

## **A Comparative Study on the Opportunities and Challenges of Blockchain Implementation in Logistics and Supply Chain Operations in Sri Lanka**

KJRRWMRAMAN Atipola<sup>1#</sup>, WKD Tharuka<sup>1</sup>, RMK Silva<sup>1</sup>, and ASP Ilangasekara<sup>1</sup>

<sup>1</sup>Faculty of Management, Social Sciences and Humanities, General Sir John Kotelawala Defence University, Ratmalana, Sri Lanka

#aushaniati@gmail.com

### **Abstract**

The world is evolving and moving forward with Industrial 4.0 and its implications such as blockchain technology. However, its application in Sri Lanka is still at an infant stage. The study aims to compare the blockchain implementation in logistics and supply chain operations in order to find out the opportunities, challenges, similarities, and contradictions. Most importantly, the study identifies the opinions, suggestions, and estimations from relevant industry professionals. In-depth interviews were conducted with seven industry professionals in logistics and supply chain management using the simple random sampling method. Discourse analysis is used to find out the similarities, contradictions and special points which were pinpointed by the industry professionals. The study suggests the opportunities for new business models, creating leading solutions for end customers, generating solutions that are hard to imitate by a third party, decreased cost through the interconnected system, ability to increase quality and traceability and reduction of documentations and administration in an organization. As challenges, the study highlights the capital requirement in implementation, negativities of standardization, losing the direct value creation of the end customer and losing the organization's flexibility. In conclusion, the study compares the opportunities and challenges of implementing blockchain using the input of logistics and supply chain management professionals.

**Keywords:** *Blockchain technology, Logistics, Supply chain management*