Chapter 31
Exploring the Blockchain Technology Application in the Chinese New Retail Business Model

Yuhong Li
Jiuzhou Industrial Holdings Group Co., Ltd., China

Nachiappan Subramanian
University of Sussex, UK

ABSTRACT

While the new retail is revolutionizing retailing in China, the supply chain of the new retail has a few problems or potential risks which will decrease the customer satisfaction level. However, the implementation of one of the cutting-edge technologies—the blockchain—can revolutionize the supply chain of the new retail in China. This qualitative piece uses multiple interviews to find out the specific outcomes blockchain will make for the supply chain of the new retail in China. The major contribution is to fill the gap of the academic literature as well as the business application and such as the new retail in China to increase supply chain security and efficiency with blockchain.

INTRODUCTION

The new retail format is introduced by the Alibaba founder Jack Ma that combines ecommerce business model, physical supermarket and restaurant to offer 360 degree experience to customers with the support of extensive data and technology (Declan, 2017). The new retail uses consumer centric model which is an amalgamation of online and offline format. Online aspect customizes order and improve effectiveness whereas customers can order fresh food or vegetables online and the delivery support systems will move the stuff in next 30 minutes if the houses are located within 5 km radius; the offline part works on efficiency reduce complexity in handling diverse products using technology. The other attractiveness of the

store is the layout, which combine traditional supermarket and restaurants where customers can, choose fresh vegetables and seafood to eat in addition to grocery shopping. For example, the Alibaba-backed HEMA supermarket is one of the new retail stores, which have already set 65 stores across China with fine-dining grocery and 3000 products from over 100 countries (Declan, 2017). Furthermore, integration of O2O (Online to Offline) strategy is done through data and technology where detailed data of shopping behavior of customers is captured in the final payment using Alipay. This process will enable HEMA to personalize the retail experience (Declan, 2017).

The new retail is fascinating to experience. however, it has two potential issues such as food security and achieving efficiency. In terms of security issue, China as a country feeds 20% population of the world (China Ministry of Agriculture, 2017) on 7% of total farmlands in the planet (Carter, Zhong, & Zhu, 2012) has issues related to excessive use of chemical fertilizer which increased three-fold in the past decade (Cui, Shoemaker, 2018). In addition, genetically modified food could be another threat for the food industry in China. Hence, there is an urgent need for the food industry as well as new retail in China to add more assurance to protect the security of the food and make the supply chain more transparent. In terms of efficiency there are several non-value-added activities that needs to curb such as documentation and bureaucratic processes (Heutger & Kückelhaus, 2018). One way to handle these issues is through blockchain technological application.

Blockchain has deeper and wider usage than what people have thought and it is expected to revolutionize the business applications. Blockchain was developed by Satoshi Nakamoto in 2008 essentially as an alternate to conventional money transfer and used the cryptocurrency bitcoin in a wider network with the record of transactions (Tapscott, 2016). Recently, lots of managers or investors trust blockchain because it is an open global infrastructure where there is no middle man or third parties so that companies and individual can make transactions with low transaction cost and time dealing with third parties (Underwood, 2016). Furthermore, the blockchain uses the technology of distributed ledger and consensus process to ensure all the transactions between companies and individuals can be shared in a connected computer network, which is available for verification by the users on the network. On the other side, blockchain can also be private and permissioned which allow certain group of people in a particular company, industry or supply chain to work together and maintain the information as well as transactions private (Underwood, 2016).

One of the most significant applications is the implementation of blockchain in supply chain management, which will bring benefits to all the members in the supply chain including suppliers, producer, retailer and customers, and at the same time, save huge amount of cost and waste. In addition, supply chain management possess additional risks such as delays and disruptions. For instance, the delays in material flow will have impact on the efficiency of supply chain and results in the customer satisfaction level which is important for companies or logistics organizations (Chopra & Sodhi, 2004). Hence, it is necessary to overcome these risks, and this study will focus on how implementing blockchain can help supply chain to be more reliable and efficient.

The purpose of this study is to address the application of blockchain in supply chain that could enhance security, transparency and efficiency. Specifically the study answers the following research question 'How blockchain can improve the security, transparency and efficiency of new retail supply chains in China?'

Related Content

Internet of Things in the 5G Ecosystem and Beyond 5G Networks
Swati S. Roy, Shatarupa Dashand Bharat Jyoti Ranjan Sahu (2023). *Handbook of Research on Data Science and Cybersecurity Innovations in Industry 4.0 Technologies (pp. 476-504).*
www.irma-international.org/chapter/internet-of-things-in-the-5g-ecosystem-and-beyond-5g-networks/331026

XHAC: Explainable Human Activity Classification From Sensor Data
Duygu Bagci Dasand Derya Birant (2022). *Emerging Trends in IoT and Integration with Data Science, Cloud Computing, and Big Data Analytics (pp. 146-164).*
www.irma-international.org/chapter/xhac/290079

Prostate Cancer Classification Using Deep Learning Models
Sivasankari Narasimhan, Dinesh Anandand Siva Kumar (2024). *Applications of Parallel Data Processing for Biomedical Imaging (pp. 288-303).*
www.irma-international.org/chapter/prostate-cancer-classification-using-deep-learning-models/345602

Artificial Intelligence-Based Computer Vision on Medical Images
Murali M.and Ismail Zahraddeen Yakuu (2024). *Applications of Parallel Data Processing for Biomedical Imaging (pp. 125-147).*
www.irma-international.org/chapter/artificial-intelligence-based-computer-vision-on-medical-images/345594

Empirical Study on the Impact of Select Green HRM Dimensions on Green Innovation Culture
Vasuki Boominathan, J. Tamil Selvi, C. Dhilipan, M. Tamil Arasu, B. Elamuruganand Palanivel Rathinasabapathi Velmurugan (2024). *Data-Driven Intelligent Business Sustainability (pp. 405-417).*
www.irma-international.org/chapter/empirical-study-on-the-impact-of-select-green-hrm-dimensions-on-green-innovation-culture/334757