26. Digital logistics systems and supply chain performance of tea factories in Meru County

Emily Naitore Mwiraria[1*], Matthias Nzomo[1] and Guyo Huka[1]

[1]School of Business and Economics, Meru University of Science and Technology

[*]Corresponding author email: emilymwiraria@gmail.com

Subtheme: Business and Economics - Sustainable Entrepreneurship in Business & Economics for climate resilience

Abstract

The logistics sector has crucial impact to the economic performance of any country. This is due to the fact that goods and services can only be availed to consumers through the use of Logistics. Logistics has gradually evolved over the centuries, with the fourth industrial revolution heralding better performance for Logistics, because it brings about integration and connectivity of all Logistics functions include: Transport, Warehousing and Inventory. Some of the Digital technologies used in Logistics are; IoT, AGV and RFID. The implementation of these technologies brings about Digital Logistics Systems, that comprise of: Transport Management Systems, Warehousing management systems and Inventory Management Systems. Many Manufacturing and Logistics companies have heavily invested in the implementation of Digital Logistics Systems. However, the case is different for the Agro-processing Industry, where Tea Factories lie. There has been a low uptake of Digital Logistics Systems in many Tea Factories around the country, with many putting their focus on automating their production function only. Meru County is one of the Tea Growing areas with Tea being the second most profitable cash crop in the region. This shows how significant it is to digitalize all the logistics functions involved in availing the end-product of this influential cash crop to the consumer. Studies have also shown that there is still a tangible gap between academic literature in the theory of Logistics 4.0, which is Digital Logistics, and its practical application across industries especially the Agro-processing ones in Africa. This study will seek to determine the influence of Digital Logistics Systems on Supply Chain Performance of Tea Factories in Meru County. The theories adopted in this study are: Material Flow Theory, Theory of Constraints, Six Sigma Theory and Supply Chain Operations Reference Model. This study will use Analytical Cross-Section Research Design, with the research approach being quantitative in nature. The target population will be 1,230 respondents, with a sample size of 302. Stratified sampling technique will be used to sample the target population. The sample size will be determined using the Slovin's formula. Purposive selection will be done when selecting respondents. Data collection instruments will comprise of both primary and secondary data, with questionnaires being used as the primary source of data. Construct and content validity will be used to check the validity of research instruments. Representation of data will be done through tables. Data will be processed by editing, coding, entering and cleaning the data. Data collected will be analysed using descriptive statistics with the help of SPSS.

Keywords: *Supply Chain Management, Digital logistics, Warehousing management*