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## **Improving downstream logistics performance in Sri Lankan agricultural supply chain through collaborative digital logistics**

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Global agricultural production is barely sufficient to appease the hunger of the world population. Greater part of agricultural production gets spoiled on the way to the consumer. As a consequence, agricultural logistics has gained much consideration in order to ensure that the agricultural products reach the consumer with better quality. Nowadays consumers are demanding more on the food quality and the sustainability, hence the necessity of redesigning agricultural supply chain networks and implementing best practices in place is emphasized. Thus having properly managed storage facilities and vehicles, real time access to information regarding demand, supply, weather conditions and price fluctuations, proper handling of surplus and value addition is crucial. Consequently, reengineering the agricultural processes by deploying information technology has emerged. Although the use of sophisticated new digital technologies in logistics is important to enhance the performance, it is difficult for small farmers, retailers, wholesalers, etc., to invest on these new-fangled technologies. It's proven that collaboration is a strategic decision which aids in superior supply chain performance and is a key to achieve logistical excellence. Accordingly, this study focuses on the effect of supply chain collaboration in implementing digital logistics in less sophisticated supply chains such as Sri Lankan agricultural supply chain in order to achieve high downstream logistics performance. In relation to the results of this scrutiny, digitized logistics in Sri Lankan agricultural supply chain is in the elementary stage and inadequate knowledge, skills and investments are the major restrictions for technology adoption. The methodology adopted in this research was mixed method approach which involved data collection through questionnaire surveys using stake holders of agricultural supply chain and semi-structured interviews. Quantitative analysis was conducted to discover the relationship between variables and was done through regression analysis using SPSS software and qualitative analysis was done to identify the factors affecting collaborative digital logistics and the downstream logistics performance of agricultural supply chains through thematic analysis. The study suggests to align consumer and stakeholder expectations through collaborative digitization in order to improve agricultural downstream logistics performance. The decision model and the heuristics presented through this paper will help the agricultural supply chain stakeholders in digitizing their logistics to meet consumer expectations and to maximize their profits.

**Keywords:** Agricultural supply chains, collaboration, digital logistics, downstream logistics performance