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BLOCKCHAIN CHANGING THE CURRENT FINANCIAL ENVIRONMENT

Dr. Varsha Agarwal,

Assistant Professor,

Centre for Management Studies Jain (Deemed-to-be-university), India

Email Id: varsha_a@cms.ac.in

Contact no.: 9916053000

Simran Imran Sharieff

Student, BBA,

Centre for Management Studies Jain (Deemed-to-be-university), India

Email Id: Simran_is2018@cms.ac.in,

Contact no.: 9900580473

Kashish Rajesh Oswal

Student, BBA,

Centre for Management Studies Jain (Deemed-to-be-university), India

Email Id: kashish_r2019@cms.ac.in,

Contact no.: 7026547880

Vinay P Choudhary

Student, BBA,

Centre for Management Studies Jain (Deemed-to-be-university), India

Email Id: vinay_pc2019@cms.ac.in,

Contact no.: 9986608089

Deepak Choudhary

Student, BBA,

Centre for Management Studies Jain (Deemed-to-be-university), India

Email Id: deepakchoudhary_2019@cms.ac.in

Contact no.: 7349085056

Abstract

The main focus of this research remains on analysing the merits and limitations of Blockchain Technology in the financial sectors. Furthermore, it has focused on creating a Blockchain-based Framework for successful financial Transaction.

The research is a positivism philosophy based Inductive research that has focused on creating research aims and objectives, and is focused on analysing those objectives through discussing existing pieces of literature. Furthermore, the research will focus on being descriptive throughout the whole research. The secondary data collection of the research will collect the current scenario of the topic-based discussion. Furthermore, the qualitative analysis of these secondary data will be done for determining the success of the research.

The research will try to evaluate its success by reaching all its objectives. The researcher has already undergone almost ten previous articles, and journals for creating a pattern from the existing Data related to the topic. Now, it will focus on finding out the most suitable Blockchain Technology in creating competency of the financial transactions. Furthermore, the research has focused on providing enhancement of the knowledge related to the advancement of Blockchain Implementation in financial sectors. The research helps in enhancing the periphery of drawbacks, and barriers of implementing Blockchain Technology in the finance sector.

Keywords: Blockchain Technology, Fog Computing, Plasma Technology, Distributed Ledger Technology

Introduction

Blockchain technology is a new Supply Chain and Inventory Management Technology that is used in the global business sector. This is an Information Recording system and this works in such a manner that enhances the security of the information. It is largely impossible to modify, decipher, and steal from a Blockchain system. Blockchain is a digital transaction directory that ensures duplication, as well as distribution of the information within the whole computer system network on the blockchain.

Blockchain technology usage within the financial sector is increasing day by day. The system establishes a decentralized payment ledger like Bitcoin, and by enabling it, faster payment at lower fees than banking transactions can take place (Grover*et al.* 2019). These fast, and transparent transactions require a Combined approach of enabling Blockchain-induced Management of Inventories and supply chain where the company and all its stakeholders are included. This research mainly focuses on the analysis of Blockchain utility in

the modern financial environment. The main aim of this research is to find out the significance of using Blockchain technology in the global business and finance sectors. The research has established some important objectives like:

- To analyse the benefits of using Blockchain Technology in the financial sector
- To discuss the barriers of Blockchain Technology implementation in the financial works
- To find out the significance and demerits of possible implementation strategies of Blockchain Technology
- To recommend the most suitable strategy for Blockchain Implementation

Review of Literature

Author	Title of the Study	Methodology	Result (Summary)
Jutila, (2017)	"The blockchain technology and its applications in the financial sector"	Positivism Philosophy with an Inductive Research Process is used and the Design is Exploratory. The Data Collection is Secondary, while Qualitative Analysis is done.	Blockchain technology is able to enhance the efficiency and transparency of a transaction. It also reduces the risk when the less asset-based transaction takes place.
Knezevic, (2018)	"Impact of blockchain technology platform in changing the financial sector and other industries"	Positivism Philosophy-based research with an Inductive research Approach mainly focuses on Exploratory Design. Collected Primary Data are analysed in a Quantitative Method.	Blockchain Technology already has an important impact within the financial, and business sectors. In four main scenarios like Political, Financial, Economic, and Technological, this technology has a profound impact and is tending to change the direction of these four sectors within the next five to ten years.
Collomb&Sok, (2016)	"Blockchain/distributed ledger technology (DLT): What impact on the financial sector?"	Pragmatism Philosophy and Deductive Approach have been used within this research. The research has an Exploratory Design and has focused on Secondary Data collection to analyse those data using a Qualitative Method.	Blockchain Technology enhances Distributed Ledger Technology usage within the financial sector. The post0trade infrastructure within different financial sectors helps DLT in implementing a Decentralized Capital Market Building.

Natarajan, Krause, & Gradstein, (2017)	"Distributed ledger technology and blockchain"	Positivism Philosophy, as well as Inductive Research Approach, is used in this study for creating a descriptive Research Design. The research focuses on Qualitative Analysis of Secondary Data present in different Articles, and Journals.	The DLT implementation within a business sector helps in structuring the solutions to develop the competency of the transactions. It also helps in creating institutional neutrality in the private finance sectors.
Tijan*et al.* (2019)	"Blockchain technology implementation in logistics"	This research is also another Positivist, Inductive Research with an exploratory design that has focused on analysing different Secondary Data Qualitatively.	The Decentralized Data Storage-based Blockchain Technology helps in generating sustainable logistics, and Supply Chain Management. Moreover, order delay decrease, goods damaging, dynamic Data entry, and errors can be reduced with DLT.
Gupta, Sinha, &Bhushan, (2020)	"Emergence of blockchain technology: Fundamentals, working and its various implementations"	This inductive research article has focused on positivist research philosophy to design the exploratory research method. The researchers have collected different secondary Data to analyse them in a Qualitative Manner to gain a successful research result.	The layered Blockchain helps in clustering the whole transaction in different little blocks. After the authentication, the initial block is created, and the interconnection between different blocks results in successful peer-to-peer network generation.
Lamb, (2018)	"Blockchain and Smart Contracts: What the AEC sector needs to know"	This research is a pragmatic one that has the deductive research approach and descriptive research design. Both Primary and Secondary Qualitative Data analyses are done in this research.	Blockchain Technology is still not mature enough to be implemented in the different large-scale financial business sectors, and needs properly skilled employees, and systems with proper specifications for successful implementation.
Gatteschi*et al.* (2018)	"Blockchain and smart contracts for insurance: Is the technology mature enough?"	This study has a positivism philosophy within it and has focused on inductive research approach generation for conducting this Exploratory research. Different secondary data from previous pieces of literature have been analysed in Quantitative	This research says that Blockchain technology is still in the initial phase. The hype cycle spectrum of Blockchain Technology focuses on the active participation of all industries, and the insurers in the successful Blockchain Transaction generation.

		and Qualitative Manner for this research.	
Varma, (2019)	"Blockchain in finance"	This inductive research has undergone a Positivist philosophy, and the design is descriptive. The secondary data are collected for successful analysis in a Qualitative Manner.	The successful Blockchain implementation within the business and financial sector helps in generating Smart Contract. The smart contract helps in combining the user interface for formalizing and secure computer network relationships.
Alexopoulos*et al.* (2019)	"Benefits and obstacles of blockchain applications in e-government"	This research is a positivist philosophy, and Inductive approach based on exploratory research that has conducted different qualitative, and quantitative analyses of the secondary data.	The creation of cryptocurrency is the most significant application of Blockchain Technologies. The Pilot applications in the government-based business initiatives of Blockchain Technology are increasing day by day.

Methodology

Every research process includes different philosophies, approaches, as well as research designs that help a researcher in successful research completion. The research approach of this research is the inductive approach and positivism research paradigm are used in this research. In that case, the inductive research approach is the method of research approach and it does not have proper proof about the information that is true or not. As per the view of Ditlmann and Kopf-Beck(2019), in this process, observation is the major way to collect data and theories are used to align the information. In this case, an inductive approach is suitable and through this research approach, the study is increased information of the financial environment.

It focuses on finding out the necessary information and the drawbacks that have been mentioned within the existing pieces of literature. The inductive approach has helped the researcher in creating the problem statement, and research objectives at the beginning of the research (Snyder, 2019). Now the researcher will be able to conduct the necessary data analysis for achieving these objectives. On the other hand, the descriptive research design will focus on a detailed discussion about the existing information, and newly connected information too.

This research process will conduct a secondary data collection where it will focus on collecting the necessary data from the existing pieces of literature, including the articles, and journals.On the contrary, the researcher

will conduct a qualitative, as well as quantitative data analysis for recommending the most suitable Blockchain implementation Strategy within the financial sectors. Furthermore, the research will focus on enhancing the significance of the Blockchain in those services where financial Transactions are needed (Mohajan, 2018). On the other hand, this research will focus on analysing the different barriers of Blockchain Implementation and reducing those.

Data collection and analysis

This study would focus on ***primary quantitative data*** through using the questionnaire form. ***Primary quantitative data collection method*** is the method of data collection where the numerical data is collected through a survey method. In the survey method, 2 demographic questions will be selected and 8 numbers of 5 point likert scale questions would be made. Survey method will be used to get quantitative information about the blockchain's changing financial environment. Online survey method will be used in this research report. Through making a Google form, the survey questionnaire will be provided to others to get the answers. For the survey method, a simple random sampling method will be used in this research report. As per the view of Ismail, Kawnal and Shahbaz(2018), a ***simple random sampling method*** is the method of selecting people for the survey method. In that case, the ***Google form*** will be distributed through ***Gmail*** to others to get information.

Figure 1: Survey method of data collection

(Source: Questionpro, 2021)

On the other hand, a ***secondary data collection method*** will be used to get information of blockchain changing the current financial environment. According to the view of Dufourand Richard (2019), s***econdary qualitative data*** will be collected from journals, websites, books, pdfs, and Google scholar. In addition, newspaper articles, company websites, and other sources are used to collect data on the financial environment. All the information will be collected from 2017 to 2021 and published in English. Through using some keywords, the research information will be collected such as the ***current government financial report***, ***blockchain changing the current financial environment***. In this research report, the mixed data collection method will be used to collect information of financial environment.

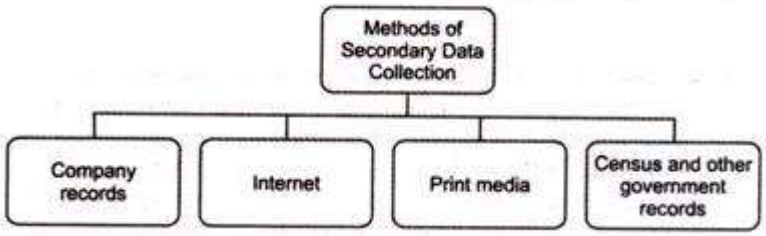

Figure 2: Secondary data collection methods

(Source: Economic discussions, 2021)

This research will be focusing on collecting secondary data or necessary information from different existing literature resources, and articles. The Secondary Data collected from these articles will be turned into themes based on the research objectives. This thematic analysis will help in creating the pattern of the growth of the topic-related field. The thematic analysis will be largely based on the following themes:

- Theme 1: Blockchain Technology has sheer significance in enhancing the business of financial sectors through LBT.
- Theme 2: Blockchain Technology faces different humanistic barriers in the implementation within the financial sectors.
- Theme 3: Different Blockchain Frameworks are gaining Popularity for securing the transactions and enhancing the initiation of usage of cryptocurrency.
- Theme 4: Plasma Technology and Fog computing help in the enhancement of the Transactional Competency.

Conclusion

The decentralized Database system Blockchain can be stored within numerous computer systems. The decentralized nature disables the modification or removal of any information or entity within the blockchain and helps in enhancing the security of the Blockchain. There remain different benefits of this technology, that has enabled its usage within the banking and financial sectors. The Blockchain enhances the speed of the transactions within a closed data system and data security. Furthermore, it is a cost-competent technology to be implemented within finance. The risk resolving technique of the Blockchain, and Data Accountability are two more competencies of this technology. This apart, blockchain is a decentralized and locked data chain, which helps in the reduction of frauds, and protection of personal information becomes easier. Moreover, its high transparency helps the banks in utilizing its benefits. This study will focus on enhancing the benefits of the Blockchain System in the global Financial Sector and will ensure the strategic implementation within the businesses.

References

Alexopoulos, C., Charalabidis, Y., Androutsopoulou, A., Loutsaris, M. A., &Lachana, Z. (2019).Benefits and obstacles of blockchain applications in e-government. Retrieved on 7th August, 2021, From: https://aisel.aisnet.org/hicss-52/dg/transformational_government/2/

Collomb, A., &Sok, K. (2016).Blockchain/distributed ledger technology (DLT): What impact on the financial sector?. *Digiworld Economic Journal*, (103). Retrieved on 7th August, 2021, From: https://www.academia.edu/download/50652048/DWEJ_103_COLLOMB_SOK.pdf

Ditlmann, R.K. and Kopf-Beck, J., 2019. The meaning of being German: An inductive approach to national identity. *Journal of Social and Political Psychology*, *7*(1), pp.423-447. Retrieved on 7th August, 2021, From: https://jspp.psychopen.eu/article/view/557

Dufour, I.F. and Richard, M.C., 2019. Theorizing from secondary qualitative data: A comparison of two data analysis methods. *Cogent Education*, *6*(1), p.1690265. Retrieved on 7th August, 2021, From: https://www.tandfonline.com/doi/abs/10.1080/2331186X.2019.1690265

Gatteschi, V., Lamberti, F., Demartini, C., Pranteda, C., &Santamaría, V. (2018). Blockchain and smart contracts for insurance: Is the technology mature enough?. *Future Internet*, *10*(2), 20. Retrieved on 7th August, 2021, From: https://www.mdpi.com/264948

Grover, P., Kar, A. K., Janssen, M., &Ilavarasan, P. V. (2019).Perceived usefulness, ease of use and user acceptance of blockchain technology for digital transactions–insights from user-generated content on Twitter. *Enterprise Information Systems*, *13*(6), 771-800. Retrieved on 7th August, 2021, From: https://www.tandfonline.com/doi/abs/10.1080/17517575.2019.1599446

Gupta, S., Sinha, S., &Bhushan, B. (2020, April). Emergence of blockchain technology: Fundamentals, working and its various implementations. In *Proceedings of the International Conference on Innovative Computing & Communications (ICICC)*. Retrieved on 7th August, 2021, From: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3569577

Ismail, M., Kawnal, N. and Shahbaz, M.Q., 2018.Generalized ratio-product-type estimator for variance using auxiliary information in simple random sampling. *Kuwait Journal of Science*, *45*(1). Retrieved on 7th August, 2021, from: https://journalskuwait.org/kjs/index.php/KJS/article/view/1727

Jutila, L. (2017). The blockchain technology and its applications in the financial sector. Retreived on 7th August, 2021, From: http://aaltodoc.aalto.fi/handle/123456789/27209

Knezevic, D. (2018). Impact of blockchain technology platform in changing the financial sector and other industries. *Montenegrin Journal of Economics*, *14*(1), 109-120. Retrieved on 7th August, 2021, From: http://www.mnje.com/sites/mnje.com/files/mnje_vol._14_no._1_-_komplet.pdf#page=109

Lamb, K. (2018). Blockchain and Smart Contracts: What the AEC sector needs to know. Retrieved on 7th August, 2021, From:

https://www.repository.cam.ac.uk/bitstream/handle/1810/278893/CDBB_REP_003_Lamb_Final.pdf

Mohajan, H. K. (2018). Qualitative research methodology in social sciences and related subjects. *Journal of Economic Development, Environment and People*, *7*(1), 23-48. Retrieved From: https://www.ceeol.com/search/article-detail?id=640546

Natarajan, H., Krause, S., & Gradstein, H. (2017). Distributed ledger technology and blockchain. Retrieved on 7th August, 2021, From: https://openknowledge.worldbank.org/handle/10986/29053

Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of business research*, *104*, 333-339. Retrieved on 7th August, 2021, From: https://www.sciencedirect.com/science/article/pii/S0148296319304564

Tijan, E., Aksentijević, S., Ivanić, K., &Jardas, M. (2019).Blockchain technology implementation in logistics. *Sustainability*, *11*(4), 1185. Retrieved on 7th August, 2021, From: https://www.mdpi.com/417172

Varma, J. R. (2019). Blockchain in finance. *Vikalpa*, *44*(1), 1-11. Retrieved on 7th August, 2021, From: https://journals.sagepub.com/doi/abs/10.1177/0256090919839897