional integration, and policy harmonization. Governments are adopting electronic single windows, paperless customs systems, and risk-based inspections to reduce clearance times and costs (Ferrill & O'Hanlon, 2024; Karklina-Admine et al., 2024; World Customs Organization, 2023). Regional frameworks such as the African Continental Free Trade Area are expected to enhance coordination, simplify procedures, and improve cross-border transit. Despite these gains, progress may be uneven due to infrastructure constraints, skills gaps, and inconsistent implementation of reforms (UNEP, 2021; KenTrade, 2023). Continued investment in transport, ICT infrastructure, capacity building, and institutional cooperation will be essential to fully realize the benefits of trade facilitation and strengthen participation in regional and global trade (Vijayakumar, 2025).

Despite this potential, a significant disconnect prevailed between the theoretical benefits of green customs initiatives and their practical outcomes for trade facilitation in Kenya. The core issue lies in the country's weak environmental enforcement capacity, which creates an operational gap that undermines the effectiveness of green measures. This is evident in the fact that, despite digitalization reducing cargo release times at the Port of Mombasa by 54%, environmental regulators remain under-integrated into these streamlined systems (KRA, 2024a; UNEP, 2023b). This weakness stems from fragmented data systems, limited technical resources for monitoring, and poor inter-agency collaboration (UNDP, 2024; Kirui & Ngugi, 2024). Consequently, rather than smoothing trade flows, environmental controls often lead to clearance delays and unpredictable inspections. Furthermore, the deterrent effect is critically low, as over 60% of stakeholders report moderate enforcement and low prosecution capacity, signalling that non-compliance carries little risk (Wang et al., 2024). This creates a paradox: initiatives meant to facilitate sustainable trade instead act as barriers to efficient cross-border movement.

1.2 Objectives of the Study

i. To determine the influence of the coordinated training on trade facilitation at Mombasa Ports.

ii. To analyze the moderating effect of environmental enforcement capacity on the relationship between coordinated training and trade facilitation at Mombasa Ports.

2. Literature Review

2.1 Theoretical Framework

2.1.1 Cooperative Game Theory

Cooperative game theory can be applied to the case where players can achieve more benefit by cooperating than staying alone (Xu *et al.,* 2013). The gain-sharing issue has been intensively investigated in cooperative game theory; therefore, we adopted cooperative-game-theoretic approaches to construct the hypothesis on inter-agency cooperation practices and trade

facilitation. Today cooperation is becoming more and more crucial to improve the global performance of trade (Drechsel & Kimms, 2010). As a complement to traditional vertical cooperation, a new cooperation model, horizontal cooperation, was proven efficient in reducing global costs and improving service rates in logistics (Drechsel & Kimms, 2010). In game theory, horizontal cooperation among relevant agencies was proven efficient in reducing global costs and improving the performance level of doing business (Tinoco, Creemers & Boute, 2017). However, despite these advantages, horizontal cooperation is not considerably employed in trade facilitation. One main obstacle in the implementation of horizontal cooperation is the absence of an appropriate cooperation decision-making model (Xu *et al.,* 2013). In this study, a cooperative game-theoretic approach was used to facilitate decision-making and measure inter-agency cooperation and its effect on trade facilitation. The cooperative game theory investigated how players interacted with each other in a cooperative relationship and provided many approaches to fair profit allocation and stable coalition formation, which were important components in the cooperation model (Dror, Hartman & Chang, 2012). This form of cooperation took place between agencies operating in trade facilitation, and it required them to share private information and resources in customs and trade facilitation (Drechsel & Kimms, 2010).

The aim was to improve efficiency in cross-border trading; for example, reduce transaction costs (Tinoco, Creemers & Boute, 2017) or reduce delay costs from customs procedures (Pan & Long, 2011). The theory focused on the transaction cost aspect. It was proven in the literature that cooperation in transaction costs could result in a 10% or higher percentage of cost reduction in doing business (Pan & Long, 2011).

Cooperative game theory provides a useful framework for understanding and enhancing collaboration among multiple actors in green customs initiatives that integrate environmental considerations into customs operations to promote sustainable trade and environmental protection. These initiatives often involve complex, interdependent activities such as managing hazardous substances, protecting endangered species, preventing climate change, and facilitating green technology transfer. Cooperative game theory explains how countries, agencies, and institutions can form coalitions to achieve shared environmental goals while equitably distributing the benefits and costs of cooperation. Cooperative Game Theory underpins green customs initiatives by providing a rational basis for collaboration, fairness, and stability in managing transboundary environmental challenges. Whether addressing hazardous substances, endangered species, climate change, or green technology, cooperative game theory models stakeholder interactions as cooperative games in which joint action yields mutually beneficial outcomes.

2.2 Literature Review

Coordinated training has been widely recognized as an important mechanism for improving the effectiveness of customs operations and facilitating international trade. Training programs involving customs officials and other regulatory agencies enhance technical knowledge, regulatory compliance, and operational coordination, ultimately supporting more efficient trade processes.

Martinkiene and Tibor László (2023) examined the role of coordinated training programs among customs officers in European Union border agencies. The findings indicated that coordinated training significantly improved officers' ability to detect illegal environmental

goods while maintaining efficient trade flows. The study concluded that training programs strengthen institutional knowledge and enhance compliance with environmental regulations without significantly disrupting trade processes.

Similarly, Guendouz and Alaoui (2020) examined the role of coordinated training in green customs initiatives in North African countries. Their findings showed that joint training programs involving customs officers and environmental regulators improved interagency coordination and reduced delays during cargo inspections. The study concluded that coordinated training improves operational efficiency and supports smoother trade facilitation.

In Sub-Saharan Africa, Bambi (2024) found that customs officers who received specialized training in environmental compliance were better able to identify environmentally sensitive goods without unnecessarily delaying cargo clearance. The study emphasized that coordinated training programs enhance both regulatory compliance and operational efficiency in customs procedures. These studies show that coordinated training builds knowledge, improves interagency collaboration, and supports effective implementation of environmental regulations, thereby improving trade facilitation.

2.3 Conceptual Framework

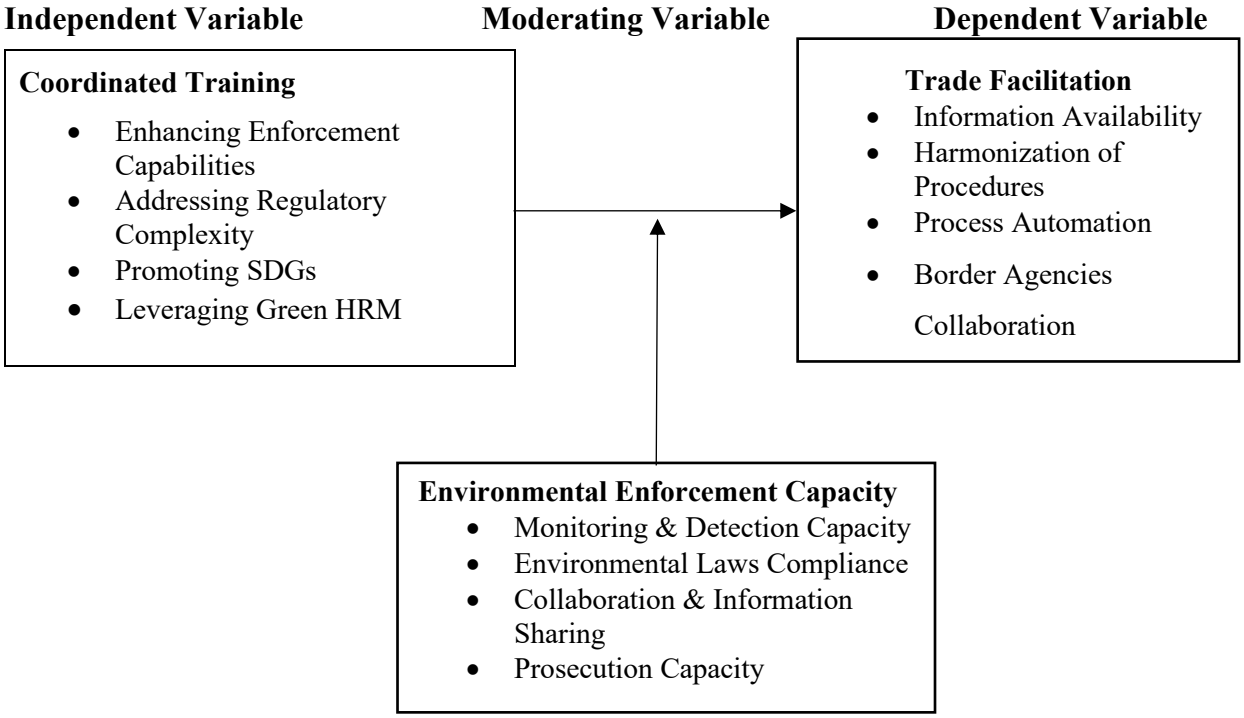

Figure 1: Conceptual Framework

3. Methodology

The study adopted an explanatory research design using a quantitative approach. The target population comprised 205 customs officers stationed at the Port of Mombasa, from which a sample of 136 respondents was selected using stratified random sampling. The study collected primary data through structured questionnaires and analyzed them using descriptive and inferential statistics. The study used hierarchical regression to test the research hypothesis at a 95% confidence level. As illustrated in the previous section, questionnaires were used to collect

primary data, and analysis was done in SPSS version 24. The data collected were cross-sectional because they were collected at a single point in time. A cross-sectional survey is a data collection and analysis approach in which respondents are asked questions developed in advance (Saunders *et al.,* 2011). The study therefore used cross-sectional data analysis techniques to test the hypotheses. First, the data were cleaned to address missing values, outliers, and influential observations. The researcher examined these using standardized residuals, Cook's distance, and leverage values. The researcher investigated and addressed standardized residuals exceeding ±3 and Cook's distance values greater than 1 to prevent distortion of the results. The researcher began the data analysis by conducting a descriptive analysis to describe patterns in the key variables.

4. Results and Discussion

4.1 Descriptive Results

4.1.1 Coordinated Training

The first objective of the study was to determine the influence of coordinated training on trade facilitation at Mombasa Ports. Table 1 presents the descriptive summary for the independent variable, coordinated training.

Table 1: Descriptive Statistics for Coordinated Training

	Strongly Disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly Agree (%)	Mean	Std. Dev.
Coordinated training improves officers' ability to detect violations more effectively	7.09	11.02	23.62	33.86	24.41	3.57	1.18
Joint training sessions strengthen overall enforcement competencies across departments	3.94	8.66	25.98	35.43	25.98	3.71	1.07
Coordinated training helps officers interpret and apply complex regulations accurately	3.15	11.02	22.05	34.65	29.13	3.76	1.09
Cross-agency training reduces confusion when dealing with overlapping legal or procedural requirements	6.30	10.24	22.83	36.22	24.41	3.62	1.15
Coordinated training enhances officers' awareness of environmental sustainability and	4.72	14.96	24.41	35.43	20.47	3.52	1.12

SDG-related obligations							
Training programs aligned with SDGs improve the organization's ability to meet green compliance targets	7.09	7.87	21.26	34.65	29.13	3.71	1.18
Coordinated training contributes to developing environmentally responsible skills and behaviours among staff.	6.30	8.66	24.41	37.01	23.62	3.63	1.13
Integration of Green HRM principles in training increases employee commitment to green customs practices	6.30	6.30	17.32	40.94	29.13	3.80	1.12
Overall						**3.67**	**1.13**

Table 1 shows that most respondents (58.27%) agreed that coordinated training improves officers' ability to detect violations more effectively (mean = 3.57, std dev = 1.18). The findings also indicated that most (61.42%) of the respondents agreed that joint training sessions strengthen overall enforcement competencies across departments (Mean = 3.71, std dev = 1.07). This suggests that coordinated training effectively enhances enforcement capabilities. The results further revealed that most (63.78%) of the respondents agreed that coordinated training helps officers interpret and apply complex regulations accurately (mean=3.76, std dev=1.09). Additionally, most of the respondents (60.63%) agreed that cross-agency training reduces confusion when dealing with overlapping legal or procedural requirements (mean=3.62, std dev=1.15). This suggests that coordinated training has effectively addressed regulatory complexity. Furthermore, most respondents (55.91%) agreed that coordinated training enhances officers' awareness of environmental sustainability and SDG-related obligations (mean=3.52, std dev=1.12).

Similarly, most respondents (63.78%) agreed that SDG-aligned training programs improve the organization's ability to meet green compliance targets (mean=3.71, std dev=1.18). This indicates that coordinated training has been effective in promoting awareness of the SDGs. The results also revealed that most of the respondents (60.63%) agreed that coordinated training contributes to developing environmentally responsible skills and behaviours among staff (mean=3.63, std dev=1.13). Similarly, most respondents (70.08%) agreed that integrating Green HRM principles into training increases employee commitment to green customs practices (mean = 3.80, std dev = 1.12). This means that coordinated training has been useful in leveraging Green HRM for training alignment. The overall mean of 3.67 and a standard deviation of 1.13 further showed that most respondents affirmed the statements on coordinated training, implying that Mombasa Ports has used coordinated training effectively as a green customs initiative.

4.1.2 Environmental Enforcement Capacity

The fsecond objective of the study was to analyze the moderating effect of environmental enforcement capacity on the relationship between coordinated training, capacity building, operational improvement and trade facilitation at Mombasa Ports. Table 2 presents the descriptive summary of the moderating variable, environmental enforcement capacity.

Table 2: Descriptive Statistics for Environmental Enforcement Capacity

	Strongly Disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly Agree (%)	Mean	Std. Dev.
The agency has adequate capacity to monitor environmental risks at entry points	7.87	7.09	6.30	40.16	38.58	3.94	1.20
Available tools and technologies significantly improve environmental violation detection	10.24	5.51	7.87	33.86	42.52	3.93	1.29
Enforcement teams consistently ensure adherence to national and international environmental laws	7.09	7.87	6.30	40.94	37.80	3.94	1.18
Coordinated enforcement measures have improved compliance levels among stakeholders	7.87	8.66	7.87	37.80	37.80	3.89	1.23
Collaboration with other agencies enhances the detection of environmental offenses	4.72	5.51	5.51	33.86	50.39	4.20	1.08
Information-sharing systems contribute to faster and more accurate environmental enforcement actions	7.09	7.09	5.51	40.16	40.16	3.99	1.18
The institution has adequate legal capacity to successfully prosecute environmental offenses	5.51	4.72	7.09	40.16	42.52	4.09	1.09
Law enforcement personnel are well-trained to handle environmental crime investigations and prosecution processes	5.51	4.72	7.09	35.43	47.24	4.14	1.10
Overall						**4.02**	**1.17**

Table 2 shows that most respondents (78.74%) agreed that the agency has adequate capacity to monitor environmental risks at entry points (Mean=3.94, std dev=1.20). Similarly, most respondents (76.38%) agreed that available tools and technologies significantly improve environmental violation detection (mean=3.93, std dev=1.29). This means that environmental enforcement capacity has been helpful in monitoring & detection. The results further revealed that most respondents (78.74%) agreed that enforcement teams consistently ensure adherence to national and international environmental laws (mean=3.94, std dev=1.18). Additionally, most respondents (75.59%) agreed that coordinated enforcement measures have improved compliance levels among stakeholders (mean=3.89, std dev=1.23). This suggests that environmental enforcement capacity has been effective in improving compliance with environmental law. Furthermore, results revealed that majority of the respondents (84.25%) agreed that collaboration with other agencies enhances the detection of environmental offenses (mean=4.20, std dev=1.08).

Similarly, most respondents (80.31%) agreed that information-sharing systems contribute to faster and more accurate environmental enforcement actions (mean=3.99, std dev=1.18). This indicates that environmental enforcement capacity has been effective in collaboration and information sharing. The results also showed that most respondents (82.68%) agreed that the institution has adequate legal capacity to successfully prosecute environmental offenses (mean=4.09, std dev=1.09). In a similar way, majority of the respondents (82.68%) agreed that law enforcement personnel are well-trained to handle environmental crime investigations and prosecution processes (mean=4.14, std dev=1.10). This means that environmental enforcement capacity has been useful in prosecution capacity. The overall mean of 4.02 and a standard deviation of 1.17 further show that most respondents affirmed the statements on environmental enforcement capacity, implying that environmental enforcement capacity has been effectively implemented at the Mombasa ports.

4.1.3 Trade Facilitation

The study's dependent variable was trade facilitation. Table 3 presents the descriptive statistics for the variable trade facilitation.

Table 3: Descriptive Statistics for Trade Facilitation

	Strongly Disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly Agree (%)	Mean	Std. Dev.
Trade facilitation measures have improved the accessibility of accurate and timely trade information	0.79	12.60	24.41	37.80	24.41	3.72	1.00
Availability of up-to-date information has reduced uncertainty and delays in trade processes	2.36	14.17	17.32	31.50	34.65	3.82	1.13
Harmonized procedures across border agencies have simplified cross-border trade processes	3.15	11.02	29.13	29.92	26.77	3.66	1.09
Standardized documentation requirements have minimized inconsistencies in clearance procedures	0.79	14.96	29.92	25.98	28.35	3.66	1.07
Automation of customs and trade processes has significantly reduced manual errors and processing time	1.57	14.17	28.35	39.37	16.54	3.55	0.98
Digital platforms have increased efficiency and transparency in trade transactions	3.15	15.75	18.11	36.22	26.77	3.68	1.13
Collaboration among border agencies has improved coordination and reduced duplication of efforts	4.72	10.24	29.13	32.28	23.62	3.60	1.10
Joint border operations have enhanced the effectiveness of trade facilitation initiatives	3.15	14.96	28.35	33.07	20.47	3.53	1.08
Overall						**3.65**	**1.07**

Table 3 shows that most respondents (62.20%) agreed that trade facilitation measures have improved access to accurate, timely trade information (mean = 3.72, std dev = 1.00). The findings also indicated that most respondents (66.14%) agreed that the availability of up-to-date information has reduced uncertainty and delays in trade processes (mean = 3.82, std dev = 1.13). This suggests that trade facilitation has been effective in improving information availability. The results further revealed that most respondents (56.69%) agreed that

harmonized procedures across border agencies have simplified cross-border trade processes (mean = 3.66, std dev = 1.09). Additionally, most respondents (54.33%) agreed that standardized documentation requirements have reduced inconsistencies in clearance procedures (mean=3.66, std dev=1.07). This suggests that trade facilitation has effectively harmonized procedures.

Furthermore, most respondents (55.91%) agreed that automating customs and trade processes has significantly reduced manual errors and processing time (mean=3.55, std dev=0.98). Similarly, most of the respondents (62.99%) agreed that digital platforms have increased efficiency and transparency in trade transactions (mean=3.68, std dev=1.13). This indicates that trade facilitation has effectively automated processes. The results also revealed that most of the respondents (55.91%) agreed that collaboration among border agencies has improved coordination and reduced duplication of efforts (mean=3.60, std dev=1.10). Similarly, most respondents (53.54%) agreed that joint border operations have enhanced the effectiveness of trade facilitation initiatives (mean = 3.53, std dev = 1.08). This suggests that border agencies' collaboration has been effective in trade facilitation. The overall mean of 3.65 and a standard deviation of 1.07 further show that most respondents affirmed the statements on trade facilitation, implying effective trade facilitation at Mombasa Ports.

4.2 Correlation Analysis

Table 4 presents the correlation results.

Table 4. Correlation Matrix

		Trade Facilitation
Trade Facilitation	Pearson Correlation	1
	Sig. (2-tailed)	
	N	127
Coordinated Training	Pearson Correlation	.642**
	Sig. (2-tailed)	0.000
	N	127

Table 4 shows a positive, significant association (r=0.642, p=0.000) between coordinated training and trade facilitation, suggesting that as coordinated training increases, trade facilitation also increases.

4.3 Regression Analysis

Table 5: Regression Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.193	0.209		5.698	0.000
Coordinated Training	0.238	0.032	0.447	7.374	0.000

Table 5 shows that coordinated training has a positive, significant effect on trade facilitation (β = 0.447, p = 0.000). This means that trade facilitation increases by 0.447 for a 1-unit increase in coordinated training. These findings concur with Martinkiene and Tibor László (2023), who examined the role of coordinated training programs among customs officers in European Union border agencies and found that coordinated training significantly improved officers' ability to detect illegal environmental goods while maintaining efficient trade flows. Similarly, findings agreed with Guendouz and Alaoui (2020), who examined the role of coordinated training in green customs initiatives in North African countries and established that joint training programs involving customs officers and environmental regulators improved interagency coordination and reduced delays during cargo inspections. Findings further aligned with Bambi (2024), who found that coordinated training programs enhance both regulatory compliance and operational efficiency in customs procedures.

4.4 Hierarchical Regression

Hierarchical regression assessed the moderating effect of environmental enforcement capacity on the relationship between coordinated training and trade facilitation. Table 6 presents the findings.

Table 6: Regression Coefficients for Hierarchical Regression

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.193	0.209		5.698	0.000
	Coordinated Training	0.238	0.032	0.447	7.374	0.000
2	(Constant)	0.741	0.251		2.948	0.004
	Coordinated Training	0.198	0.034	0.372	5.845	0.000
	Environmental Enforcement Capacity	0.203	0.067	0.209	3.03	0.003
3	(Constant)	2.191	0.555		3.948	0.000
	Coordinated Training	-0.338	0.187	-0.634	-1.804	0.074
	Environmental Enforcement Capacity	-0.17	0.144	-0.175	-1.185	0.238
	CT*EEC	0.129	0.044	1.243	2.909	0.004

Regression results in Table 6show that the moderating variable (environmental enforcement capacity) has a positive and significant effect on trade facilitation, meaning that the variable significantly enhances trade facilitation. The results further show that the interaction term for coordinated training and the moderating variable, environmental enforcement capacity (CTEEC), has a positive and significant effect on trade facilitation (β=1.243, p=0.004). This means that environmental enforcement capacity significantly moderates the relationship between coordinated training and trade facilitation.

5. Conclusion

The study found that coordinated training has a positive and significant influence on trade facilitation. The study hence concludes that coordinated training positively and significantly influences trade facilitation at Mombasa ports. Coordinated training enhances trade facilitation at Mombasa Ports by strengthening capabilities, addressing regulatory complexity, promoting awareness of the SDGs, and aligning training through Green HRM.

6. Recommendations

The study recommends that KRA and KPA should adopt measures that would improve on green customs initiatives so as to strengthen trade facilitation at Mombasa ports. This can be done by investing in coordinated training programs and capacity-building programs, as well as by simplifying operational procedures at the ports. Finally, the study recommends that the regulatory bodies involved in customs border management should strengthen environmental enforcement capacity to strengthen the influence of coordinated training on trade facilitation at the ports

References

Bambi, P. D. R. (2024). Governance, institutions, and climate change resilience in Sub-Saharan Africa. *Frontiers in Environmental Science*, *12*(1), 1-10. https://doi.org/10.3389/fenvs.2024.1352344

Drechsel, J., & Kimms, A. (2010). Computing core allocations in cooperative games with an application to cooperative procurement. *International Journal of Production Economics*, *128*(1), 310-321.

Ferrill, J., & O'Hanlon, A. (2024). Green is Gold: Creating a Gold Standard AEO Program through Green Initiatives. *Borders in Globalization Review, 1*(1), 12-22. https://doi.org/10.18357/bigr52202422031.

Guendouz, A., & Alaoui, S. (2020). Green customs and their role in promoting the green economy. Finance and Business Economies Review, 4(1), 01–17. https://doi.org/10.58205/fber.v4i1.594

Hicks, J. (2021). Trade Facilitation for Environmental Goods and Services. https://doi.org/10.19088/K4D.2021.038

Jiahao, S., Ibrahim, R. L., Bello, K. A., & Oke, D. M. (2022). Trade facilitation, institutions, and sustainable economic growth: Empirical evidence from Sub-Saharan Africa. *African Development Review*, *34*(2), 201-214. https://doi.org/10.1111/1467-8268.12630

Karklina-Admine, S., Cevers, A., Kovalenko, A., & Auzins, A. (2024). Challenges for customs risk management today: A literature review. *Journal of Risk and Financial Management, 17*(8), 321. https://doi.org/10.3390/jrfm17080321.

Kilonzo, N. (2024). An assessment of the implementation of the Convention on International Trade in Endangered Species of Wild Fauna and Flora in Kenya. *Diversity, 16*(3), Article 183. https://doi.org/10.3390/d1320183

Kilonzo, N., Heinen, J. T., & Byakagaba, P. (2024). *An assessment of the implementation of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in Kenya*. *Diversity, 16*(3), Article 183. https://doi.org/10.3390/d16030183

Kirui, J., & Ngugi, M. (2024). Evaluating the role of inter-agency collaboration in achieving border management objectives: A case of Mombasa Port. *Journal of African Trade, 11* (2), 112-128.

Mwanzu, A., Bosire-Ogechi, E., & Odero, D. (2023). Green initiatives towards environmental sustainability: Insights from libraries in Kenya. *IFLA journal*, *49*(2), 298-314. https://doi.org/10.1177/03400352221135012

Olubandwa, B. N. (2022). WTO Trade Facilitation Adoption Challenges in East African Trade Region during COVID-19 Crisis. *Open Access Library Journal*, *9*(12), 1-23. https://doi.org/10.4236/oalib.1109579

Pan, C., & Long, Y. (2015). Evolutionary game analysis of cooperation between microgrid and conventional grid. *Mathematical Problems in Engineering*, *2015*(1), 103206.

Tinoco, S. V. P., Creemers, S., & Boute, R. N. (2017). Collaborative shipping under different cost-sharing agreements. *European Journal of Operational Research*, *263*(3), 827-837.

Xu, Q., Zhang, M., & Guo, P. (2023). Reflections on Japan's participation in negotiations of the global plastic pollution instrument under international environmental law. *Frontiers in Marine Science*, *10*, 1323748. https://doi.org/10.3389/fmars.2023.1323748