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Factors Affecting Block chain-Based Logistic Chain, Empirical Evidence in Logistic supply Chain

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Abstract:
Purpose: This purpose of this paper is to investigate the factors associated with the company's intention to adopt a blockchain-based logistic chain (BBLC) in logistic supply chain management (LSCM). In addition, this paper will deliberate the interrelation among blockchain and logistic from some main components and applications of distributing technology perspective. After all, we examine the moderation effects of the adoption of blockchain inBBLC.

Method:The structural equation model is used to test the research models: the technology acceptance model. Apart from that,this study collected data form logistic companies by provided survey questionnaires. We also use SPSS for the pilot test. The entire research process design though structure questionnaires.

Findings: The findings show that the adoption of blockchain towards logistic chain is changing in terms of supply chain management perception and the impact of subjective norms, which affects the intentions of using BBLC in the logistics supply chain.

Real-world implications: The outcomes of the study have a significant impact on logistics companies and education professionals who are interested in managing the supply chain in the logistics industry.

Originality/value: This is one of the most recent studies showing the impact of the transition to the adoption ofblockchainin the logistic supply chain.

Keywords: *Blockchain; Logistic chain;Supply chain.*

I. INTRODUCTION

In the past decade, traditional supply chains have changed dramatically. Face-to-face supervision, manual control systems, paper-dominated order processing systems and wired communications were the key supervisory tools of logistics managers [9-15]. Today they're redundant [1]. Countries that have successfully experimented with Supply Chain Network and Private Sector Knowledge Management have a fruitful networking experience and learning lessons and roadmap. It generally accepted that the supply chain structure was successfully adopted by the private sector and governments [2]. In the logistic industry, SCM has increased its credibility as one of the leading logistic facility with a positive impact on shareholder prices[3];[4]. Yet here's a fact showing SCM becoming complex for two reasons. One of the reasons is a global work-related inequity causes proposals from countries with cheaper labor to regulate consumer prices to remain modest. Second, consumers are increasingly recruiting sophisticated, personalized goods that better serve their needs [33];[34]. The subsequent increase in product variety makes demand forecasting more difficult, as an initiative now has to estimate volumes and alternative mix rather than a single request template.

Increasing product ranges often result in more vendors to handle and higher cost management. Besides refining the operations within itself, companies within a supply chain now have to connect with each other [35];[5] for manufacturers, warehouses, distribution centers and retailers [8]. Also, any blockchain performance depends

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on how well these components in the logistic chain. Recently, knowledge has been a critical factor in assessing dynamic logistic industry profitability [36];[37]. Such a scenario involves predicting and estimating demand, sourcing raw materials transportation [38];[39] and recognize material flow for in time distribution. Such a program will provide information access, assist decision-making, and execution of logistic industry [44];[45].

For many countries, the blockchain is playing a pivotal role in the logistic chain [6]. This model [39] impact on the logistic chains well as with many different facilities [16-19]. However, empirically based models were obtainable; also blockchain had a helpful and tactical effect on labor efficiency and commercial development [28]. In addition, this study discusses the predictable role of blockchain in managing supply chains [43];[40];[41]. In the circumstances, the use of blockchain seems to be crucial, mostly in speeding industries: particularly to manage distributed supply networks[27]. Furthermore, the adjacent association between these two definitions, blockchain and LSC often makes it challenging to integrate into the logistic industry.

II. Scope

This research covers the interest and necessity of various logistic companies in Asia. Also, it focuses on 1st, 2nd and 3rd party logistic in Asia.

III. Underpinning Theory

In this study, as the underpinning theory, UTAUT2 has been adopted to forecast the blockchain in the logistic supply chain (LSC) [28], [29]. Four determining factors identified in UTAUT, i.e. Performance expectancy (PE), Effort expectancy (EE), Facilitating condition (FC), Behavior attitude (BA), Adoption of the blockchain (AB)and Blockchain-based logistic chain [5].

IV. Research Framework

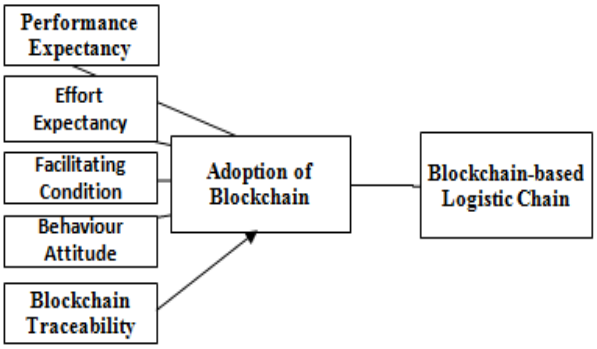

Figure 1:*Research Framework*

V. Hypothesis

In line with the research goals identified earlier in the research framework. Hence, The following hypotheses established.

- H1: A positive relationship exists between performance expectancy and adoption of blockchain in the logistic supply chain.
- H2: A positive relationship exists between effort expectancy and adoption of blockchain in the logistic supply chain.
- H3: A positive relationship exists between facilitating condition and adoption of blockchain in the logistic supply chain.
- H4: A positive relationship exists between behavior attitude and adoption of blockchain in the logistic supply chain.
- H5: A positive relationship exists between blockchain traceability and adoption of blockchain in the logistic supply chain.
- H6: A positive relationship exists between adoption of blockchain and blockchain-based logistic chain in the logistic supply chain.

VI. Methodology

This study focuses on primary and secondary data such as article, online journal, dissertation paper and online book. We summarize and extract data on supply chain logistic, blockchain technology and Google databases. Use a keyword search is one way to add objectivity to the literature reviews selection process. This paper is written by using secondary data. Also, we have collected 512responds through random structure sampling.

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6 LITERATURE REVIEW

SCM has increased adoption and its definition and explanation remains misunderstood [31][30];[46]. Many field experts consider SCM an operational process involving movement of materials and goods [48]. Others define SCM as a philosophy or managerial philosophy[49].Hence, following examples demonstrate these deviations[47];[7].

6.1 SCM As A Managerial Strategy, Application & System

SCM is an integrative approach for achieving the entire supply chain process from manufacturer to end-user [52]. Extending total production to include customers and vendors by external integration is often called supply chain management [20-23]. SCM is the method of tracking relationships, data and resource flow from corner to corner inventiveness limits to provide better buyer facilities and financial benefit by controlling the flow of consumer goods and data from acquisition to ingestion[53].

6.2A Clear and Comprehensive Definition of SCM

SCM character as systematic, tactical alignment of shared business strategies within an organization and across enterprises. The supply chain also improves individual companies' long-term efficiency and supply chain network [49];[52]. SCM often includes multiple companies, multiple business milestones, and coordination of different activities across functions and firms [50]. Moreover, successful SCM can help increase lower production and distribution costs through seamless supply chain cooperation between business partners [51]. Though supply-chain efficiency affects customer satisfaction [26]. Therefore, SCM offers competitive advantage and income margin lever.

6.3 Dimensions of SCM

A supply chain system is a collection of value-added developments (also called stage, state, or phase) governed by one or more originalities [30]. The chain begins with dealer and finishes with buyer. Every middle tier involves head-to-head downstream and upstream customers [44];[42]. Second, customers are intelligent, demanding, tailored goods that better serve their needs [26]. The resulting rise in commodity variability hinders market forecasting, as a company now has to project capability and option mix instead of a single demand pattern [46]. Increased product shapes also lead to higher vendors and manufacturing costs[29].Besides strengthening their processes within themselves, supply chain organizations must now connect[34];[35].

VII. BLOCKCHAIN TECHNOLOGY

There are many articles about how blockchain and other related technologies are changing our way of life. Many claims that technology radically transforms business while others [13] expect that emerging innovations just simplify organizational improvements and marketing exchanges [33];[34]; [35]. More specifically, we use the following definition. In essence, blockchain technology is a concept that encompasses all types of technology used to produce, imprison, function, connect, share, contemporary, and use information in its various types [17].

7.1 Literature Review

An assessment of the current literature reveals an abundance of blockchain papers in SCM. This literature studies is comprehensive and well describe. Popular terms for blockchain-based logistics models are more advanced logistics chain [15].

VIII. THE RELATIONSHIP BETWEEN BLOCKCHAIN AND SCM

In overall, blockchain in SCM allows high chances, fluctuating from straight functioning assistances to tactical benefit in logistic industry. Blockchain strategic market opportunities are new technology in logistic sectors. Also, [19] support of blockchain modifying manufacturing constructions and competition rules creating competitive advantage and creating new commercial prospects for companies. In the context of the logistics supply chain,[9] outlined that blockchain is critical in associated companies, generating expected benefits by allowing central tactical development with unified processes[39]. A communal opinion is that blockchain has a thoughtful effect on supply chains [20]. One group of academics argues that supply chains become more market-oriented due to blockchain traceability. Miraz et al. (2020) [21] said that blockchain SCM introduces initiate lower-cost by choosing from a more comprehensive supplier base [38].

Blockchain's utmost distinctive function in SCM is to decrease resistance in supply chain partners' transactions

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via real client data flow[39]. Likewise, blockchain is seen more prominently in promoting the coordination and organization of supply chains by knowledge delivery. Second, blockchain can be used to provide decision support to any logistics system. In this situation, blockchain's analytical capacity is used to assist managerial decisions for transport logistics supply chain[41];[42]. Such original linkages spectacularly alter market ecology and can make or break existing companies in a centralized and traceable system. Accepting blockchain across the logistics chain has become a primary strategy for the logistics supply chain in the logistics industry [5].

IX. Discussion

The blockchain has a new, lucrative outlet where logistic companies manage their services. New blockchain-based logistic chain procedures address this new channel's trials [40]. For example, after obsolete distributed networks, the order fulfillment process requires different activities [37-42].

A. Compliance and accessibility

Transparency is blockchains' most essential and vital benefit. Blockchains can help avoid corporate silos within existing supply chain parts and improve supply chain logistic [41]. I also help C-level executives to understand how to make the supply chain more efficient and productive.

B. Better Order and Asset Tracing

Tracking design use to format document and smart contracts. It also carries the most precise contractual information for both parties. Finally, it helps to Andover the relationship form both companies worldwide [42].

C. Auditing of Payment

Processing and auditing errors minimize by the blockchain auditing on logistic. Also, blockchain technology can make these mistakes simpler by providing a finite paper trail to isolate where the problem occurred [44]. Therefore, the organization should test blockchain systems that have been adopted and make changes to prevent the issue from reoccurring [43].

D. Identify Preliminary Fraud

Even the most scrutinizing audits will miss mountain fraud indicators. Nevertheless, blockchain technology allows today's supply chain companies to detect alleged fraud more quickly [23-27]. For example, an employee entering the system to alter past events without knowing stakeholders is impossible [45]. This will allow companies to identify the deception and who initiated the change almost immediately. However, blockchain technology isn't patch-based, making it safer than many of today's cyber security programs [27-31].

E. Great Trust by Consumers

When a customer understands where a commodity comes from, they are more likely to establish a trusting relationship with a particular supply chain organization [50]. However, this faith extends beyond the experience of the supplier. It will show whether a company offers its drivers reasonable expectations and more [46].

F. Advantages of Blockchain

The aids of blockchain tech likewise contain in what way consumers react to goods. As instance, a consumer could try to booked future order on automated generate a wish list of a defined rate after purchasing goods items produced from a given farm [47]. This feedback will also link to supplier and producer details, which will help the supply chain, generate more reliable real-time forecasts [49].

G. Better Scalability

Simply a compounding advantage of real-time feedback through blockchain. It is imperative to denote how blockchain technology renders supply chain components scalable [32-37]. That is to say, blockchain technology used to detect possible trends and enable a business strategy to create a proper logistics chain [48].

X. Data Collection

A total number of 512 logistic consumers was collected to get the desired response. A total of 89 respondents did not take part in the survey and did not return their questionnaires. Therefore, the responses rate is 82% percent.

XI. Analysis Tools

SPSS for pilot test and PLS software for data analysis.

XII. Result

The assessment of measurement model depends on several criteria. These criteria assess reflective

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measurement model's reliability and validity. These criteria include:

Indicator / Individual item Reliability, <0.3 &>0.6. AVE values of were 0.60.

Internal consistency reliability, <0.6

Discriminate Validity, influence of blockchain on supply chain logistic= 0.6722, 0.637

VIF, Blockchain= 1.21, 1.41.

XIII. CONCLUSION

The conventional way SC has reformed intensely over the last ten years. The basic tools of supply chain managers were face-to-face supervision, manual control systems, and paper-dominated order processing and wired communication connections. However, nowadays, they remain outdated. This study provided an overview of several emerging technologies, including blockchain, online internet markets and extranet, addressed in this subject. Blockchain and digitization impacts on logistics and supply chain management have been identified. In the end, this research researched various processes and aspects of blockchain and accomplished it cooler to see how this feature integrated into the logistic supply chain. This distinct issue gave logistic managers ideas about how to use blockchain to control their logistic chain processes adequately. Additionally, the World Academy of Science, Engineering discloses the growth has obtainable logistic chains with many significant opportunities to reduce costs and boost facilities of the logistic industry. Moreover, it resolved that logistic industry tracking and traceability for better performance nation and worldwide

Table A1 Measurement Items.

Variables	**Items**	**Adapted from**
Performance Expectancy	I am really satisfying for blockchain performance	Venkatesh et al. (2012), Miraz et al. (2020)
	Blockchain provides a high level of service quality	Miraz et al. (2020)
	Blockchain performance is very much efficient in retail market	
Effort Expectancy	Organization has sufficientfacilty to effort blockchain technology	
	Organizatio has effordibilityto use new technology	
	Organization is ready to use blockchain based logistic chain	
Facilitating Condition	The organization is well constructed for blockchain	Venkatesh et al. (2012).
	I have necessary facility to use blockchain based logistic supply chain.	Miraz et al. (2020)
	Organization provides assistance on utilseof blockchain based logistic.	
Blockchain Adoption	I believe consumer need proper blockchain adoption	Venkatesh et al. (2012), Miraz et al. (2020)
	Consumer needs proper blockchain knowledge	
	User manual for enhance the productivity of blockchain adoption	
	Blockchain adoption need user guideline	
	Organizations stakeholder need proper adaptability on blockchain adoption	
Performance Expectancy	I am really satisfying for blockchain performance	Venkatesh et al. (2012), Miraz et al. (2020)
	Blockchain provides a high level of service quality	
	Blockchain performance is very much efficient in retail market	
Behavior Attiture	I trust in e-Logistics in Malaysia.	
	I depend on blockchain based logistic.	
	I do not doubt the blockchain based logistic.	
	Even if not monitored, I would trust blockchain based logistic to do the job right.	
	Blockchain based logistic can fulfil its task.	
Blockchain	I believe blockchain-enabled traceability in logistic supply chain.	Venkatesh et al. (2012),

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Traceability		Miraz et al. (2020)
	I believe SC stakeholders will provide me with in-depth access to how blockchain enabled traceability supply chain.	
	I believe supply chain stakeholders will provide me with in-depth knowledge about applications of blockchain in traceable supply chain.	
	I believe I will have opportunities to provide feedback on blockchain-enabled traceable supply chain applications	
Blockchain Adoption	I believe the logistics supply chain need proper blockchain adoption	Venkatesh et al. (2012), Miraz et al. (2020)
	logistic supply chain performance needs proper blockchain knowledge	
	User manual to enhance the productivity of logistics supply chain	
	Logistic supply chain management need user guideline	
	Organisations stakeholder need proper adaptability on blockchain adoption	
Blockchain-Based logistic chain	I believe the logistics supply chain need proper blockchain integration	Venkatesh et al. (2012), Miraz et al. (2020)
	Logistic supply chain performance needs proper blockchain knowledge	
	Blockchain enhances the productivity of logistics supply chain	
	Blockchain need user guideline	
	Organisations stakeholder need proper adaptability on blockchain based logistic	

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XV. REFERENCES

1. Alketbi, A., Nasir, Q., Talib, M.A. (2018). Blockchain for government services-Use cases, security benefits and challenges, 15th Learning and Technology Conference, L and T 2018, pp. 112-119
2. Bocek, T., Rodrigues, B.B., Strasser, T., Stiller, B. (2017). Blockchains everywhere - A use-case of Blockchains in the pharma supply-chain, Proceedings of the IM 2017 - 2017 IFIP/IEEE International Symposium on Integrated Network and Service Management, pp. 772-777
3. Chan, T.K.H., Cheung, C.M.K., Shi, N. & Lee, M.K.O. (2015). "Gender differences in satisfaction with Facebook users", Industrial Management & Data Systems, Vol. 115 No. 1, pp. 182 -206
4. Claes, V., Devriendt, E., Tournoy, J. &Milisen, K. (2015). "Attitudes and perceptions of adultsof 60 years and older towards in-home monitoring of the activities of daily living with contactless sensors: An explorative study", International Journal of Nursing Studies, Vol. 52 No. 1, pp. 134-148
5. Dinev, T., Xu, H., Smith, J.H. & Hart, P. (2013). "Information privacy and correlates: an empirical attempt to bridge and distinguish privacy-related concepts", European Journalof Information Systems, Vol. 22, pp. 295–316
6. Hye, A. K. M., Miraz, M. H., Sharif, K. I. M., & Hassan, M. G. (2020). Factors Affecting on E-Logistic : Mediating Role of ICT & Technology Integration in Retail Supply Chain in Malaysia, 82, 3234–3243.
7. Mahadi, H. M., Habib, M. M., & Saleheen, F. (2017). ICT-Based Business Initiatives for Women: An Outline of Best Practices in E-Commerce/E-Retailing Ventures. Frontiers in Management Research, 1(1), 31–36. https://doi.org/10.22606/fmr.2017.11005
8. Miraz, M. H., Ahmed, S., & Chowdhury, A.

May – June 2020
ISSN: 0193-4120 Page No. 8603 - 8612

H. M. Y. (2017). SCM and sustainability: Adjourning incorporation in majoritystudy. In 1st International Conference on Business & Management (ICBM 2017) (pp. 221–226).

9. Miraz, M. H., Habib, md M., & Molla, M. S. (2016). An Overview of Information Technology Tools Implementation in Supply Chain Management. IETI Transactions on Computers, 2(2), 110–117. Retrieved from http://www.ieti.net/tc
10. Miraz, M. H., & Habib, M. M. (2016). ICT Adoption in Small and Medium Enterprises: An Empirical Evidence of Service Sectors in Bangladesh. Journal of Economics, Business and Management, 4(8), 482–485. https://doi.org/10.18178/joebm.2016.4.8.439
11. Miraz, M. H., Habib, M. M., Molla, M. S., & Majumder, M. I. (2016). Supply Chain Management and ICT on Automotive Industry in Bangladesh. IETI Transactions on Business and Management Sciences, 1(2), 56–66.
12. Miraz, M. H., Hassan, M. G., & Sharif, K. I. M. (2020). Factors affecting implementation of blockchain in retail market in Malaysia. International Journal of Supply Chain Management, 9(1), 385–391.
13. Miraz, M. H., Hye, A. K. M., Alkurtehe, K. A. M., Alsabahi, M. A., Habib, M. M., Wahab, M. K., & Habib, M. M. (2020). Blockchain Securities to Construct Inclusive, Digital Economy Globally. International Supply Chain Technology Journal, 06(01). https://doi.org/10.20545/isctj/v06.i01.03
14. Miraz, M. H., Hye, A. K. M., Alkurtehe, K. A. M., Habib, M. M., Ahmed, M. S., & Hasan, M. T. (2020). The Effect of Blockchain in Transportation Malaysia. International Supply Chain Technology Journal, 06(01). https://doi.org/10.20545/isctj/v06.i01.02
15. Hu, M., Huang, F., Hou, H., Chen, Y., &Bulysheva, L. (2016). Customized logistics service and online shoppers' satisfaction: an empirical study. Internet Research, 26(2), 484-497
16. Imran, M., Aziz, A.B., Hamid, S. N. B. A., & Hameed, W. U. (2019). The contributing factors towards e-logistic customer satisfaction: a mediating role of information Technology. Uncertain Supply Chain Management, 7(1)
17. Kidane, T. T., & Sharma, R. R. K. (2016). Factors Affecting Consumers' purchasing Decision through ECommerce. Proceedings of the 2016 International Conference on Industrial Engineering and Operations Management Kuala Lumpur, Malaysia, March 8-10, 2016, 159-165
18. Imran, M., Hamid, S., Aziz, A., & Hameed, W. (2019). The contributing factors towards e-logistic customer satisfaction: a mediating role of information Technology. Uncertain Supply Chain Management, 7(1), 63-72
19. Miraz, M. H., Hye, A. K. M., & Habib, M. M. (2019). The impact of Blockchain-bitcoin in Malaysian markets. International Journal of Supply Chain Management, 8(5), 135–141.
20. Miraz, M. H., Hye, A. K. M., Wahab, M. K., Alkurtehe, K. A. M., Majumder, M. I., Habib, M. M., & Alsabahi, M. A. (2020). Electronics Product Promotion and SCM, Contemporary Research on Bangladesh. International Supply Chain Technology Journal, 06(01). https://doi.org/10.20545/isctj/v06.i01.01
21. Miraz, M. H., Kabir, A., Habib, M. M., & ahm. (2019). Securities on Blockchain in Order to Engage with Blockchain Technologies to Build a Comprehensive , Apparent and Liable Digital Economy World Wide ISBN 978-984-344-3540, (May), 584–588.
22. Miraz, M. H., Kabir, A., Habib, M. M., & Alam, M. M. (2019). Blockchain Technology in Transport Industries: A Case Study in Malaysia. In 2nd International Conference on Business and Management (pp. 341–344).
23. Miraz, M. H., Majumder, M. I., Chowdhury, Y., & Habib, M. M. (2018). A Study on Sustainable Supply Chain Governance for Successful Investment. International Supply Chain Technology Journal, 04(06). https://doi.org/10.20545/isctj.v4i06.167
24. Miraz, M. H., Majumder, M. I., & Habib, M.

May – June 2020
ISSN: 0193-4120 Page No. 8603 - 8612

M. (2017). The Influence of IT and Learning on Organizational Performance in Small Industries. Frontiers in Management Research, 1(1), 5–11. https://doi.org/10.22606/fmr.2017.11002

25. Miraz, M. H., Ramli, R., KuMahamud, K. R., Albarune, A. R. B., & Islam, F. (2015). A Study on Homestay Malaysia: ICT Applications. Proceedings of International Conference on Networking and Computer Application, (February 2019), 30–37.
26. Mao, D., Wang, F., Hao, Z., Li, H. (2018). Credit Evaluation System Based on Blockchain for Multiple Stakeholders in the Food Supply Chain. Int. J. Environ. Res. Public Health 15, paper no. 1627
27. Nakasumi, M. (2017). Information sharing for supply chain management based on Blockchain technology, Proceedings of the 2017 IEEE 19th Conference on Business Informatics (CBI), pp. 140–149
28. Miraz, M. H., Saleheen, F., & Habib, M. M. (2017). Assessing SCM: A Procedure Based on a Theoretical Model Academic Supply Chain Management View project, 297–301. Retrieved from https://www.researchgate.net/publication/323166905
29. Maillet, É., Mathieu, L. &Sicotte, C. (2015). "Modeling factors explaining the acceptance, actual use and satisfaction of nurses using an Electronic Patient Record in acute care settings: an extension of the UTAUT", International Journal of Medical Informatics, Vol.84 No. 1, pp. 36-47
30. Miraz, M. H., Saleheen, F., Khan, S. manzur H., & Rahman, M. (2016). ICT Integration in Management for Public Educational Institutions in Bangladesh. Open Journal of Advances in Business & Management, 1(1), 23–30.
31. Miraz, M. H., Saleheen, F., & Rahman, M. (2016). Supply chain management in service quality. In Proceedings of the International Conference on Industrial Engineering and Operations Management (pp. 2097–2105).
32. Miraz, M. H., Sharif, K. I. M., & Hassan, M. G. (2020). Trust Impact on Blockchain & Bitcoin Monetary Transaction. Journal of Advanced Research in Dynamical and Control Systems, 12(03), 155–162. https://doi.org/10.5373/jardcs/v12sp3/20201249
33. Miraz, M. H., Sharif, K. I. M., Hassan, M. G., & Hasan, M. T. (2020). Factors Affecting e-logistics in Malaysia: The Mediating Role of Trust. Journal of Advanced Research in Dynamical and Control Systems, 12(SP3), 111–120. https://doi.org/10.5373/jardcs/v12sp3/20201244
34. Sharma, S. and Crossler, R.E. (2014). "Disclosing too much? situational factors affecting information disclosure in social commerce environment", Electronic Commerce Researchand Applications, Vol. 13 No. 5, pp. 305-319
35. Caro, M.P., Ali, M.S., Vecchio, M., Giaffreda, R. (2018). Blockchainbased traceability in Agri-Food supply chain management: A practical implementation, in IoT Vertical and Topical Summit on Agriculture - Tuscany, IOT, pp. 1-4
36. Casado-Vara, R., González-Briones, A., Prieto, J., Corchado, J.M. (2019). Smart Contract for Monitoring and Control of Logistics Activities: Pharmaceutical Utilities Case Study, in Advances in Intelligent Systems and Computing, 771, pp. 509-517
37. Crainic, T.G., Perboli, G., Rosano, M. (2018). Simulation of intermodal freight transportation systems: A taxonomy European Journal of Operational Research, 270(2), pp. 401-418. DOI: 10.1016/j.ejor.2017.11.061
38. Ciccio, C., Cecconi, A., Mendling, J., Felix, D., Haas, D., Lilek, D., Riel, F., Rumpl, A., Uhlig, P. (2018). Blockchain-based Traceability of Inter-organisational Business Processes, in Lecture Notes in Business Information Processing, 319, pp. 56-68
39. Gatteschi, V., Lamberti, F., Demartini, C., Pranteda, C., Santamaría, V. (2018b). To Blockchain or Not to Blockchain: That Is the Question, in IT Professional, 20(2), pp. 62-74
40. Guerreiro, S., van Kervel, S.J., Babkin, E.

May – June 2020
ISSN: 0193-4120 Page No. 8603 - 8612

(2013). Towards devising an architectural framework for Enterprise Operating Systems. Proceedings of the 8th ICSOFT-PT 2013, pp. 578-585

41. Korpela, K., Hallikas, J., Dahlberg T. (2017) Digital Supply Chain Transformation toward Blockchain Integration. Proceedings of the 50th Hawaii International Conference on System Science , pp. 4182-4191
42. Leng, K., Bi, Y., Jing, L., Fu, H.-C., Van Nieuwenhuyse, I. (2018) Research on agricultural supply chain system with double chain architecture based on Blockchain technology. Future Generation Computer Systems, 86, pp. 641-649
43. Lu, Q., Xu, X (2018). Adaptable Blockchain-Based Systems: A Case Study for Product Traceability. IEEE Software, 34 (6), art. no. 8106871, pp. 21-27
44. Nicoletti, L., Margheri, A., Lombardi, F., Sassone, V., Schiavo, F.P. (2018). Cross-cloud management of sensitive data via Blockchain: A payslip calculation use case, CEUR Workshop Proceedings, 2058.
45. Pan, S., Ballot, E., Huang, G.Q., Montreuil, B. (2017). Physical Internet and interconnected logistics services: research and applications, International Journal of Production Research, 55 (9), pp. 2603-2609
46. France Perboli, G., Musso, S., Rosano, M., Tadei, R., Moritz, G. (2017). Synchro-Modality and Slow Steaming: New Business Perspectives in Freight Transportation. Sustainability, 9, 1843
47. Perboli, G., Rosano. (2018). Decision support system for optimizing the last-mile by mixing traditional and green logistics. In: Temponi C., Vandaele N. (eds) Information Systems, Logistics, and Supply Chain. ILS 2016. Lecture Notes in Business Information Processing, vol 262
48. Porto, Portugal Taniguchi, E., Thompson, R.G., Yamada, T. (2016). New Opportunities and Challenges for City Logistics. Transportation Research Procedia, 12, pp. 5-13
49. Saleheen, F., Miraz, M. H., Habib, M. M., & Hanafi, Z. (2014). Challenges of warehouse operations: A case study in retail supermarket. International Journal of Supply Chain Management, 3(4), 63–67.
50. Venkatesh, V., Thong, J.Y.L. & Xu, X. (2012). "Consumer acceptance and use of informationtechnology: extending the unified theory of acceptance and use of technology", MIS Quarterly, Vol. 36 No. 1, pp. 157-178
51. Wang, T., Jung, C.H., Kang, M.H. and Chung, Y.S. (2014). "Exploring determinants of adoptionintentions towards Enterprise 2.0 applications: an empirical study", Behaviour&InformationTechnology, Vol. 33 No. 10, pp. 1048-1064
52. Weber I., Xu X., Riveret R., Governatori G., Ponomarev A., Mendling J. (2016). Untrusted Business Process Monitoring and Execution Using Blockchain, Lecture Notes in Computer Science, 9850, pp. 329-347
53. Chavan, Amrita B., and K. Rajeswari. "The design and developement of decentralized digilocker using blockchain." International Journal of Computer Science Engineering and Information Technology Research (IJCSEITR) 9.2 (2019):29-36
54. Garg, Niharika. "Are smart phones really smart in supply chain and logistics?." (2013). International Journal of Business and General Management (IJBGM) 2.1 (2013):1-6
55. Sathish, T., and J. Jayaprakash. "Optimizing supply chain in reverse logistics." International Journal of Mechanical and Production Engineering Research and Development (IJMPERD) 7.6 (2017): 551-560.
56. Akrofi, Thomas, and Ernest Ansah. "Impact of multimodal choice on any organisation's sustainable supply chain strategies." International Journal of Business Management & Research (IJBMR) 7.6 (2017):11-20
57. Kiran, R., and Sd Sivakumar. "A scale to measure the attitude of farmers towards vegetable supply chain management." International Journal of Educational Science and Research (IJESR) 7.6 (2017):81-88
58. Nartey, Emelia Dede, and Theophilus Kofi Anyanful. "Integration into supply chain

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networks in manufacturing firms in ghana: the effect of challenges." International Journal of Business Management & Research (IJBMR) 5.1 (2015):23-32

59. Nartey, Emelia Dede, And Theophilus Kofi Anyanful. "The challenges of integrating into supply chain networks: the case of ghanaian manufacturing firms." International Journal of Retail Management and Research (IJRMR) 5.1 (2015):17-28