Project Title: Blockchain-based E-Commerce Analytics Model for Facilitating Trusted Data Exchange and Digital Supply Chain Integration
研究項目: 建立一個區塊鏈電子商務數據分析模型以促進可信數據互換與數位供應鏈整合
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Funding Scheme: Research Grants Council - Faculty Development Scheme
Project Reference No.: UGC/FDS14/E06/19

Abstract

The blooming of e-commerce in the past decade has not only brought significant economic growth to the e-retailers, but also new opportunities and challenges to the logistics industry. To seize the opportunities arising from the emerging e-commerce logistics in Hong Kong, logistics service providers (LSPs) are forced to take on new roles and adjust their operations to fulfill the dynamic customer demand. This research aims to develop a Blockchain-based E-Commerce Analytics Model, integrating blockchain technology and the machine learning algorithm for managing data across the supply chains and predicting dynamic e-commerce order demand.

This research enables industry practitioners, especially LSPs and e-retailers, to plan ahead for the subsequent e-commerce operations. From the perspective of LSPs, the prediction model allows the firm to realize the e-commerce order arrival patterns, enabling flexible re-allocation of the right amount of resources in real time to deal with the hour-to-hour fluctuating arrival of orders in distribution centers. From the perspective of a retailer, the generic prediction model allows the firm to predict, for example, the sales volume among various e-commerce sales channels, the sales volume from different customer segments, and the e-commerce sales performance of different product categories. By tackling the unpredictability of demand in the e-commerce business environment, this research contributes to an effective decision support strategy for logistics `operations planning, hence, enhancing e-commerce logistics competence in Hong Kong.