

Uncertain Supply Chain Management

homepage: www.GrowingScience.com/uscm

The relationship among digital business strategy, knowledge sharing and supply chain: Exploring mediating effect of blockchain adoption

Ghaleb ElRefae^a and Mohammed T. Nuseir^{a*}

^aAl Ain University, United Arab Emirates

CHRONICLE

Article history:

Received September 18, 2020
Received in revised format May 8, 2021
Accepted August 23 2021
Available online
August 23 2021

Keywords:

Blockchain
Supply chain effectiveness
Knowledge sharing
Trading partner
Banks

ABSTRACT

The success of the business lies in the effectiveness of the supply chain. Therefore, this study examined the effect of trading partner pressure, knowledge sharing, and digital business strategy on blockchain adoption and supply chain effectiveness. The research design was cross-sectional. For the collection of data, a random sampling technique was adopted, and data was collected from employees of banks. The data was collected in the form of questionnaires. The usable response rate of the study was 61.32%. The gathered data was examined through Smart PLS and SPSS. The study's findings revealed that trading partner pressure, knowledge sharing, and digital business strategy play a significant role in the adoption of blockchain technology. Moreover, the adoption of blockchain technology is the key to improving the effectiveness of the supply chain. In the end, findings also confirmed the mediating effect of blockchain effectiveness. The study's findings are helpful for the policymakers of the banking sector.

© 2021 Growing Science Ltd. All rights reserved.

1. Introduction

External criteria are the main focus of supply chain effectiveness, emphasizing the success of the organization by meeting the demands and expectations of suppliers, customers, and investors and keeping in view these external standards that are the primary reason for the enormous effectiveness of the supply chain that is referred as the supply chain responsiveness (Crook, Giunipero, Reus, Handfield, & Williams, 2008). While measuring the effectiveness of the supply chain, the main objective is to do the things that are right by implementing the improvements that are hard to achieve. These improvements include return on investment, leveraging the insight supply chain that is harvested through data management, cost reduction, spend management planning, and strategic decision making (Foerstl, Schleper, & Henke, 2017). For the long-term success of supply chain management, the effectiveness of the supply chain is a critical factor. The organization needs to protect the competitive strength, capital availability, and business continuity during different times while providing operational flexibility and agility to solve the problems. It is also essential to control global supply chain disruption (Ali, Gongbing, & Mehreen, 2019; Foerstl et al., 2017). Past studies pointed out several advantages of supply chain effectiveness, including enhancement of product development capabilities, enhanced responsiveness, reduction of the time cycle, productivity improvement, lowering the inventories, and reduction of activities that are not necessary (Ibrahim & Hamid, 2014).

On the other hand, it is vital to understand the scope of digital business in terms of the supply chain. It is vital to understand the business strategy of digitalization to conceive the firm's relationship, the external environment, IT infrastructure, relationship with industries, and how business strategies can play an influential role in different settings. While conceptualizing the competitive business strategy under digital conditions points out several questions of how the scope of business is affected through digital technologies. Scholars believe it is critical to pay particular attention to why, when, and how the scope of business strategy through digitalization is affected (Oestreicher-Singer & Zalmanson, 2013).

* Corresponding author
E-mail address: mohammed.nuseir@au.ac.ae (M.T. Nuseir)

Since the last decade, several improvements have been made in connectivity, communication, and information technologies. All these developments have created new functionalities. Therefore, different organizations have taken advantage of lower prices, improvement in the performance, levels of software and hardware computing, and connectivity at the global level by focusing on already set protocols. The primary purpose is to adapt the infrastructure of the business through the new digital age (Mendling & Jans, 2021). These digital technologies shape the business strategy as global business processes, cross-functional, distributed, and modular business processes, which enable the work that needs to be performed across boundaries of functions, distance, and times (Z. Wang et al., 2020). Different kinds of dynamic capabilities are also enabled because of digital technologies suitable for the turbulent environment. The structure of the social relationship is also being affected through digital technologies (Bharadwaj, El Sawy, Pavlou, & Venkatraman, 2013).

Knowledge management is one of the critical approaches that the organization implements. The main emphasis of knowledge management is the process of business. Knowledge management is one of the critical components of an organization's development, which includes the organization's structure and culture. The focus of knowledge management is the growth of the organization. Knowledge management is mainly identified by usability, accessibility, and distribution of knowledge. All these factors are essential factors of an organization (Al Kashari & Al Taheri, 2019). Knowledge sharing plays a significant role in the success of the organization. Through effective sharing of knowledge, organizations can quickly regenerate and reuse knowledge at the organizational and individual levels. Organizations and researchers pay much attention to developing a culture to promote knowledge. To ensure knowledge management, organizations are taking severe actions through the embeddedness of practices of knowledge sharing in the work process at the daily level (Ganguly, Talukdar, & Chatterjee, 2019).

The new factors include competitors and trade partners that can create external pressure on the organization. As a result, the organization's decision-making ability is affected as well. Trading partners can affect the decision adoption of the organization. This pressure is created through the partners like vendors who may opt to adopt cloud computing. As a result, it may also encourage organizations to adopt specific technology (Astuti, Arifin, & Iqbal, 2021). Scholars also pointed out that trading partner pressure is one of the crucial factors that must be viewed in the environment. It is the pressure developed by the partner to adopt new technology and stay up to date. Past studies pointed out that pressure from a trading partner is referred to as the level of pressure mounted by the trading partners to adopt new technology (Nedev, 2014). On the other hand, if the partner is already using any new technology, it will still pressure the organization to adopt and use that specific new technology. Thus, pressure from partners plays a significant role in adopting new technology (Gutierrez, Boukrami, & Lumsden, 2015).

Blockchain is the digital ledger. It allows the trust brokering on the network that is peer to peer. One of the prime examples of blockchain is the Bitcoin cryptocurrency that emerged in 2008. At the same time, blockchain is still a critical and valuable technology. It has usage in several industries, including finance, food, and health. According to Ito and O'Dair (2019), blockchain provides several advantages to the users, including fast transactions, security, transparency, immutability, and anonymity (Mendling et al., 2018). Crosby, Pattanayak, Verma, and Kalyanaraman (2016) mentioned that blockchain is a database composed of records of digital events and transactions that are shared and executed between the parties. Proper verification is done regarding these transactions through the consensus of most of the participants that are using the system. As a result, a digital consensus is created online and digital. Blockchain technology has characteristics that include essential features such as smart property and smart contracts. It has financial applications that include internet finance, insurance, private securities, and many others (Wang, Chen, & Xu, 2016).

Researchers examined the effects of blockchain adoption, digital business strategy, knowledge sharing, and trading partner pressure on the supply chain effectiveness (Al Kashari & Al Taheri, 2019). This study is unique in examining the new mechanism of digital business strategy, trading partner pressure, and knowledge sharing on blockchain effectiveness. Thus, this study examines the effect of trading partner pressure, knowledge sharing, and digital business strategy on supply chain effectiveness with the mediating role of blockchain adoption in the banking sector.

2. Literature Review

The effectiveness of the supply chain shows indirect as well as the direct impact of the adoption of mitigation strategy. Supply chain effectiveness is one of the critical aspects of the performance of the supply chain. The capability requirements include an operational performance from developing effective internal and external relationships. Effective measurement is crucial for the adoption of any organizational strategy. The supply chain's effectiveness shows how an organization can achieve its operational and financial goals (Jacyna-Gołda, Izdebski, Szczepański, & Gołda, 2018). Supply chain operations can easily play a vital role in achieving operational and financial goals. It is because operations of the supply chain can bring effectiveness. Supply chain strategy plays a vital role in improving the organization's performance. It has a significant contribution to the effectiveness of the supply chain (Nguema et al., 2021). Researchers mentioned that supply chain effectiveness could be examined based on the ability of the firm to manage total acquisition costs, inventory costs, and warehousing. The effectiveness of the supply chain includes reducing costs in handling and shipping and minimizing the distribution cost. As a result, the product and logistic costs are reduced (Suganya & Joshua, 2020).

When the supply chain operations can be effective and balance costs, it will obtain operational and financial goals. The operational strategy of the supply chain plays a significant role in promoting the improvement of performance. Moreover, it

also contributes strategically to the effectiveness of the overall supply chain. The effectiveness of the supply chain includes a reduction in handling and shipping costs. It also includes the minimization of distribution costs. As a result, the product's price will be reduced as well (Kurniawan, Zailani, Iranmanesh, & Rajagopal, 2017). The main focus of the digital strategy is to use technology so the business performance can be improved. The performance can be regarding the following of current organizational performance or to develop the new product. A direction is specified by it, which is followed by the organization to develop and sustain competitive advantage through technology, including tactics that will be used to achieve the changes (Holotiuk & Beimborn, 2017).

The digital strategy includes talent, culture, and strategy development instead of technical issues. Digital transformation includes significant transitions in the process and business strategies, operational routines, and organization capabilities (Chanias, Myers, & Hess, 2019). A strategy is the plan to achieve organizational goals and objectives through capability-specific tasks. Scholars pointed several perspectives in digital business strategy, having the main focus on the preferences and capabilities. The main factors of the digital business strategy include operational capability and managerial capability (Saunila, Ukko, Sore, Rantala, & Nasiri, 2019).

Scholars have defined knowledge sharing as transferring knowledge to an organization from a person. It is a complete process in which knowledge is shared among the organization **members**. Researchers also stated that knowledge sharing could also be defined as the social interaction between people. Knowledge is different from the information locked in the mind of the human. It is also part of human identity (Asrar-ul-Haq & Anwar, 2016).

In the business's collective knowledge, sharing the knowledge plays a significant role. It also has a crucial role in helping the employees feel valued, looking at the changes, and enhancing the innovation and retention of knowledge. People of the organization are the factors upon which the knowledge sharing within the organization is dependent on who uses, shares and creates the knowledge (Arsawan et al., 2020). Therefore, specific behavior is required to initiate the knowledge-sharing behavior of workers of the organization. At the same time, active interaction among employees is required to achieve desired goals of the organization. Therefore, employees' behaviors are required to share knowledge among organizational employees. Whereas using different techniques is required for employees to interact with each other to generate knowledge. On the other hand, it is also vital for organizational competitive advantage (Ishrat & Rahman, 2020).

Additionally, trading partners can affect the adoption of blockchain. These partners can quickly generate pressure along with other stakeholders. All of them can potentially lead to the adoption of new technology. Past studies mentioned that trading partners affect the adoption of new technology by generating pressure through trading partners (Wamba, Queiroz, & Trinchera, 2020). The researchers define blockchain as the database distributed and shared among partners through digital networks. It has a sequence of blocks linked and verified through the community using different networks. Once a factor is added to the blockchain, it is impossible to turn it back. Therefore, blockchain is the digital block, solid, incremental, and ordered data that is linked. In the blockchain, a secured record of historical transactions is maintained in the form of blocks. As a result, IT innovation can transform organizational external and internal operations (Clohessy & Acton, 2019).

3. Hypotheses Building

3.1 Blockchain Adoption and Supply chain effectiveness

Organizations have been using the technology of the supply chain a lot in the recent past. This blockchain technology is being adopted in the area of the supply chain because of its number of advantages. These advantages include route tracking, transparency, record keeping of the verified record, adequate record-keeping, and cost optimization. Moreover, scholars have mentioned that the performance of the organizations has improved because of blockchain adoption (Wong, Tan, Lee, Ooi, & Sohal, 2020). The managers are using and adopting more blockchain technologies because they believe that the performance of the supply chain can be optimized through blockchain technology. Therefore, these managers also tend to improve their understanding of blockchain. It is key to note that blockchain accelerates transactions and products transparency through the development of tools that can be effective and efficient for a better relationship and strategic planning between subcontractors, Outsourcing, customers, and suppliers, increasing effectiveness on the overall basis (Wamba et al., 2020).

Researchers pointed out that there are several benefits of blockchain in the supply chain arena. These benefits are expanded to disintermediation, data security improvement, and expanded visibility. Misunderstandings can be prevented because of smart contracts in the blockchain. They can also execute the contracts among partners of the supply chain. As a result, the trust among the parties can be increased (Kim & Shin, 2019). The accuracy, speed and efficiency of organizations can be improved by adopting blockchain technology. Therefore, organizations at the global level are moving toward adopting blockchain technology to enhance effectiveness and collaboration among buyers and suppliers (Rejeb, Rejeb, Simske, & Treiblmaier, 2021).

H1: *BCA positively affects the SCE.*

3.2 Digital Business Strategy, Blockchain Adoption, and supply chain effectiveness

Researchers pointed out that the technology of blockchain allows streamlining, digitalization, simplifying, automation, and the lower-tier process, which allows managers to make the visibility better throughout the business processes. Scholars also claimed that blockchain technology is essential if organizations are willing to improve their organizational strategy. This is also important for financial institutes. Blockchain technology has several advantages, varying from registrations, maintaining utilities at the back end, and transferring funds (Hacioglu, 2020). Scholars stated that to adopt the technologies of blockchain, digital business strategy plays a significant and critical role. Without a digital business strategy, the business cannot get blockchain technology (Queiroz, Fosso Wamba, De Bourmont, & Telles, 2021). By using the digital business strategy, the business can identify the path, and it will be possible to adopt and use blockchain technology while using that path. Blockchain technology gives a very narrow-down view of the technology to improve performance and innovation. According to researchers, organizations can create radical changes because of blockchain technologies. Moreover, blockchain technology adoption can improve and innovate to make performance competitive. Thus, it is evident that business strategy lays down the foundation to adopt blockchain technology (Della Valle & Oliver, 2021). Moreover, it will lead to supply chain effectiveness (Rejeb et al., 2021). Thus:

H₂: *DBS has a positive effect on BCA.*

H₃: *BCA significantly mediates the relationship between DBS and SCE.*

3.3 Knowledge sharing, Blockchain Adoption, and supply chain effectiveness

The organization has to regularly find out how they can improve sharing of knowledge. In blockchain integration, knowledge sharing is mainly referred to as the exchange of knowledge among members of the supply chain and organization. Through blockchain, real-time information can be shared among supply chain players (Tian, 2017). The information includes the skills regarding the best practices and common system and how to potentialize the processes of supply chain utilization. Knowledge sharing deals with the behaviors of individuals when the information is shared among organizational members. Thus, the knowledge shared among knowledge sharing may involve skills and technologies among organizations (Wamba et al., 2020). Knowledge sharing will enhance the capability of blockchain adoption; blockchain accelerates transactions and products transparency through the development of tools that can be effective and efficient for a better relationship and strategic planning between subcontractors, Outsourcing, customers, and suppliers, increasing effectiveness on the overall basis (Abbas, Martinetti, Moerman, Hamberg, & van Dongen, 2020).

H₄: *KS has a positive effect on BCA.*

H₅: *BCA significantly mediates the relationship between KS and SCE.*

3.4 Trading partner pressure, Blockchain Adoption, and supply chain effectiveness

The relationship of the trading partner is referred to as the business relationship, which involves more than one organization and customers. One of the most critical and standard configurations in the relationship of the trading partner is on the side of the organization and suppliers. At the same time, there is a need for a relationship between customers and trading partners. In the supply chain context, there exist more complications in these relationships (Molati, Ilorah, & Moeti, 2021). Moreover, optimization can be supported because of the readiness of trading partners. The trading relationship is referred to as the relationship of the business in which multiple customers and organizations are involved. One of the prime examples of a trading partnership relationship is the organization's supplier. At the same time, Trading partnership with the customer is also significant (Gökçalp, Çoban, & Gökçalp, 2019).

Keeping in view the supply chain context, this process becomes very complicated. Furthermore, the trading partners can play a significant role in optimizing the capabilities of organizational resources. This optimization includes cost-saving and resource optimization. Moreover, the readiness of trading partners can affect the adoption of blockchain-based on the pressure generated by stakeholders and trading partners. Moreover, researchers suggested that the adoption of technology is affected by the pressure of the trading partner (Hu & Hsu, 2010). Trading partner pressure will augment the IT innovation can result in the transformation of organizational external and internal operations (Clohessy & Acton, 2019)

H₄: *TPP has a positive effect on BCA.*

H₇: *BCA significantly mediates the relationship between TPP and BCA.*

3.5 Resource-based view theory

Resource-based theory underpins the proposed model of the study. This theory was proposed by Barney (1991). This theory examines the linkage between the organization's characteristics and its outcome on the organizational outcome (Nandi, Nandi, Moya, & Kaynak, 2020). In this study, the organization's supply chain's effectiveness is developed through the adoption of blockchain, TPP, knowledge sharing, TPP, and DBS, which serve as the organization's resource (Khan & Yu, 2021).



Fig. 1. The proposed study

4. Research Methodology

To achieve the study's objectives, one of the most critical parts of the study is research methodology. At this stage, it is essential to choose a suitable technique to solve the research problem. Thus, keeping in view the nature of the study, objectives, research problem, research design of the study was cross-sectional, and the research approach was quantitative.

For this purpose, the data was collected from the employees of banks in the UAE. A questionnaire was designed based on items collected from past studies. The items of Supply chain effectiveness were collected from (Ibrahim & Hamid, 2014), Blockchain adoption was adopted from (Wamba et al., 2020), Trading partner pressure was adopted from (Wamba et al., 2020) Knowledge sharing was adopted from (Ali et al., 2019). The questionnaire was developed through Likert 5 scale. Thus, the study used a Likert 5-point scale to increase the quality and rate of the response to reduce the level of frustration among the respondents of the study. The range of the Likert 5-point scale is from strongly disagree to strongly agreed. The questionnaire was distributed among 542 employees using convenient sampling. The usable response rate of the questionnaire received back was 61.32%. The gathered data was assessed through smart PLS and SPSS.

6. Results

The usable data collected from the respondents were examined through SPSS 25 and smart PLS 3.3.2. This study used SPSS for the initial screening. Whereas PLS was used in this study to evaluate the proposed hypothesis. Analysis through PLS is based on two steps. The first step is the measurement model, whereas the second step is the structural model (Ringle, Wende, & Becker, 2015).

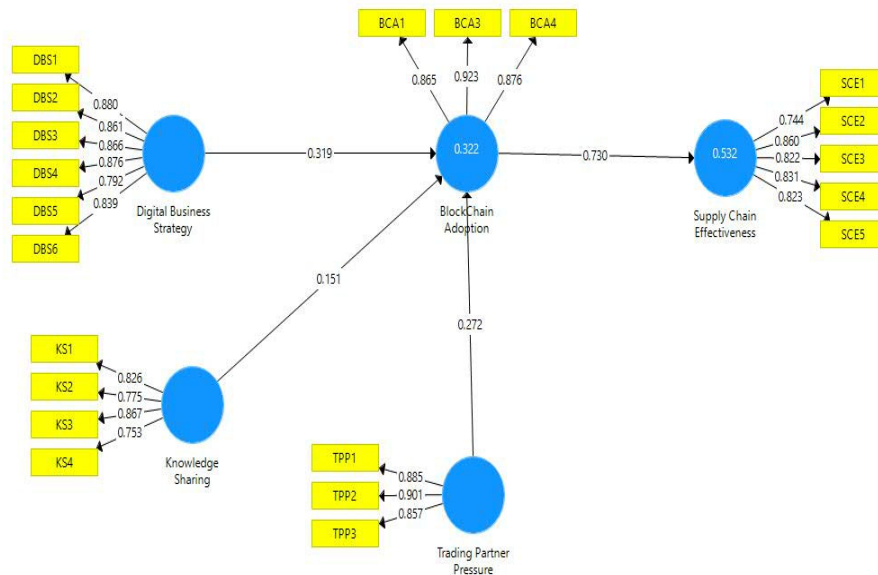


Fig. 2. Measurement model

At the stage of the measurement model, convergent validity and discriminant validity is examined. Moreover, factor loading, Cronbach Alpha, and composite reliability of the data were also examined. Figure 2 and Table 1 show the results of factor loading.

Table 1

The results of Factor loading

	BCA	DBS	KS	SCE	TPP
BCA1	0.865				
BCA3	0.923				
BCA4	0.876				
DBS1		0.880			
DBS2		0.861			
DBS3		0.866			
DBS4		0.876			
DBS5		0.792			
DBS6		0.839			
KS1			0.826		
KS2			0.775		
KS3			0.867		
KS4			0.753		
SCE1				0.744	
SCE2				0.860	
SCE3				0.822	
SCE4				0.831	
SCE5				0.823	
TPP1					0.885
TPP2					0.901
TPP3					0.857

The values of factor loading as mentioned in Table 1. This table shows that the benchmark of factor loading to be more than 0.70 Hair Jr, Sarstedt, Ringle, and Gudergan (2017) is achieved in this study. The Cronbach alpha and composite reliability values were also examined and found to be more than 0.70 (mentioned in Table 2) as proposed by (Mallery & George, 2000).

Table 2

The results of the reliability

	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
BCA	0.866	0.918	0.789
DBS	0.925	0.941	0.727
KS	0.826	0.881	0.651
SCE	0.880	0.909	0.667
TPP	0.856	0.912	0.776

Later, the AVE of the present study was examined, for which the benchmark value is 0.50 as proposed by Fornell and Larcker (1981). This study also achieved this benchmark, as evident from Table 2. Later the study examined the discriminant validity of the data. The HTMT approach was adopted (Gold, Malhotra, & Segars, 2001). According to the HTMT approach, the values must be less than 0.85 to establish discriminant validity. It is evident from Table 3 that HTMT criteria are fulfilled. Thus, discriminant validity is established.

Table 3

HTMT criteria

	BCA	DBS	KS	SCE	TPP
BCA					
DBS	0.473				
KS	0.490	0.423			
SCE	0.764	0.371	0.630		
TPP	0.500	0.225	0.748	0.621	

Subsequently, the results of the proposed hypothesis were examined. For this purpose, the bootstrapping procedure was adopted. The hypothesis was accepted and rejected based on t values. It is evident from the values mentioned in Table 4 and Table 5 that all of the proposed direct and indirect hypotheses are accepted based on t value and p values.

Table 4

Direct Results

	Original Sample (O)	SD	T Value	P Values
BCA → SCE	0.730	0.023	31.345	0.000
DBS → BCA	0.319	0.077	4.160	0.000
KS → BCA	0.151	0.085	1.766	0.039
TPP → BCA	0.272	0.081	3.359	0.000

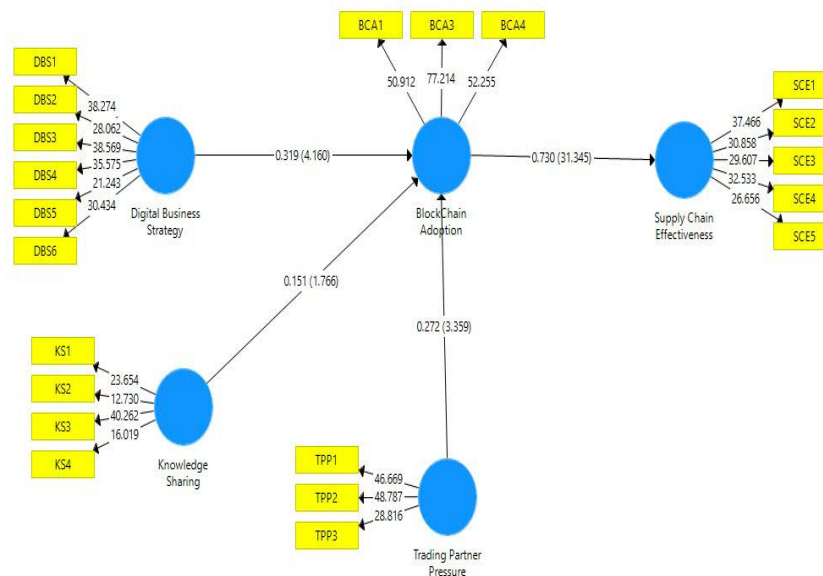
Table 5
Indirect Results

	Original Sample (O)	SD	T Value	P Values
DBS → BCA → SCE	0.233	0.057	4.113	0.000
KS → BCA → SCE	0.110	0.063	1.752	0.040
TPP → BCA → SCE	0.199	0.061	3.259	0.001

In the end, the values of R square were examined. In this regard, Chin (1998) mentioned that the minimum acceptable value for R square is 0.19. The values mentioned in the table below show that this benchmark is fulfilled and in the acceptable range.

Table 6
R Square

	R Square
BCA	0.322
SCE	0.532

**Fig. 3.** Structural model

7. Discussion

Financial Institutes are essential for the progress of any country. In Covid 19, the banking sector needs to work on its supply chains to improve its competitive positions. For this purpose, this study examined the effect of different elements that can improve the supply chain effectiveness of the banks. The study's findings revealed that knowledge sharing is one of the important factors among the bank employees to adopt the technology of blockchain. This finding is in line with the findings of (Tian, 2017; Woodside et al., 2017); according to him, through blockchain, real-time information can be shared among supply chain players.

Furthermore, pressure for a trading partner can also be an essential element to bring innovation in bank strategies and technology usage. These results are similar to those of (Gökalp, Çoban, & Gökalp, 2019). Additionally, results posit that digital business strategy is also an important factor in banks' adoption of blockchain technology. These results are the same as those (Della Valle & Oliver, 2021). In the end, it is key to note from the study's findings that the adoption of blockchain technology can lead to the effectiveness of the supply chain (Rejeb et al., 2021). The study's findings also mentioned that BCA mediates between the proposed model.

8. Conclusion, Implications, and limitations

The present study was conducted to assess the effect of different factors that can enhance the effectiveness of the supply chain. In this regard, the effects of blockchain adoption, DBS, KS, and TPP were examined. According to the study findings, banks need to share knowledge with other employees and teammates for success at the individual and organizational levels.

Moreover, the decision-makers of the banks must focus on the adoption of digital business strategy. That is, adopting technology into their strategy.

Moreover, the banks should focus on their trading partners as well. All these factors will lead to adopting blockchain technology in the banks. This technology is important for safe and secure operations at different levels. If the operations are running securely, the banks will make their supply chain effective.

Blockchain technology is also essential for banks to effectively achieve their goals and objectives. This technology is essential for banks because digital technology is regularly transforming. Therefore, a safe and efficient way of operations is significant for the banks at the customer and another stakeholder level. If the adoption of blockchain technology is facilitated by knowledge sharing, it will help adopt new trends. Moreover, this trend will help in the development of a mechanism to share as well as extend the knowledge. Furthermore, it will help in communication and building knowledge as well.

The present research has achieved the desired goals. However, there are a few limitations. First, this study was conducted in financial institutes, whereas this model can be tested in other industries. The design of this study was cross-sectional. Future studies can use longitudinal research design. Moreover, further studies can be comparative to assess the effect of this model in two different industries. The study's findings are helpful for future studies in the banking sector and academicians of the supply chain.

References

- Abbas, Y., Martinetti, A., Moerman, J.-J., Hamberg, T., & van Dongen, L. A. (2020). Do you have confidence in how your rolling stock has been maintained? A blockchain-led knowledge-sharing platform for building trust between stakeholders. *International journal of information management*, 55, 102228.
- Al Kashari, Z., & Al Taheri, F. (2019). The Role of Knowledge Sharing in Organizational Performance. *American Scientific Research Journal for Engineering, Technology, and Sciences (ASRJETS)*, 62(1), 30-38.
- Ali, Z., Gongbing, B., & Mehreen, A. (2019). Predicting supply chain effectiveness through supply chain finance: evidence from small and medium enterprises. *The International Journal of Logistics Management*.
- Alrawabdeh, W. (2014). Environmental factors are affecting mobile commerce adoption-an exploratory study on the Telecommunication firms in Jordan. *International Journal of Business and Social Science*, 5(8).
- Arsawan, I. W. E., Koval, V., Rajiani, I., Rustiari, N. W., Supartha, W. G., & Suryantini, N. P. S. (2020). Leveraging knowledge sharing and innovation culture into SMEs sustainable competitive advantage. *International Journal of Productivity and Performance Management*.
- Asrar-ul-Haq, M., & Anwar, S. (2016). A systematic review of knowledge management and knowledge sharing: Trends, issues, and challenges. *Cogent Business & Management*, 3(1), 1127744.
- Astuti, E. S., Arifin, Z., & Iqbal, M. (2021). Effects of trading partner relationships and knowledge complementarity on innovation performance. *Journal of Asia Business Studies*.
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99–120
- Bharadwaj, A., El Sawy, O. A., Pavlou, P. A., & Venkatraman, N. V. (2013). Visions and voices on emerging challenges in digital business strategy. *MIS Quarterly*, 37(2), 14-001.
- Chanas, S., Myers, M. D., & Hess, T. (2019). Digital transformation strategy making in pre-digital organizations: The case of a financial services provider. *The Journal of Strategic Information Systems*, 28(1), 17-33.
- Chin, W. W. (1998). The partial least squares approach to structural equation modeling. *Modern methods for business research*, 295(2), 295-336.
- Clohesy, T., & Acton, T. (2019). Investigating the influence of organizational factors on blockchain adoption: An innovation theory perspective. *Industrial Management & Data Systems*.
- Crook, T. R., Giunipero, L., Reus, T. H., Handfield, R., & Williams, S. K. (2008). Antecedents and outcomes of supply chain effectiveness: an exploratory investigation. *Journal of Managerial Issues*, 20(2), 161-177.
- Crosby, M., Pattanayak, P., Verma, S., & Kalyanaraman, V. (2016). Blockchain technology: Beyond bitcoin. *Applied Innovation*, 2(6-10), 71.
- Della Valle, F., & Oliver, M. (2021). Guidance for blockchain-based digital transition in supply chains. *Applied Sciences*, 11(14), 6523.
- Foerstl, K., Schleper, M. C., & Henke, M. (2017). Purchasing and supply management: From efficiency to effectiveness in an integrated supply chain. *Journal of Purchasing and Supply Management*, 23(4).
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, 18(1), 39-50.
- Ganguly, A., Talukdar, A., & Chatterjee, D. (2019). Evaluating the role of social capital, tacit knowledge sharing, knowledge quality, and reciprocity in determining an organization's innovation capability. *Journal of Knowledge Management*.
- Gökalp, E., Çoban, S., & Gökalp, M. O. (2019). *Acceptance of blockchain-based supply chain management system: Research model proposal*. Paper presented at the 2019 1st International Informatics and Software Engineering Conference (UBMYK).
- Gold, A. H., Malhotra, A., & Segars, A. H. (2001). Knowledge management: An organizational capabilities perspective. *Journal of management information systems*, 18(1), 185-214.

- Gutierrez, A., Boukrami, E., & Lumsden, R. (2015). Technological, organizational, and environmental factors influencing managers' decision to adopt cloud computing in the UK. *Journal of Enterprise Information Management*.
- Hacıoğlu, U. (2020). Digital business strategies in blockchain ecosystems. *Springer International Publishing, DOI, 10, 978-973*.
- Hair Jr, J. F., Sarstedt, M., Ringle, C. M., & Gudergan, S. P. (2017). *Advanced issues in partial least squares structural equation modeling*: saGe publications.
- Holotiuk, F., & Beimbom, D. (2017). Critical success factors of digital business strategy.
- Hu, A. H., & Hsu, C. W. (2010). Critical factors for implementing green supply chain management practice: an empirical study of electrical and electronics industries in Taiwan. *Management research review*.
- Ibrahim, S. B., & Hamid, A. A. (2014). Supply chain management practices and supply chain performance effectiveness. *International Journal of Science and Research, 3(8)*, 187-195.
- Ishrat, R., & Rahman, W. (2020). An empirical study is about the situation, social network, and knowledge sharing at Peshawar University. *Economic research-Ekonomska istraživanja, 33(1)*, 752-768.
- Ito, K., & O'Dair, M. (2019). A critical examination of the application of blockchain technology to intellectual property management *Business transformation through blockchain* (pp. 317-335): Springer.
- Jacyna-Golda, I., Izdebski, M., Szczepański, E., & Gołda, P. (2018). The assessment of supply chain effectiveness. *Archives of Transport, 45*.
- Khan, S. A. R., & Yu, Z. (2021). *A Systematic Literature Review: Blockchain Technology and Organizational Theories in the Perspective of Supply Chain Management*. Paper presented at the Journal of Physics: Conference Series.
- Kim, J.-S., & Shin, N. (2019). The impact of blockchain technology application on supply chain partnership and performance. *Sustainability, 11(21)*, 6181.
- Kurniawan, R., Zailani, S. H., Iranmanesh, M., & Rajagopal, P. (2017). The effects of vulnerability mitigation strategies on supply chain effectiveness: risk culture as moderator. *Supply Chain Management: An International Journal*.
- Mallery, P., & George, D. (2000). *SPSS for windows step by step*: Allyn & Bacon, Inc.
- Mending, J., & Jans, M. (2021). Interview with Varun Grover on "Business Processes, Information Technology and Its Evolution in the Digital Age". *Business & Information Systems Engineering, 63(5)*, 529-532.
- Mending, J., Weber, I., Aalst, W. V. D., Brocke, J. V., Cabanillas, C., Daniel, F., . . . Dustdar, S. (2018). Blockchains for business process management challenges and opportunities. *ACM Transactions on Management Information Systems (TMIS), 9(1)*, 1-16.
- Molati, K., Ilorah, A. I., & Moeti, M. N. (2021). *Determinant Factors Influencing the Adoption of Blockchain Across SMEs in South Africa*. Paper presented at the 2021 15th International Conference on Advanced Technologies, Systems, and Services in Telecommunications (TELSIKS).
- Nandi, M. L., Nandi, S., Moya, H., & Kaynak, H. (2020). Blockchain technology-enabled supply chain systems and supply chain performance: a resource-based view. *Supply Chain Management: An International Journal, 25(6)*, 841-862.
- Nedev, S. (2014). Exploring the factors influencing the adoption of Cloud computing and the challenges faced by the business. *Inquiry*.
- Nguema, J.-N. B. B., Bi, G., Ali, Z., Mehreen, A., Rukundo, C., & Ke, Y. (2021). Exploring the factors influencing the adoption of supply chain finance in supply chain effectiveness: evidence from manufacturing firms. *Journal of Business & Industrial Marketing, 36(5)*, 706-716.
- Oestreicher-Singer, G., & Zalmanson, L. (2013). Content or community? A digital business strategy for content providers in the social age. *MIS Quarterly, 37(2)*, 591-616.
- Queiroz, M. M., Fosso Wamba, S., De Bourmont, M., & Telles, R. (2021). Blockchain adoption in operations and supply chain management: empirical evidence from an emerging economy. *International Journal of Production Research, 59(20)*, 6087-6103.
- Rejeb, A., Rejeb, K., Simske, S., & Treiblmaier, H. (2021). Blockchain Technologies in Logistics and Supply Chain Management: A Bibliometric Review. *Logistics, 5(4)*, 72.
- Ringle, C. M., Wende, S., & Becker, J.-M. (2015). SmartPLS 3. SmartPLS GmbH, Boenningstedt. *Journal of Service Science and Management, 10(3)*.
- Saunila, M., Ukko, J., Sore, S., Rantala, T., & Nasiri, M. (2019). *Managing buyer-supplier relationships in e-commerce projects: implications for relationship value*. Paper presented at the Supply Chain Forum: An International Journal.
- Suganya, G., & Joshua, S. (2020). Determinants of supply chain effectiveness during economic slowdown—an exploratory study of the Indian Textiles Cluster. *Industria Textile, 71(6)*, 519-529.
- Tian, F. (2017). *A supply chain traceability system for food safety based on HACCP, Blockchain & Internet of things*. Paper presented at the 2017 International conference on service systems and service management.
- Wamba, S. F., Queiroz, M. M., & Trinchera, L. (2020). Dynamics between blockchain adoption determinants and supply chain performance: An empirical investigation. *International Journal of Production Economics, 229*, 107791.
- Wang, H., Chen, K., & Xu, D. (2016). A maturity model for blockchain adoption. *Financial Innovation, 2(1)*, 1-5.
- Wang, Z., Rafait Mahmood, M., Ullah, H., Hanif, I., Abbas, Q., & Mohsin, M. (2020). The multidimensional perspective of firms' IT capability between digital business strategy and firms' efficiency: A case of Chinese SMEs. *SAGE Open, 10(4)*, 2158244020970564.
- Wong, L.-W., Tan, G. W.-H., Lee, V.-H., Ooi, K.-B., & Sohal, A. (2020). Unearthing the determinants of Blockchain adoption in supply chain management. *International Journal of Production Research, 58(7)*, 2100-2123.

Woodside, J. M., Augustine Jr, F. K., & Giberson, W. (2017). Blockchain technology adoption status and strategies. *Journal of International Technology and Information Management*, 26(2), 65-93.



© 2021 by the authors; licensee Growing Science, Canada. This is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC-BY) license (<http://creativecommons.org/licenses/by/4.0/>).