



Fintech-Driven Trade Facilitation: Assessing the Revenue Models and Sales Determinants of E-Commerce Platforms in Somalia.

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ABSTRACT

This doctoral dissertation provides a comprehensive empirical analysis of the microeconomic structures and macroeconomic contributions of fintech-driven trade facilitation systems within the Federal Republic of Somalia. Operating inside an institutional environment traditionally defined by weak central authority, the Somali private sector has engineered a sophisticated, completely digitalized monetary and commercial parallel system. This study investigates the operating revenue models and quantitative sales determinants of domestic electronic commerce (e-commerce) platforms that utilize this fintech infrastructure. Employing a mixed methods research framework, quantitative data was gathered from a rigorous field survey of $N = 412$ digitized enterprises across major urban commercial hubs, including Mogadishu, Hargeisa, and Garowe.

This dataset was paired with qualitative insights extracted from 24 semi-structured expert interviews with telecommunications executives, central banking authorities, logistics administrators, and cross-border trade coordinators. Econometric analysis using multi-variable Ordinary Least Squares (OLS) regression indicates that mobile financial platform integration behaves as a sovereign economic mechanism, with a 1% increase in mobile payment reliance leading to an approximate 1.84% gain in platform monthly gross sales. The comparative analysis of revenue designs demonstrates that the Merchant-Wholesaler (Direct Inventory Ownership) framework dramatically outperforms commission-based digital brokerages in sales volume and revenue consistency, as direct control over products mitigates the contract enforcement failures common in institutional voids.

Furthermore, the findings show how digital mobilization—facilitated through informal clan networks, diaspora remittance pipelines, and distributed social-media channels—serves as an alternative mechanism to manage physical security risks, cross-border supply chain blockages, and fragmented interbank systems. The paper concludes by offering an integrated regulatory optimization roadmap designed for the Central Bank of Somalia and international development institutions. This blueprint outlines specific policies for standardized mobile money interoperability frameworks, the implementation of the National Digital ID system (Tirsi Aqoonsi), and structured public-private data networks to transition this resilient, informal digital economy into a formal, sustainable engine for long-term macroeconomic recovery.

Keywords: Fintech, Trade Facilitation, Somalia, Revenue Models, Sales Determinants, Institutional Voids, Mobile Money, Political Economy.

INTRODUCTION

The restructuring of conflict-affected and post-conflict macroeconomic frameworks typically places state-backed institution-building as the primary prerequisite for sustainable economic development. According to standard institutional economic frameworks, the expansion of commercial networks and the evolution of long-distance trading platforms depend heavily on a reliable foundation of public goods. These public goods include state-enforced contract enforcement mechanisms, centralized financial clearings, a uniform judicial architecture, and state-guaranteed national address and identity registries. When these public goods are missing, transaction costs typically increase, causing formal markets to segment or collapse completely. However, the contemporary political economy of the Federal Republic of Somalia challenges these



conventional frameworks. Following the collapse of the central government in 1991, the prolonged absence of state-enforced commercial laws did not completely halt economic activity. Instead, it triggered an unconventional, highly adaptive, private-sector-led market structure. Over the past three decades, this system has built alternative, highly functional systems to facilitate trade, verify identity, and move capital across long distances.

In contemporary Somalia, this private-sector adaptation has culminated in an advanced, highly digitalized financial and commercial ecosystem. Driven by the swift adoption of telecommunications networks and the rapid expansion of mobile money platforms, Somalia has transitioned into a highly cash-light, dollarized economy. Mobile financial systems now manage transactions equivalent to a large percentage of the nation's gross domestic product (GDP). This digital framework has transformed traditional trading systems and created a rapidly growing electronic commerce (e-commerce) market. In this unique environment, e-commerce platforms do not simply operate as digital store interfaces. Instead, they act as active administrative nodes that manage institutional voids. They build their own private networks of consumer trust, construct proprietary logistics and delivery frameworks, and integrate directly with non-state payment networks managed by private telecommunications conglomerates.

This doctoral research evaluates this fintech-driven trade framework by analyzing the operating revenue models and quantitative sales determinants of e-commerce platforms across Somalia. In a traditional market economy, e-commerce platforms can operate purely as assetlight digital matchmakers or commission-based brokers. They can rely on third-party commercial banks to process transactions and state-backed postal systems to handle physical delivery. Within the Somali context, however, platforms face severe structural constraints, including fragmented interbank interoperability, an evolving national digital identity framework, and complex physical security challenges. Consequently, platforms must innovate structurally. They choose between direct inventory ownership models, subscription frameworks, or localized social-commerce channels to maintain financial viability. Concurrently, digital mobilization—the process by which entrepreneurs utilize digital platforms, informal networks, and diaspora capital to organize supply chains and build consumer trust—functions as a vital strategic mechanism to manage political and institutional risks.

While previous literature highlights the rapid adoption of mobile money in Somalia, there remains an empirical gap regarding how these fintech payment rails interact with commercial e-commerce revenue models and sales determinants under changing post-conflict governance structures. This study addresses this gap by analyzing the operational realities, structural constraints, and strategic innovations of Somali digital marketplaces. It provides mixed-methods empirical data gathered from major urban hubs including Mogadishu, Hargeisa, and Garowe. By exploring how these platforms succeed despite institutional vacuums, this research contributes to wider academic debates on private governance, development finance, and digital trade facilitation within fragile and conflict-affected situations (FCS).

LITERATURE REVIEW

Institutional Voids and Private Governance in Fragile States

The academic literature examining economic behavior in weak-state environments is rooted in institutional economics and public choice theory. Scholars argue that when formal state institutions fail to provide essential public goods, alternative governance structures naturally emerge to stabilize transaction environments. These non-state governance structures can take multiple forms, including informal clan tribunals, customary legal frameworks (Xeer), religious organizations, or dominant commercial coalitions. In the economic history of Somalia, the private sector's ability to maintain cross-border trade pipelines, operate port facilities, and organize international currency exchanges without a central monetary authority represents a classic example of private governance. This research expands these concepts by demonstrating how these traditional, informal trust networks have been integrated into modern digital platforms, allowing modern software-driven marketplaces to manage persistent institutional voids.

Telecommunications Conglomerates and Virtual Monetary Authority

A key element of Somalia's political economy is the transformation of private telecommunications networks into platforms of virtual monetary authority. Firms like Hormuud Telecom in southern and central Somalia, Telesom in Somaliland, and Golis Telecom in Puntland did not limit their operations to providing telecommunication services. Instead, they engineered proprietary mobile financial services—such as EVC Plus, ZAAD, and Sahal—that effectively operate as the nation's primary financial infrastructure. Because the domestic banking system faced structural limitations for decades, these platforms evolved into a dollarized virtual currency system. Economists observe that this digital ecosystem handles transactions equivalent to a large share of the nation's GDP. This makes the Somali tech sector an essential foundation for any emerging digital business model, with private telecom operators taking on roles traditionally reserved for state central banks.

E-Commerce Structuring and Sales Determinants in Post-Conflict Markets

In standard economic models, e-commerce adoption and business scaling are analyzed as functions of technological readiness, institutional trust, and consumer protection laws. In fragile states, these assumptions do not always hold, and alternative sales determinants become critical. Recent studies on digital marketplaces in fragile environments indicate that factors such as real-time mobile money integration, direct ownership of last-mile delivery fleets, and the utilization of distributed social networks serve as the primary drivers of business performance. In Somalia, while early web-based marketplaces faced significant logistical hurdles, platforms that integrated with localized ride-hailing applications and digital supply networks have scaled successfully. The literature emphasizes that while there are significant opportunities for growth driven by human capacity development and infrastructure investment, expansion remains constrained by fragmented interbank interoperability, low public data privacy protections, and security challenges.

METHOD

Mixed-Methods Empirical Framework

This doctoral dissertation uses a mixed-methods research design, blending quantitative field survey data with qualitative insights from key informant interviews (KIIs). This approach allows for statistical modeling of revenue performance while capturing the political-economic dynamics that shape the digital marketplace. Fieldwork was conducted over a six-month period ending in early 2026 across three primary economic hubs: Mogadishu ($n = 192$), Hargeisa ($n = 130$), and Garowe ($n = 90$), yielding a total sample size of $N = 412$ active digital enterprises. A purposive and snowball sampling strategy was used to identify active ecommerce merchants operating via standalone applications, web marketplaces, or social commerce channels (WhatsApp, Instagram, and TikTok). Qualitative data was generated via 24 semi-structured interviews with senior executives at telecommunications firms, central banking officials, logistical operators, and chamber of commerce leadership.

Econometric Specification

To evaluate the quantitative factors driving e-commerce performance and the viability of specific revenue models, an Ordinary Least Squares (OLS) regression model was specified:

$\ln(\text{GrossSales}_i) = \beta_0 + \beta_1 \text{RevModel}_i + \beta_2 \text{FinTechReliance}_i + \beta_3 \text{SocialMobilization}_i + \beta_4 \text{SecurityOverhead}_i + \beta_5 \text{Hub}_i + \varepsilon_i$ Where: $\ln(\text{GrossSales}_i)$: The natural logarithm of average monthly gross sales for merchant i (in USD).

- RevModel_i : A categorical variable representing the primary operating model: Pure Brokerage (Reference), Merchant-Wholesaler (Direct Inventory), Subscription/Membership, or Social Commerce.
- FinTechReliance_i : A continuous variable measuring the percentage of total sales transactions cleared through integrated mobile money networks.

- $SocialMobilization_i$: An indexed score (1 to 5) measuring the merchant's reliance on informal networks, diaspora financing, and social-media channels to build trust and acquire capital.
- $SecurityOverhead_i$: The percentage of monthly operational expenditure dedicated to managing physical security, navigating checkpoint costs, and mitigating physical risks.
- Hub_i : A vector of geographic fixed effects controlling for structural differences across Mogadishu, Hargeisa, and Garowe.
- ε_i : The stochastic error term capturing unobserved merchant-level heterogeneity.

FINDINGS

Descriptive Profile of the Empirical Sample

The quantitative survey data reveals a young, digitally literate entrepreneurial class. Of the 412 surveyed merchants, 71.4% were between the ages of 18 and 34. The distribution of ecommerce platforms indicates that a large share of the market operates outside formal web applications, relying heavily on social media channels for customer interactions. Table 1: Descriptive and Operational Profile of the Empirical Sample (N = 412)

Structural Dimension	Operational Indicators	Sample Count (n)	Percentage Share(%)
Primary Revenue Model	Social Commerce (Ad-hoc WhatsApp/TikTok)	218	52.90%
	Merchant-Wholesaler (Direct Inventory Apps)	112	27.20%
	Pure Brokerage (Commission- Based Web)	58	14.10%
	Subscription / Digital Membership	24	5.80%
Primary Payment Rail	Mobile Money Exclusively(EVC+/ZAAD/Sahal)	298	72.30%
	Hybrid Mobile Money & Cash-on- Delivery	90	21.90%
	Formal Bank Transfers or Credit Instruments	24	5.80%
Monthly Transaction Volume	Low-Volume Scale (< 100 Transactions)	165	40.00%
	Medium-Volume Scale (101 – 500 Transactions)	182	44.20%
	High-Volume Scale (> 500 Transactions)	65	15.80%

Econometric Regression Estimations

Table 2 displays the outputs of the primary OLS regression model predicting logtransformed monthly gross sales.

Table 2: Multi-Variable OLS Regression Modeling Results (Dependent Variable: $\ln(\text{GrossSales})$)

Independent Predictor Variables	Model 1: Baseline Structural	Model 2: Fully Controlled
Constant (β_0)	5.412*** (0.16)	5.108*** (0.19)
Merchant-Wholesaler Model (vs. Pure Brokerage)	0.518*** (0.09)	0.485*** (0.08)
Social Commerce Model (vs. Pure Brokerage)	0.184** (0.07)	0.142* (0.06)
Subscription Model (vs. Pure Brokerage)	0.092 (0.11)	0.074 (0.10)
FinTech Payment Reliance (%)	0.021*** (0.004)	0.018*** (0.003)
Digital Social Mobilization Index	0.245*** (0.06)	0.212*** (0.05)
Security Overhead Percentage (%)	-0.029** (0.010)	-0.024** (0.009)
Geographic Fixed Effect: Mogadishu Hub	Controlled	0.156* (0.07)
Geographic Fixed Effect: Hargeisa Hub	Controlled	0.112 (0.08)
Model Fit and Fit Statistics	$R^2 = 0.445$	Adjusted $R^2 = 0.562$; $F = 41.84$ ***



* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Standard errors reported in parentheses.

The regression model demonstrates that fintech reliance serves as a primary predictor of platform sales performance. For every 1% increase in integrated mobile money payment reliance, a merchant's monthly gross sales expand by approximately 1.84%, holding all other variables constant. Crucially, the Merchant-Wholesaler model exhibits a strong positive relationship ($\beta = 0.485$, $p < 0.001$), indicating that platforms utilizing direct inventory models achieve significantly higher sales volumes than commission-based pure brokerages. The Digital Social Mobilization Index also displays a positive correlation ($\beta = 0.212$, $p < 0.001$), showing that active utilization of informal networks and digital channels helps mitigate institutional weaknesses. Conversely, higher expenditures on physical security and informal transit checkpoints reduce net sales performance ($\beta = -0.024$, $p < 0.01$).

Qualitative Themes: Power Asymmetries and Private Infrastructure Gates

Qualitative analysis of the 24 key informant interviews revealed three distinct thematic dimensions regarding the political economy of digital markets in Somalia.

- Theme 1: Corporate Payment Monopolies and Gateway Leverage. Interviewees repeatedly emphasized that because major telecommunications networks control the dominant mobile money payment channels (such as EVC Plus or ZAAD), they function effectively as private infrastructure utilities. Independent e-commerce start-ups are highly dependent on these firms for API integrations and transaction processing. A digital marketplace operator in Mogadishu noted that if a telecom provider adjusts gateway fees or changes access terms, an independent digital platform can lose its entire target consumer base overnight. This structure concentrates significant economic leverage within a few large private corporations.
- Theme 2: Payment Silos and Interoperability Bottlenecks. Multiple interviewees highlighted that while the Central Bank of Somalia introduced the National Payment System (NPS) to build cross-network bridges, mobile money systems frequently operate in distinct corporate silos. This fragmentation forces merchants to manage multiple separate merchant codes and balance different virtual wallets to avoid losing customers who use alternative telecommunications providers. This lack of complete interbank interoperability acts as an informal barrier to entry, shielding larger players from smaller digital startups.
- Theme 3: Alternative Identity Verification via SIM Architectures. In the absence of a fully integrated state national registry, digital identity verification remains largely decentralized. Merchants often use a customer's registered mobile SIM card profile—which is verified through informal clan or community references—as a primary tool for verifying identities, mitigating fraud, and confirming transactions. This alternative system helps stabilize the trading environment but keeps commercial validation dependent on private telecom data registries.

DISCUSSION

Navigating Institutional Voids Through Digital Innovation

The empirical findings illustrate how the Somali e-commerce ecosystem operates within institutional voids. Rather than waiting for the formal re-establishment of state regulatory frameworks, the private sector built its own digital alternatives. This aligns with political economy theories suggesting that in weak-state environments, private configurations often evolve to provide essential market infrastructure. The high statistical significance of the Merchant-Wholesaler model reflects this dynamic: because there is no standardized national postal or physical addressing framework, successful e-commerce platforms cannot operate purely as digital intermediaries.

They must build and manage their own physical logistics and fulfillment infrastructure, matching their digital application with localized distribution networks.



The Political Economy of Dollarized Payment Infrastructure

The regression data indicates that mobile money platforms serve as a core foundational pillar for Somali e-commerce. This structure highlights an unconventional balance of economic influence. Telecommunications companies, by issuing digital currency pegged to the US dollar, have taken on core monetary functions traditionally reserved for central banks. This configuration provides financial stability against hyperinflation, but it also concentrates significant economic leverage within a few private corporations. Consequently, e-commerce revenue models are closely tied to the policies, pricing, and infrastructure of these telecom operators. The limited interoperability across platforms acts as an informal barrier to entry, shielding larger players from smaller digital startups.

Digital Mobilization and the Formalization Frontier

Digital mobilization strategies—such as leveraging social networks, coordinating with the global diaspora for financing, and marketing via social commerce platforms—serve as an effective tool for post-conflict entrepreneurs. This reliance on informal social networks helps lower customer acquisition and enforcement costs in an environment without fully robust formal contract mechanisms. However, as the Federal Government of Somalia introduces updated digital strategies (such as the Digital Transformation Roadmap 2025–2030, the rolling out of the National Digital ID system via the National Identification and Registration Authority, and plans for a National Data Centre), this informal ecosystem is entering a transition phase. The ongoing policy challenge is to introduce formal regulatory systems—such as data privacy laws and consumer protection frameworks—without creating administrative burdens that might stifle the agility of the informal digital marketplace.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

This study demonstrates that e-commerce in post-conflict Somalia has developed into a dynamic ecosystem, driven by a resilient private sector utilizing mobile financial networks to adapt to institutional limitations. The political economy of this system is characterized by a reliance on telecommunications firms that provide critical payment infrastructure and digital access. The empirical data reveals that closed-loop hybrid platforms combining marketplace software with physical logistics fleets achieve the highest financial returns. While digital mobilization across social networks enables small businesses to manage security risks and build consumer trust, the lack of complete interbank interoperability and standardized legal protections limits wider macroeconomic scaling. As state institutions gradually rebuild, the digital economy stands at a critical juncture between informal commercial agility and formal institutional integration.

POLICY AND PRACTICAL RECOMMENDATIONS

To foster a balanced, transparent, and resilient digital economy, the following strategic interventions are recommended:

- **Enforce Mobile Money Interoperability:** The Central Bank of Somalia should work with the National Communications Authority to ensure full interoperability across all mobile money networks. Forcing platforms to allow cross-network transactions will lower barriers for independent e-commerce platforms and promote market competition.
- **Accelerate National Digital ID Integration:** Expand the implementation of the National Digital ID (Tirsi Aqoonsi) within commercial digital platforms. Integrating the national ID framework into e-commerce payment rails will standardize identity verification, minimize transaction risks, and reduce reliance on informal verification systems.
- **Establish Targeted Legal Frameworks:** The federal and regional legislative bodies should finalize comprehensive consumer protection and data privacy acts tailored for digital commerce. Clear legal guidelines regarding data storage, digital signatures, and cyber-security protocols will help build long-term consumer trust and attract foreign direct investment.



Support Public-Private Infrastructure Collaboration: Government ministries should collaborate with international development partners and the private sector to build public infrastructure like the planned National Data Centre. Creating public physical address registries and open-access geospatial maps will help reduce logistical costs for last-mile delivery firms.

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