

Evaluating the Factors that Affect the Adoption of Blockchain Technology in the Pharmaceutical Supply Chain - A Case Study from Sri Lanka

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Abstract - One of the significant causes of medicine counterfeiting is the pharmaceutical industry's inadequate supply chain system, which makes it hard to keep track of it. This study aims to identify the factors affecting the adoption of Blockchain in the pharmaceutical supply chain in Sri Lanka. The study's conceptual framework is developed through a thorough literature review and structured interviews. Sample data is acquired from supply chain practitioners, pharmaceutical manufacturers, Medical Supply Division, and National Medicine Regulatory Authority to validate the conceptual model. The Partial Least Squares, Structural Equation Modelling (PLS-SEM) technique was used to investigate the effect of factors on the adoption of Blockchain. Based on a thorough examination of the literature, the suggested conceptual model incorporates the complex relationships between eight significant factors, namely 1) Relative advantage 2) Upper management support, 3) Human resources, 4) Compatibility, 5) Cost, 6) Complexity, and 7) Technological Infrastructure and 8) Architecture. Academics can use the proposed framework to design and review blockchain-based research as a starting point for implementing blockchain applications in the pharmaceutical supply chain.

Keywords - blockchain, pharmaceutical supply chain, supply chain