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## **AN OVERVIEW ON BLOCK CHAIN TECHNOLOGY IN BUSINESS ORGANIZATIONS**

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### **ABSTRACT**

*While teaching students how to analyze is the most essential aspect of a successful blogging task, there are other factors to consider. First and foremost, the assignment must be put up in such a manner that it does not take up too much of the instructor's grading time. There is substantial evidence that online courses take more time for professors to teach than conventional ones. The amount of diary entries that students must complete must be carefully considered. As the quantity of diary entries Anderson demanded grew, his pupils started to protest that they were being "journalized to death." If students are overburdened with journals, the quality of their reflection may suffer as they attempt to complete the assignment. Another important consideration is whether the journals should be made public and therefore accessible to other students, or kept private and accessible only to the teacher. Students may speak about extremely personal and private aspects of their life that should not be shared with the whole class. Blogs should probably be taken private if this is likely to happen. Many students said they enjoyed reading other people's submissions more than they enjoyed writing their own. Making diary entries open may make them a learning opportunity for everyone if students are not sharing things that are personal in nature. A third important issue is whether students must be given in-progress feedback so they can see how well they are doing on the task.*

**KEYWORDS:** *Bitcoin, Block Chain, Business, Organizations, Online.*

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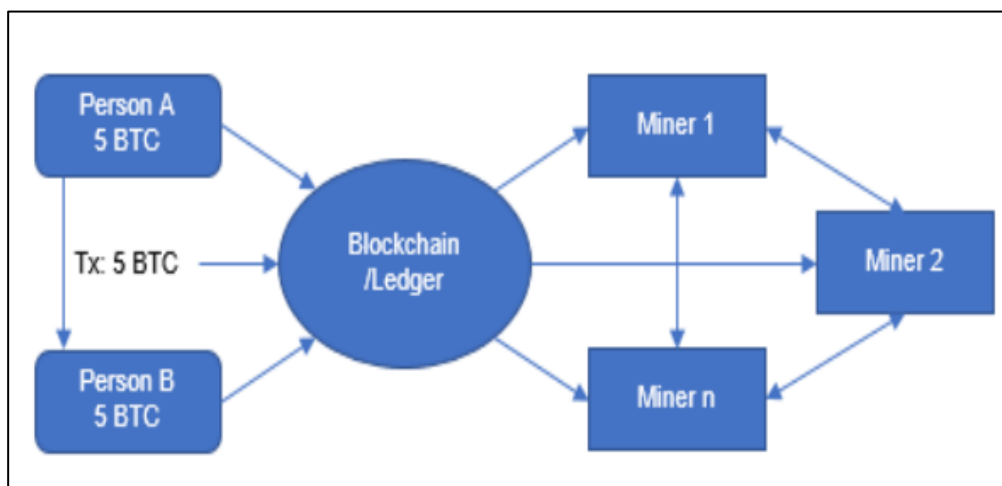
### **1. INTRODUCTION**

The Internet became popular in the 1990s, and it revolutionized the way people did business. Electronic data exchange, online banking, online shopping, and online transfer, to mention a few, were among the numerous advancements it brought with it. Satoshi Nakamoto (a pseudonym) recently released a white paper on a new online transaction system based on a distributed architecture known as blockchain. Blockchain is not an "in-your-face" invention like a smartphone or smart gadget that we can see and touch. However, when it comes to digital or web transactions (i.e., the exchange of currency, commodities, and services), blockchain offers the solution to a question that many of us have been asking since the beginning of the Era of the internet: How can we trust what occurs online? In his article, Nakamoto argues that the faults in the intermediate trust model employed by financial organizations were the catalyst for him to conceptualize blockchain technology. Blockchain technology was deployed as a key component of the digital currency bitcoin, where it acts as the public record for all transactions, one year after it was first conceived by Nakamoto.

Because of its growing value and secrecy, Bitcoin has been the centre of this innovation for many years, drawing many investors, entrepreneurs, and banks, as well as crooks.

The bitcoin blockchain increased from 50 gigabytes to 100 gigabytes in size between January 2016 and January 2017. Surprisingly, in the recent Wanna Cry ransom ware outbreak, the hackers demanded bitcoins as the only form of ransom payment. But, in practice, how does blockchain work? It's best to conceive of it as a historical fabric that records everything that happens in real time. The chain then sutures the data into unchangeable encoded blocks and disperses the bits over a global network of dispersed computers known as "nodes." Miners are the name for these nodes[1]. A copy of the public ledger is shared by all of them. This record, known as the blockchain, is made up of blocks that include several transactions, which are changes to account balances. These transactions are assembled into a block using cryptography after it is determined if a particular account has enough money to transfer a specific amount to another account[2].

The architecture enabling a transaction to be approved and settled on the blockchain is shown in Figure 1. Person A wishes to give Person B 5 bitcoins (BTC). The transactions is then broadcast to a network of miners, who verify that it is legitimate. The transaction is accepted (or denied) and compiled in the ledger with many other transactions using encryption and a complex algorithm.



**Figure 1. Blockchain transaction infrastructure.**

Because blockchain technology is a game-changer in the areas of cyber security, encryption, and peer-to-peer networks, the vast majority of the existing literature on the subject has focused on technical concerns. In the business literature, however, blockchain is still termed concept. Many nontechnical problems and issues must be addressed in this respect, according to us, so that company executives and decision makers understand not just the complexities of blockchain per se, but also the kinds of business applications that are conceivable and how they may be utilized. We think it is an opportune moment to assess existing knowledge on this subject, identify present gaps, and propose potential paths for future study since the non-technical literature on blockchain technology is quickly growing. The purpose of this review article is to achieve these goals. Our primary goal is to improve our collective knowledge of where the business literature on blockchain is right now and to identify any gaps. Finally, we'd like to recommend a few promising research topics for business academics[3].

### **1.1 Creating a Procedure For Review:**

A rigorous and comprehensive review procedure was established as a first step, and it was followed throughout the whole review process. The protocol included the following topics: the search strategy, the screening criteria and process, the data extraction strategy and processes, the team members' roles, the conceptual framework, data analysis methods, and the work timetable. According to prominent methodologists, the protocol was not designed to be a rigorous instrument that had to be followed to the letter. On the contrary, it functioned as a guideline that we could tweak as needed. The following are the broad questions addressed in the protocol: 1) what problems and topics around blockchain have been researched in the business literature? 2) What are the most significant gaps in this body of knowledge? 3) What are some examples of potential blockchain research areas for business researchers?

## 1.2 Performing a Literature Search:

Five databases were examined to verify that our sample contained all kinds of publications and that our search was thorough: ABI/INFORM Collection (Pro Quest), Academic Search Complete (EBSCO), Emerald Insight, Science Direct, and Web of Science. Because these databases include a diverse and complementary assortment of publishers and journals, searching them provided complete coverage while reducing the danger of selection bias. Each team member conducted a pilot test utilizing the same information to establish our list of keywords. The final keywords were "blockchain," "distributed ledger technology," "public ledger," and "computational trust" after many rounds of testing, debates, and comparisons. We didn't put a time limit on the search since we wanted to cover as much ground as possible. Our sample, however, exclusively contained articles published in English[4].

## 1.3 Papers for Screening:

Five of the 320 articles were picked at random for training reasons to guarantee that we regularly screened and picked the relevant papers for our research. To create a common understanding, all team members gathered together and implemented the inclusion and exclusion criteria. Papers have to address at least one of the above-mentioned research topics in order to be selected for further examination. Our selection eliminated papers that were exclusively concerned with bitcoin, as well as those that were solely concerned with technical elements of blockchain. Two sub-teams screened each of the 320 papers. Each team's two members individually reviewed the articles they were in charge of. They then compared and double-checked their findings[5].

## 1.4 Data Visualization:

A coding sheet was developed at this phase to extract data from the 39 articles. Each paper's fundamental and essential information is included in the coding form. The year of publishing, the name of the publication, the title of the paper, the kind of paper, and the background of the authors are all basic pieces of information. Study questions, research goals, findings, and suggestions for future research were collected in the core information area. Our primary aim was to explain "what has been studied" regarding blockchain in aspects of business so that research gaps could be identified and a research agenda could be established. The next step was to extract the key ideas from each article, with the goal of creating a conceptual map of blockchain uses and advantages. The value chain model proposed seemed to be a suitable foundation for our job. Indeed, the term "value chain" encompasses all of the main operations that contribute to the value of a company's goods or services[6]. Supply chain, management, freight forwarding, marketing, sales, service, procurement, human resource management, technology development, and infrastructure are all part of it. This approach seems broad enough to aid us in mapping blockchain applications across a variety of businesses. We discovered that at least one of the following questions was addressed in each of the six

articles after reading them all: What is blockchain, exactly? What are some of the possible applications? What sectors or business settings might blockchain be used in? Why should blockchain technology be used? We also noticed that several analytical units were mentioned. Indeed, some apps targeted particular people, such as patients, students, or consumers who needed wireless connectivity; others targeted businesses, both commercial and public (e.g., hospitals, universities), as well as governmental organizations. We chose to create our own categorization system based on the results of the pilot test in order to accomplish the aforementioned goals. The resultant system may be represented by a 3 x 4 matrix, as shown in Table 1, which relates to the level of bitcoin application (individuals, companies, or governments) and the study's emphasis (what, why, whom or how). The "what" question is concerned with the nature of blockchain systems; the "why" question is concerned with the incentives or reasons for investing in blockchain technology; the "whom" question is concerned with the actors targeted by blockchain technology; and the "how" question is concerned with the ways blockchain works and continues to operate. Paper coding was split evenly between two teams of two researchers each. The papers were coded separately, with any discrepancies resolved by a third coder[7].

## 2. LITERATUREREVIEW

According to Bisht et al. Data is now an indispensable resource that aids in the making of all business decisions. Data security breaches have become more common, putting existing systems in charge of huge amounts of sensitive data under scrutiny. We may discover optimism for concocting cyber security using Blockchain as commercial enterprises and government engage themselves in a continuous fight against fraud and harmful attackers. Blockchain technology is being used in the Internet of Things (IoT) sector to ensure the security and privacy of data from hardware objects. This article discusses Internet of Things (IoT) technology and its flaws. This article also covers Blockchain Technologies and how the two technologies are merging (IOT and Blockchain)[8].

Filipova et al. studied about Blockchain technology has piqued the interest of both corporate users and IT experts in recent years. In general, a blockchain, also known as a chain of blocks, is a distributed and decentralized database that is copied across a network's various nodes. Until recently, blockchain was mostly linked with cryptocurrency, but it is increasingly demonstrating its significant potential as a method of changing business models that enable the operations of businesses and their contact with one another. The benefits of blockchain, on the other hand, must be properly interpreted within the context of business operations in order to be used. In light of this, the article examines some of the technology's key ideas and processes. The interrelationship between blockchain and decentralized ledger technology(DLT), transaction encoding and data management via consensus, as well as so-called "smart contracts," are all given special emphasis. The capabilities of both public and private blockchains are compared. The research then outlines the basic blockchain features as well as the benefits that arise from them. It is proposed that blockchain technology provides a solution to the main issue of trust between individuals in the context of global communication by improving data and business process transparency, dependability, and security[9]. In addition, the author highlights several possible technical and commercial risks that must be considered in the data transmission process in relation to blockchain.

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### **3. DISCUSSION**

The findings of this scoping study show the present level of research on blockchain technology's commercial uses. Many problems and questions remain unsolved, according to our results. Currently, the focus is on ideation, which includes potential applications and proofs-of-concept. The majority of the expected uses are centered on particular online system designs for data storing, safeguarding, sharing, and transformation, with the fields involved focusing on online data recording and finance. a medical data access application, and BRIGHT, a distributed rights management system developed by as a result, based on our findings, there are numerous gaps in the blockchain literature. We only address three of the most obvious holes we discovered due to space limitations. To begin with, only a few empirical investigations have tried to explore possible uses beyond record management systems and security concerns. While they are significant topics with tremendous potential, we believe there are additional ideas in different fields that should be investigated. For example, blockchain timestamps may be used to support time-sensitive activities like just-in-time manufacturing (JIT). JIT is, in fact, a supply chain technique that aims to reduce flow time and storage expenses. It mandates suppliers to provide components to the manufacturer at a certain period. To keep the manufacturer's production operating smoothly and effectively, on-time delivery is critical. Early product delivery may incur additional expenses (e.g., increased warehouse rental fees), while late delivery may cause the whole manufacturing process to be delayed. The manufacturer may utilize the timestamps in blockchain as triggers to start following the production process at the right moment, and the timestamps in blockchain could record the delivery time of components.

### **4. CONCLUSION**

The primary goal of this study was to assess the quantity and extent of the marketing literature on block chain. The majority of articles focused on how blockchain technology works in companies and, to a lesser degree, on the potential commercial uses of blockchain, according to our results. Prior research, on the other hand, hardly looked at the incentives or motives connected with this new technology, such as why private and public organizations should embrace blockchain technology, as well as the real benefits blockchain offers to companies or organizations. We offered some suggestions for further study on this subject based on our results. Future research should, in our opinion, concentrate on the "why" and "whom" issues, as well as the effects of blockchain on individuals, businesses, and governments. To demystify the potential effects of this fundamental technology, greater discussion of the motivations for using blockchain in businesses is needed. In this way, we avoid business researchers from seeing blockchain technology as a "black box," and future study should assist practitioners better understand where and when this technology works



best, and for whom. Overall, we recommend that researchers approach this important subject with a management mode of thinking so that business executives and managers have a better understanding of what blockchain technology is, how it works, what types of benefits it can bring to different types of organizations, and when it works best.

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