DOI: https://doi.org/10.18371/fp.1(45).2022.100110

JEL Classification M29, O33

BLOCKCHAIN LOGISTICS IN PROVIDING FINANCIAL AND ECONOMIC SUSTAINABILITY OF THE ENTERPRISE

KHARCHENKO Anatoliy

PhD in Economics, Associate Professor, Department of Finance and Accounting, Cherkasy Institute of the Banking University ORCID ID: https://orcid.org/0000-0002-5832-7714

LAKUTIN Dimitriy

student,
Department of Finance and Accounting,
Cherkasy Institute of the Banking University

Abstract. The article explores the use of blockchain technology, in particular in the process of organizing supply chains, which are based on smart contracts, highlighting their properties. The risks and their consequences, the probabilities and forces of influence on the financial and economic stability of the enterprise during the implementation blockchain logistics are identified. Weaknesses and strengths, opportunities and threats of the feasibility of introducing blockchain technology for PrJSC«AZOT» based on a SWOT-analysis are revealed.

Keywords: blockchain, blockchain technology, blockchain logistics, financial and economic sustainability of an enterprise.

The modern field of implementation of blockchain technologies is quite wide. Enterprises of the real sector of the economy, implementing them, expect significant effects, including in logistics process management.

In this article, the authors aimed to explore the prerequisites for the introduction of blockchain logistics to increase the financial stability of the chemical industry, using the innovative potential of modern digital technologies.

The introduction of blockchain technology in the supply of raw

materials, production, quality control, market research opens up opportunities for Ukrainian industrial enterprises, namely: improved visibility supply chains. innovation of production, new revenue models, better data integrity, reduced diversity of data errors. And the logistics system, built on the basis of blockchain technology is a powerful tool in managing enterprise's financial and economic processes, which due to transparent, independent and by cryptographic protected public register provides the ability to



track the movement of goods at all stages of the supply route.

In addition to solving specific problems of logistics as an integral part of the enterprise, blockchain technology also has a set of immediate benefits: removal from the logistics chain, in fact, unnecessary intermediaries; reduction of workflow; ensuring reliable protection of information; reducing the number of errors in the delivery process; fraud prevention.

The authors proposed a simplified system of delivery of goods using a blockchain, using two chains (ordering and information processing), which is implemented using smart contracts based on blockchain, which consider programs that provide implication, and blockchain makes it possible to execute such contracts without external intervention.

The use of blockchain in logistics and smart contracts, in particular, has many advantages over conventional paper contracts. But no matter how advanced the technology, there are always risks associated with the vulnerability of IT systems, as well as the human factor (lack of data, time constraints, etc.).

The article also assesses the probability of risks and the strength of their impact on the financial economic stability of the enterprise, made their graphic representation in the of "risk map". form a

References

- 1. Chervanov, D.M. (1999). Menedzhment innovatsiinoho rozvytku pidpryiemstv Ukrainy [Management of innovative development of Ukrainian enterprises]. K.: Znannia, KOO. [in Ukrainian]
- 2. Blokchein y lohystyka [Blockchain and logistics]. golos.io. Retrieved from: https://golos.io/@akela/blokchein-i-logistika. [in Russian]
- 3. Mokliak, M. V. (2018). Tekhnolohiia blockchain v lohistychnii systemi pidpryiemstva [Blockchain technology in the logistics system of the enterprise]. *Pryazovskyi ekonomichnyi visnyk Priazovsky Economic Bulletin*, 1, 66-68. [in Ukrainian]
- 4. Smart kontrakty yak innovatsiinyi pravovyi instrument [Smart contracts as an innovative legal tool]. businesslaw.org.ua. Retrieved from: https://www.businesslaw.org.ua/smatr-contracts-as-a-legal-innovative-tool/. [in Ukrainian]
- 5. Lisnichuk, O.A. & Nesterchuk, T.A. (2018). Metodychni pidkhody do otsiniuvannia finansovoi stiikosti pidpryiemstva [Methodical approaches to assessing the financial stability of the enterprise]. *Ekonomika ta suspilstvo Economy and society*, 18, 454-462. [in Ukrainian]
- 6. Yevtushenko, S.O. (2001). Orhanizatsiino-ekonomichni faktory pidvyshchennia investytsiinoi pryvablyvosti promyslovykh pidpryiemstv [Organizational and economic factors to increase the investment attractiveness of industrial enterprises]. Extended abstract of Doctor's thesis. Kharkiv. [in Ukrainian]
- 7. Melen, O.V. & Stryhul, L.S. (2014). Innovatsiini ta investytsiini protsesy na promyslovykh pidpryiemstvakh Ukrainy: suchasnyi stan i peredumovy rozvytku [Innovation and investment processes at industrial enterprises of Ukraine: current state

and preconditions of development]. Kharkiv: TOV «Shchedrasadybaplius». [in Ukrainian]

- 8. Blank, Y.A. (1995). *Investytsyonnii menedzhment [Investment management]*. Kyiv: MP «YTEM» LTD, «YunaitedLondonLymyted». [in Russian]
- 9. Korporatyvnyi portal PrAT «AZOT» [Corporate portal of PJSC "AZOT"]. Retrieved from: http://azot.ck.ua/.[in Ukrainian]
- 10. Hackius, N. & Petersen M. (2017). Digitalizationin Supply Chain Management and Logistics: Blockchain in Logistics and Supply Chain: TrickorTreat. Hamburg: InternationalConferenceofLogistics.

 p. 5-6.

