


Chapter 4

Real-Time Tracking Technologies' Effect on Supply Chain Transparency by Mediation of Smart Logistics Technologies in the Horn of Africa

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ABSTRACT

With an emphasis on the mediating function of smart logistics technologies (SLT), this study investigates the impact of real-time tracking technologies (RTT) on supply chain transparency in the Horn of Africa. The purpose of this study is to clarify how RTT might improve transparency through efficient integration with SLT in an area that has particular logistical problems and a changing technology environment. The study uses a mixed-methods technique to gather qualitative views from industry experts and quantitative data from logistics professionals. The results show that by providing real-time visibility into logistics processes, RTT greatly increases supply chain transparency. Additionally, SLT is recognized as an essential mediator that promotes improved stakeholder communication and data exchange. This study emphasizes how important it is to implement cutting-edge tracking and logistics technology in order to promote openness, establish credibility, and improve overall

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operational performance.

INTRODUCTION

Considering the increasingly interconnected world of today, supply chain transparency has become more vital than ever. As global trade is likely to expand rapidly, it is essential to feed economic growth, especially in locations that include the Horn of Africa, that goods are efficiently carried from producers towards consumers. Because of its unique geopolitical climate along with economic opportunities, this region provides a great backdrop for studying the interaction among supply chain transparency and real-time monitoring technologies. This concept emerged primarily a result of the convergence of logistics management alongside information technology innovations, which have made traditional supply chains quicker to respond, dynamic, and adaptable to changing customer demands (Khan et al., 2023).

Global trends indicate a significant change towards the adoption of real-time monitoring technologies in supply chains, drawn by increased demand from consumers of transparency and efficiency. Regions such as North America and Western Europe have managed to integrate these technologies, supported by robust regulatory frameworks that promote digital innovation (Al-Khatib, 2023). For example, general rules for protecting data from the European Union (GDPR) provide an integrated approach to data confidentiality and strengthen trust in digital supply chain processes. These structures encourage businesses to embrace advanced technology and ensure compliance and protection of consumer rights. However, the horn of Africa is faced with unique challenges that hinder similar progress. Key obstacles include inadequate infrastructure, limited access to insufficient technology and financial resources (Khan et al., 2023). In Ethiopia, for example, despite government initiatives that modernize logistics, many companies are battling the lack of investment in outdated systems and digital tools. Furthermore, the various political landscapes in the region can lead to coherent regulatory policies, which further complicate the adoption of follow-up technologies. Real-world case studies can provide valuable information to overcome these obstacles. In Kenya, the implementation of a unique window electronic system streamlines the tariff process and demonstrates how digital tools can improve transparency and efficiency. This initiative demonstrates the potential benefits of technology that not only improves logistics, but also promotes trade and involves solid policy support (Ding et al., 2021). Systematic analysis of barriers is important for deepening discussion. These include technical limitations such as unreliable internet connectivity and high deployment costs, as well as cultural resistance to the introduction of new systems (Issaoui et al., 2019). Furthermore, the work capacity gap prevents effective implementation as it does not require

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